# VacCiencia

FINLAY EDICIONES

Boletín Científico

No. 12 (16-31 mayo / 2023)

## EN ESTE NÚMERO

VacCiencia es una publicación dirigida a investigadores y especialistas dedicados a la vacunología y temas afines, con el objetivo de serle útil. Usted puede realizar sugerencias sobre los contenidos y de esta forma crear una retroalimentación que nos permita acercarnos más a sus necesidades de información.

- Noticias más recientes en la Web sobre vacunas.
- Artículos científicos más recientes de Medline sobre vacunas.
- Patentes más recientes en Patentscope sobre vacunas.

IFV INSTITUTO FINLAY DE VACUNAS

SiViFinlay

VaCyT



CUBA

# Noticias en la Web

## Caducan todas las vacunas de Janssen contra el coronavirus en EE.UU.


**16 may**. La vacuna contra la COVID-19 de Janssen (Johnson & Johnson) ya no está disponible en Estados Unidos, después de que los Centros para el Control y la Prevención de Enfermedades (CDC) hayan solicitado la destrucción de todas las dosis aún sin administrar, que caducaron el domingo 7 de mayo.

En una nota publicada en su página web, los CDC recomiendan que las personas que hayan recibido una o dos dosis de la vacuna reciban un refuerzo bivalente de Moderna o Pfizer.

Según la cadena CNN, unos 19 millones de personas han recibido dosis de la vacuna de Janssen desde que salió al mercado en Estados Unidos.

El Gobierno estadounidense puso a disposición de los estados más de 31 millones de dosis de ese compuesto, por lo que más de 12 millones han quedado sin usar.

Además, el año pasado los reguladores limitaron la cantidad de gente que podía acceder a la vacuna, estableciendo que solo aquellos que por motivos médicos no pudieran recibir dosis de otros fabricantes fueran vacunados con Janssen.

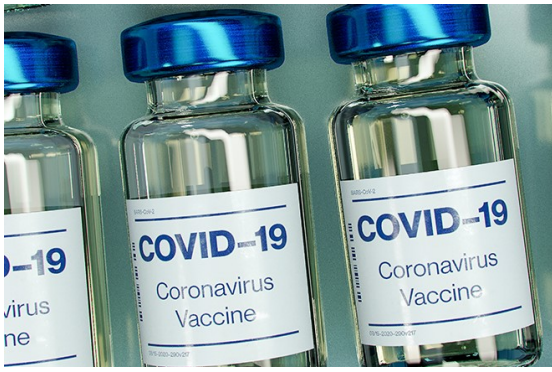
La semana pasada, la emergencia sanitaria aprobada por las autoridades estadounidenses para luchar contra la pandemia llegó a su fin, acabando con algunas de las medidas para facilitar el acceso a la sanidad que se aprobaron por la COVID-19.

El país acumula la mayor cifra de fallecidos por la enfermedad en el mundo: más de un millón de personas desde que comenzó la pandemia.

Durante la semana que terminó el pasado 6 de mayo (la última de la que hay registros) murieron 323 personas, según los CDC.

Fuente: El Debate. Disponible en https://cutt.ly/UwwvIqpy

## Vacuna COVID-19 sigue ofreciendo alta protección: OMS




**18 may**. La Organización Mundial de la Salud (OMS) dijo que las vacunas siguen ofreciendo una alta protección contra las formas de severas y el riesgo de muerte por la COVID-19, y sostuvo que las actualizaciones en la composición de estas vacunas deben tener en cuenta la evolución del virus.

Asimismo, las mejoras que se hagan en la vacuna deben considerar las variantes de mayor circulación con el objetivo de reducir los síntomas de la enfermedad infecciosa, de acuerdo a las conclusiones del

grupo asesor de la OMS sobre vacunas, que se reunió para revisar los progresos relativos a estos productos.

El grupo de expertos ha recomendado que en las futuras formulaciones de vacunas contra la COVID-19 se utilicen las variantes más recientes y sus subvariantes.

Del mismo modo, la OMS recomendó que se ofrezcan al público las vacunas autorizadas, todo ello con el fin de inducir a un aumento de la inmunidad global para hacer frente a las variantes emergentes del virus.

La OMS decidió recientemente que la COVID-19 ha dejado de ser una emergencia de salud pública internacional.

Fuente: Aristegui Noticias. Disponible en https://cutt.ly/JwwvDnvh

## Meningococcal ABCWY Vaccine Candidate Looks Promising in Phase 3 Trial

**May 18**. GSK's investigational 5-in-1 meningococcal (MenABCWY) vaccine was found to be noninferior when compared with Bexsero (meningococcal group B vaccine) and Menveo (meningococcal group A, C, W-135, and Y conjugate vaccine), according to preliminary data presented at the 41st Annual Meeting of the European Society for Pediatric Infectious Diseases (ESPID) in Lisbon, Portugal.


MenABCWY demonstrated immunological effectiveness against 110 MenB invasive strains.

The randomized, controlled, observer-blind, multi-country trial (ClinicalTrials.gov Identifier: NCT04502693) included approximately 3650 healthy individuals 10 to 25 years of age. Participants were randomly assigned to receive MenABCWY administered as 2 doses given 6 months apart or licensed meningococcal vaccines (2 doses of Bexsero plus 1 dose of Menveo).

Findings showed that MenABCWY met the primary endpoint achieving noninferiority for all 5 Neisseria meningitidis serogroups (A, B, C, W and Y) compared with 2 doses of Bexsero and 1 dose of Menveo. In a separate confirmatory arm of the trial, MenABCWY demonstrated immunological effectiveness against 110 diverse meningococcal serogroup B (MenB) invasive strains. The safety profile of MenABCWY was reported to be similar to Bexsero and Menveo.

"These preliminary data further unlock the potential of our MenABCWY vaccine candidate in providing protection against invasive meningococcal disease caused by serogroups A, B, C, W and Y," said Tony Wood, Chief Scientific Officer at GSK. "It's particularly encouraging to see the breadth of coverage against the broadest panel of circulating MenB strains to date, as we know MenB is the most common cause of meningococcal disease in the US with the lowest immunization rate."

Fuente: Medical Professional´s Reference. Disponible en https://cutt.ly/5wwvGth3

# Autoridad reguladora cubana otorga registro sanitario a vacunas contra la COVID-19

**20 may**. El Centro para el Control Estatal de Medicamentos, Equipos y Dispositivos Médicos (CECMED), autoridad reguladora del país, ha entregado este sábado el registro sanitario de las vacunas cubanas anticovid Abdala, Soberana 02 y Soberana Plus.


*Los doctores Marta Ayala Ávila y Vicente Verez Bencomo, directores generales del CIGB y del IFV, recibieron los certificados del registro. Foto: ACN.*

Olga Lidia Jacobo Casanueva, directora del CECMED, dijo que luego de evaluar los expedientes presentados por el Centro de Ingeniería Genética y Biotecnología (CIGB) y el Instituto Finlay de Vacunas (IFV), consideraron que las vacunas cumplen con los requisitos establecidos en cuanto a la demostración de calidad, seguridad y eficacia.

Con ese paso, quedan sin efecto los autorizos de uso de emergencia otorgados a los inmunógenos durante la pandemia, explicó la directora del CECMED durante una ceremonia en el Palacio de Convenciones de La Habana, en la que participaron los desarrolladores y productores de las vacunas cubanas contra la COVID-19.

*En el Palacio de Convenciones de La Habana se reunieron representantes de la autoridad reguladora cubana y desarrolladores y productores de las vacunas contra la COVID-19. Foto: ACN.*

Elba Rosa Pérez Montoya, ministra de Ciencia, Tecnología y Medio Ambiente, entregó la condición de empresa de alta tecnología al Instituto Finlay de Vacunas.

Durante la ceremonia fueron reconocidas las principales instituciones cubanas que intervinieron en el desarrollo y producción de las vacunas. También fue destacado el legado del líder histórico de la Revolución cubana, Fidel Castro, principal artífice de la industria biotecnológica nacional.

El doctor Manuel Limonta Vidal presentó su libro Fidel, interferón y biotecnología cubana, en el que recuerda cuando el Comandante en Jefe lo colocó al frente del equipo cuya tarea era producir en la Isla el interferón para el tratamiento de diferentes enfermedades, entre ellas el cáncer.

“La publicación rinde tributo a su memoria y es motivación para las nuevas generaciones de jóvenes científicos, al reflejar la historia de esa epopeya y la participación de Fidel en ese proyecto”, dijo.

Fuente: Cubadebate. Disponible en http://www.cubadebate.cu/noticias/2023/05/20/autoridad-reguladora-cubana-otorga-registro-sanitario-a-vacunas-contra-la-covid-19/

# New vaccine concept could lead to a new generation of vaccines against SARS-CoV-2

**May 20**. Researchers at the University of Basel have developed a new approach for a vaccine against COVID-19. This vaccine is based on a modified coronavirus that can enter body cells and trigger an effective immune response but cannot multiply in the body. In animal studies, the vaccine effectively protected against the disease and even prevented virus transmission. Clinical trials in humans are to follow.

Although safe and effective COVID-19 vaccines have been available since early 2021, SARS-CoV-2 continues to spread, with new variants continuously emerging. In some regions, the population lacks access to vaccines; in others, there is a lack of confidence in the novel mRNA vaccines. New vaccines that are easy to store and administer and that build up effective immune protection would be an important step toward keeping the SARS-CoV-2 coronavirus at bay in the long term.

Researchers led by Professor Thomas Klimkait of the Department of Biomedicine at the University of Basel, in collaboration with the company RocketVax, are now presenting a vaccine concept that could lead to a new generation of vaccines against SARS-CoV-2. This concept can also be rapidly adapted to new variants and even to other viruses. Their promising results are now being submitted to a peer-reviewed journal for publication and are accessible on a preprint server.

**Vaccine virus incapable of replication**

"Single-cycle virus" is how the researchers describe the principle of their novel vaccine. The vaccine is based on a specially adapted version of the virus that can be produced in the laboratory. In cells of the vaccinated person, however, the single-cycle virus cannot replicate further after the initial entry.

A virus normally brings with it, in its genetic material, the blueprints for all the components needed for new virus particles. Once inside a body cell, the virus then misuses the cellular machinery: the cell begins to multiply the virus. Subsequently, newly built viruses destroy the cell and go on to infect other cells.

For their vaccine, however, the researchers modify the genome of the virus: "Among other things, we remove a specific gene from the blueprint for the viral envelope," explains Klimkait, a virology expert. If this envelope component is missing, no new virus particles can be formed. Yet, the body cells still produce the remaining components of the virus and present them on their surface to the immune system, which recognizes the viral components and builds up effective immune protection.

**Vaccine production using a special cell line**

To ensure that the virus can still be made for vaccine production - given that it can no longer multiply in normal cells - the researchers developed a unique "production cell line." They did this by incorporating the missing gene for the virus building block into the genetic material of special cells so that they now produce this component on a permanent basis. If the modified virus (with an incomplete blueprint for the viral envelope) is now used to infect these production cells, complete virus particles can efficiently be produced.

"Externally, these vaccine viruses are identical to normal coronaviruses. But a viral envelope gene is missing from their genome. This means that they cannot replicate in normal body cells, which have no substitute to offer," says Dr. Christian Mittelholzer, the scientist leading this project.

**Improved immune response**

Apart from the missing blueprint for the viral envelope building block, the researchers altered other details of the viral genome: They removed genes that allow the virus to reduce the cells' defense. These changes aim to enable a most effective immune response to the virus and to facilitate strong and long-lasting immune protection.

The researchers recently tested their new vaccine successfully in hamsters: After immunization administered by nasal drop, 20 out of 20 animals were protected: They developed no symptoms even after contact with a high dose of the natural SARS-CoV-2. Moreover, the vaccine was able to prevent transmission of SARS-CoV-2 to other, unvaccinated animals. Thus, according to current knowledge, they built up sterile immunity.

**Vaccination without needles**

For humans, the plan is also to administer the vaccination by nose or mouth. In addition, as the single-cycle virus is highly stable, the vaccine can simply be stored in the refrigerator for long periods of time, says Klimkait. The research team is now planning towards vaccine production and a human study with a small cohort of subjects in Switzerland.

Should new variants or even a "SARS-CoV-3" emerge, Klimkait explains that the same concept can be used and quickly adapted to the new virus. "From a technical point of view, we introduce the modified virus genome as several pieces into the production cell line, because that is easier to produce and sneak in." Inside the cell, repair enzymes ensure that the pieces of virus genome are put back together to form a whole. "This also means, for example, that we can easily exchange the section containing the blueprint for the spike protein if a new variant emerges with new mutations."

**No re-conversion to a live virus**

It is impossible for the missing gene, corresponding to the viral envelope building block, to return, Klimkait emphasizes. "The envelope protein gene is located in the genetic material in the nucleus of the production cell. The virus genome, on the other hand, always remains outside the nucleus - so they never meet, and the virus genome cannot restore itself to the original version." The researchers led by Thomas Klimkait and Christian Mittelholzer have applied for a patent on the system. The development and preclinical trials of the new vaccine took place in collaboration with the company RocketVax. Animal experiments were conducted at the Friedrich-Loeffler-Institute in Germany. This collaboration is embedded in a research partnership with the University Hospital of Basel (UHBS) and the Swiss Tropical and Public Health Institute (Swiss TPH). The University Hospital of Basel and the Canton of Basel-Stadt provided start-up funding for the preclinical research work on the new vaccine, and the project received financial support from Innosuisse.

Fuente: News Medical Life Sciences. Disponible en https://www.news-medical.net/news/20230522/New-vaccine-concept-could-lead-to-a-new-generation-of-vaccines-against-SARS-CoV-2.aspx

## Back to the future—of immunisations

**May 23**. Out with the old, in with the new. The emergence of COVID-19 underscored the need for a new vaccine to halt the pandemic while catastrophically disrupting routine vaccinations worldwide. With unprecedented focus on vaccine development, came lockdowns, border closures, overburdened health services and economic distress that undid generations of hard-earned vaccination successes by disrupting mass immunisation

programmes. In 2021, data from the UN revealed the worst regress in global vaccination coverage in more than 30 years for several diseases. The rapid pace of the development of vaccines against COVID-19, although heralded as a public health triumph, met with widespread vaccine hesitancy that was bolstered by misinformation and escalating anti-vaccine sentiments, furthering the decline in routine immunisations.

Although the COVID-19 pandemic disrupted all health services across the globe, childhood immunisation was hit particularly hard. WHO estimated that, in 2021, 25 million children under the age of 1 year missed receiving basic vaccines. An increase in outbreaks of diphtheria, measles, polio, and yellow fever was seen in over 100 countries during the pandemic. Addressing these disruptions, UNICEF Executive Director, Catherine Russell said: “Routine vaccines are typically a child's first entry into their health system and so children who miss out on their early vaccines are at added risk of being cut out of health care in the long run.” For the child, routine vaccination is the first step towards and the foundation for lifelong protection from vaccine-preventable diseases. In an effort to restore childhood vaccinations to pre-pandemic levels or better, WHO, UNICEF, Gavi, the Vaccine Alliance, and the Bill & Melinda Gates Foundation, along with other health partners, announced “The Big Catch-Up” during World Immunization Week (April 24–30, 2023). A targeted effort aimed at 20 countries that are home to three-quarters of the children who missed vaccinations in 2021, countries involved in The Big Catch-Up include Afghanistan, Brazil, Ethiopia, India, Myanmar, Tanzania, and Viet Nam.

What challenges might an immense effort such as this be expected to face? The salient features of this plan include strengthening health-care workforces and health service delivery, but what catches the eye is “building trust and demand for vaccines within communities”. To what extent is distrust and exacerbation of vaccine hesitancy due to the pandemic impeding the implementation of childhood immunisation programmes? While expressing concerns about escalating disinformation, Kate O’Brien, WHO Immunisation Director, said: “The main reason that kids are unvaccinated is not anti-vax. The main reason why children are unvaccinated has to be access to services, quality of services, and full availability of programmes.” Barriers and inequality in access to vaccines in low-income and middle-income countries (LMICs) can be a broad, contextual mix of demographic, geographical, educational, and socioeconomic factors. Awareness of immunisation services and the benefits of vaccination, travel distance to a health-care facility, cost and safety of travel, and security in areas of political instability are some limiting factors. Multiple vaccinations with multi-dose schedules compound these challenges, urging the development of simplified schedules in LMICs. Studies that examine transitioning to a reduced-dose schedule for pneumococcal vaccines for children in Africa are notable in this regard.

Amid the global decline in vaccination coverage, a few tales of endurance lift the pall of gloom. India registered a strong resurgence in essential immunisations in 2022, Kenya engaged local leaders to increase immunisation among its nomadic populations, and Uganda sustained high vaccination rates during the pandemic. With much written about the burden of the pandemic borne by LMICs, their pioneering efforts that informed global policies must be spoken of in equal measure. South Africa's sequencing drive, leading to the identification of the Omicron variant of SARS-CoV-2, and India's leveraging of its domestic manufacturing capacity to develop intranasal and injectable COVID-19 vaccines remain memorable examples. Although tales of resilience emerge from all calamities, the one legacy of the COVID-19 pandemic that we can wholly embrace is the renewed interest in vaccinology. Adenovirus-vectored vaccines, previously used against Ebola virus, were developed and administered against COVID-19 at a pandemic scale with demonstrable

success. Evidence of the effectiveness and safety of mRNA vaccines against COVID-19 is driving further research in applying mRNA technologies to thwart existing diseases and future pandemics. This is the new we take forward; the hope of advancement and restored trust in vaccines.

Fuente: The Lancet. Disponible en https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(23)00300-6/fulltext

## Cuba's COVID-19 Vaccines Receive Registration


**May 24**. Prensa Latina recently reported Cuba's COVID-19 vaccines, Soberana 02, Soberana Plus, and Abdala, received the sanitary registration granted by the Center for State Control of Medicines, Medical Equipment, and Devices for their proven efficacy.

The experts and scientists ratified the safety that characterizes Cuba's COVID-19 vaccines, firstly due to the very nature of the technological platforms used and secondly, because they have high thermo-stability.

Unlike others requiring special storage conditions, Cuba's vaccines can be stored between two and eight degrees Celsius at freezing temperatures.

During the clinical studies, vaccine efficacy was higher than 90%.

As of May 24, 203, Cuba is among the world's top 10 countries with most citizens immunized against the SARS-CoV-2 coronavirus, which raises the level of protection to more than 90% of Cuban inhabitants.

Fuente: Precision Vaccinations. Disponible en https://www.precisionvaccinations.com/2023/05/24/cubas-covid-19-vaccines-receive-registration

## Las nuevas vacunas contra la malaria: un éxito con algunas sombras

**25 may**. El doctor Chris van Straten sabe qué es la malaria. La conoció de niño, cuando la padeció su abuelo, y más tarde, su tío. Se acuerda de las convulsiones que hacían que sus cuerpos se contrajeran y lo confusos y fríos que estaban, aunque sudaran profusamente. Recuerda las arcadas y los vómitos. “Aprendí a identificar y a tratar la malaria en Papúa Nueva Guinea; trabajaba en un hospital de una isla lejana. Incluso ahora lidio con ella casi a diario, porque tengo pacientes en todas las zonas de África afectadas por la enfermedad. He perdido a familiares, compañeros y pacientes por su culpa, así que para mí la malaria es algo muy cercano y muy real”, explica el ahora Asesor de Salud Mundial sobre Gobernanza Clínica para la organización International SOS.

La aparición de dos vacunas, junto con otras intervenciones, especialmente la quimioprevención de la malaria estacional, han puesto a África en el camino hacia la erradicación de la malaria, una enfermedad causada por un parásito que se transmite a los humanos a través de la picadura de mosquitos infectados. Sin embargo, Van Straten cree que el recorrido “será difícil”: una de las vacunas, la RTS,S, aprobada por la Organización Mundial de la Salud (OMS) en 2021, solo se distribuye en Ghana, Kenia y Malaui, y ofrece un umbral de protección moderado; mientras que la otra, la R21, la vacuna de Oxford que acaban de autorizar Ghana y Nigeria, es más eficaz pero no dispone aún del visto bueno del organismo de la ONU, lo que complica su financiación.

El último Informe Mundial sobre la Malaria de la OMS aporta pruebas de que aproximadamente el 95% de los casos de paludismo (234 millones) y el 96% de todas las muertes (593.000) en 2021 se produjeron en África

El último Informe Mundial sobre la Malaria, publicado por la Organización Mundial de la Salud (OMS) en diciembre de 2022, revela que 619.000 personas fallecieron en todo el mundo a causa de la enfermedad y que se produjeron 247 millones de nuevos casos en 2021. El informe aporta pruebas de que aproximadamente el 95% de los casos de paludismo (234 millones) y el 96% de todas las muertes (593.000) en 2021 se produjeron en África, y que los niños menores de cinco años representaron casi el 80% de los fallecimientos.

En octubre de 2021, tras llevar a cabo estudios piloto en Ghana, Kenia y Malaui, la OMS aprobó el uso de la vacuna RTS,S, de la farmacéutica GlaxoSmithKline —Mosquirix por su nombre comercial—, en niños de países con un elevado número de casos de paludismo. Las tres primeras dosis se administran con un intervalo de un mes, la primera a los cinco o seis meses de edad. La cuarta dosis se administra entre seis y 12 meses después de la tercera. Sin embargo, según la OMS, la RTS,S ofrece una eficacia "modesta" y ha logrado reducir los casos graves de paludismo en un 29%. La estimación coincide con un estudio publicado en la revista Nature el pasado marzo, que también describía la eficacia de la vacuna como "modesta y de corta duración".

Aunque 28 países africanos quieren que GAVI —la alianza mundial para la vacunación que financia programas de inmunización en países menos desarrollados— les ayude a desplegar la vacuna RTS,S, esta solo está disponible en algunas partes de los tres países piloto. No obstante, la Alianza para las Vacunas indica que espera distribuir la vacuna en más países en 2024. Pero el suministro actual no podrá satisfacer la demanda. "Lo que nos frena son los problemas financieros. Lo hemos visto en la falta de inversión proactiva en la ampliación de la producción de la vacuna RTS,S, y ahora estamos pagando el precio por ello", se lamenta Ashley Birkett, responsable mundial de vacunas y productos biológicos contra la malaria en PATH, una organización mundial sin ánimo de lucro que lucha por acabar con las desigualdades sanitarias.

"El que un niño reciba la vacuna no significa que no vaya a contraer la malaria, sino que tendrá menos episodios de paludismo, que la gravedad de la enfermedad será menor y tendrá menos probabilidades de morir", explica John Bawa, responsable de la aplicación de la vacuna en África para PATH. Sin embargo, conseguir que los niños reciban cuatro dosis también podría ser un problema. "Hemos visto en los ensayos que algunos pacientes abandonaron y nunca recibieron las cuatro dosis por cosas como el coste de desplazarse a las clínicas", considera Van Straten. Según Bawa, en los tres países donde se utiliza actualmente la RTS,S, entre el 70% y el 80% de todos los niños que recibieron la primera dosis volvieron para la segunda y la tercera. "Con la cuarta dosis, el porcentaje no es tan impresionante; la media ronda el 52%. Es comprensible, porque si nos fijamos en el tiempo que transcurre entre la tercera y la cuarta dosis, es largo; por ejemplo, en Kenia, más de un año. Algunos niños ya han empezado la escuela y a los padres les resulta difícil volver".

El ministro de Salud ghanés, Kwaku Agyeman-Manu, atribuye a la vacuna RTS,S el mérito de haber contribuido "enormemente" a reducir la tasa de prevalencia de la malaria en su país

Hema Srinivasan, directora de acceso de MedAccess, una empresa de financiación social con sede en Londres que ayudó a sufragar el despliegue inicial de las vacunas RTS,S, afirma que el resultado previsto de la campaña será vacunar a 7,5 millones de niños más, evitar 8,7 millones de casos de malaria y salvar 36.000 vidas infantiles. Desde 2019 hasta 2022, Bawa ayudó al Gobierno de Ghana a administrar 1,4 millones de dosis de la vacuna.

Casi 500.000 niños recibieron al menos una dosis, y alrededor de 185.000 recibieron las cuatro.

El resultado fue un éxito. El ministro de Salud ghanés, Kwaku Agyeman-Manu, atribuye a la vacuna RTS,S el mérito de haber contribuido "enormemente" a reducir la tasa de prevalencia de la malaria en su país, lo cual ha tenido como resultado que las muertes por paludismo en pacientes hospitalizados hayan disminuido de 428 en 2018 a 155 en 2022. Así y todo, a falta de un despliegue más amplio, la prevalencia de la enfermedad en Ghana, el primer país en aprobar la nueva vacuna de Oxford, sigue siendo desmesuradamente alta.

**Una vacuna más eficaz y barata**

La R21, desarrollada en la Universidad de Oxford, ha demostrado una eficacia significativamente mayor que la RTS,S en niños mayores de 12 meses, brindándoles más de un 75% de protección frente a la malaria grave. Otro de sus atractivos es su coste: tres dólares por dosis, frente a los cinco dólares de la RTS,S. Sin embargo, PATH matiza que, dado que no se han realizado estudios comparativos entre la RTS,S y la R21, todavía no hay base para afirmar que una sea superior a la otra.

Por el momento, la inmunización se ha probado en Reino Unido, Tailandia y varios países africanos. En Burkina Faso, Kenia, Malí y Tanzania se está realizando un ensayo con cerca de 5.000 niños. Y Ghana y Nigeria acaban de aprobar su uso en niños de entre cinco meses y tres años, el grupo de edad con mayor riesgo de muerte por malaria. Pero, a falta de la calificación de la OMS, ni ellos ni otros países podrán obtener financiación de GAVI para adquirirla.

Si tenemos otra vacuna que cuente con la aprobación de la OMS, los países tendrán más opciones y habrá más suministros disponibles

John Bawa, responsable de la aplicación de la vacuna en África para PATH

"Prevemos que este proceso durará aproximadamente un año. Y sabemos que las vacunas RTS,S disponibles son limitadas. Si tenemos otra vacuna que cuente con la aprobación de la OMS, los países tendrán más opciones y habrá más suministros disponibles. Eso acelerará las iniciativas para luchar contra la malaria", asegura Bawa.

Ghana decidió no esperar. Paul Boateng, coordinador de Gestión de Casos de Paludismo del Programa Nacional de Eliminación del Paludismo del Servicio de Salud de Ghana, describe la vacuna R21 como "segura" y "eficaz". Pero además, es muy necesaria: "Hay problemas de suministro inadecuado de la vacuna RTS,S, ya que por ahora no todos los distritos del país la están suministrando, por lo que si la de Oxford se incorpora, ayudará a ampliar la cobertura de la vacuna contra la malaria en todo el país".

En Nigeria, Mojisola Adeyeye, director general de la Agencia Nacional para la Administración y el Control de Alimentos y Medicamentos de Nigeria, afirma que la aprobación de la R21 por parte de su país antes que la OMS tiene por objeto adelantarse a los acontecimientos y prepararse para su despliegue.

**La importancia de la quimioprevención**

La administración de vacunas en zonas con malaria estacional, como gran parte del África subsahariana entraña grandes dificultades, considera Jane Grant, especialista en enfermedades contagiosas de la Escuela de Higiene y Medicina Tropical de Londres. Por eso, la experta invita a no olvidar un tratamiento que ya ha demostrado su éxito: la quimioprevención.

"Es una intervención muy eficaz para prevenir la malaria en aquellas personas más vulnerables a sus efectos. Consiste en administrar dosis mensuales de medicamentos contra la enfermedad a niños de entre tres y 59 meses durante la temporada de máxima transmisión", explica el Consorcio de la Malaria. Grant

ratifica esta apreciación y añade que en África subsahariana permite proteger a 45 millones de niños menores de cinco años. “Se ha demostrado que una combinación de la RTS,S más la quimioprevención de la malaria estacional proporciona entre un 60% y un 70% de protección frente al paludismo clínico y grave, y las muertes a causa de esta enfermedad frente a la quimioprevención sola”.

Otras intervenciones han incluido mosquiteras tratadas con insecticida, ropa protectora y venenos, para proteger de las picaduras de mosquito. “Tenemos muchas herramientas para prevenir la malaria, pero seguimos viendo gente que muere”, señala Van Straten.

La historia ha demostrado que en Latinoamérica y otras partes del mundo que llegaron a un buen punto, se relajaron y antes de que se dieran cuenta, se produjo un rebrote

Sin embargo, existe entre la comunidad de expertos una gran preocupación de que, a medida que las vacunas vayan ganando terreno en África, se reduzca el uso de la quimioprevención. “En nuestra investigación sobre la RTS, S y la R21 en Malí y Burkina Faso hemos visto que la gente a menudo cree que las dos hacen lo mismo. También tenían la percepción de que las inmunizaciones son muy eficaces y han tenido un gran éxito en la prevención de enfermedades que ya no se ven, por lo que todo el mundo está esperando que las vacunas contra la malaria hagan lo mismo”, alerta Grant.

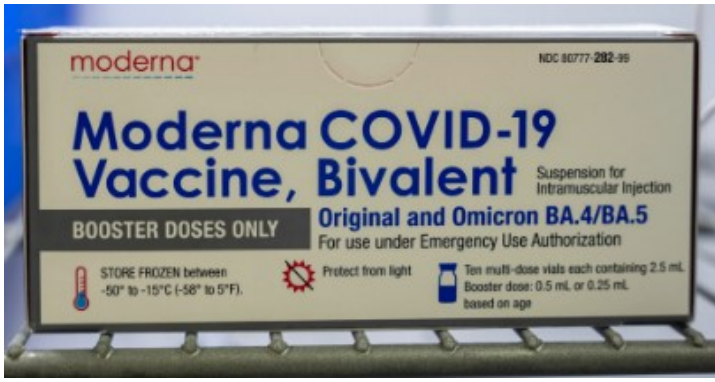
El gran peligro, coinciden los expertos, es que una vez que las vacunas estén firmemente establecidas en África, y los casos y muertes empiecen a descender, el riesgo de resurgimiento de la malaria será alto. Bawa recuerda que “la historia ha demostrado que esto es lo que ocurrió en Latinoamérica y otras partes del mundo que llegaron a un buen punto y entonces se relajaron, y antes de que se dieran cuenta, se produjo un rebrote”.

También será difícil, según Srinivasan, movilizar una cantidad significativa de nuevos fondos en el actual clima económico para la atención sanitaria en general, y específicamente para la malaria. “Los gobiernos de países endémicos cruciales como Nigeria se enfrentan a graves déficits fiscales y presiones inflacionistas. Es probable que esto lleve a una reducción o al estancamiento de los presupuestos destinados al control y la eliminación de la malaria”. Bawa remacha: “Necesitamos que los gobiernos, el sector privado y los donantes den un paso adelante para ayudar a eliminar la malaria de una vez por todas. Nunca debemos dejar de trabajar. Tenemos que dedicar un gran esfuerzo ahora para garantizar que todos los éxitos que hemos conseguido hasta la fecha no se vayan al garete”.

Fuente: EL PAÍS. Disponible en https://elpais.com/planeta-futuro/red-de-expertos/2023-05-25/las-nuevas-vacunas-contra-la-malaria-un-exito-con-algunas-sombras.html

## Effectiveness of Bivalent Booster Vaccine in Preventing Severe COVID-19 Outcomes in High-Risk Adults

**May 27**. In the latter part of 2022, the Omicron BA.5 sublineage became the predominant COVID-19 strain worldwide, as evidenced by the sequencing of viral genomes. Since its emergence, Omicron continues to cause numerous severe and fatal COVID-19 infections.




Previous studies have shown that booster immunization with monovalent mRNA vaccines against earlier variants is highly effective in preventing COVID-19.

However, the efficacy of monovalent mRNA boosters against Omicron is lower compared to other COVID-19 variants, and its protective effect diminishes significantly after 3-4 months post-vaccination.

Therefore, there is a strong interest in developing new vaccines that contain different variants to induce broader immune responses and provide enhanced protection against severe outcomes.

In August 2022, the US Food and Drug Administration (FDA) approved bivalent formulations of the Moderna and Pfizer COVID-19 mRNA vaccines as a single booster dose for individuals who had completed their primary vaccination series or received a monovalent booster.

These bivalent vaccines consist of an ancestral COVID-19 strain component and an updated component containing the omicron BA.4 and BA.5 sublineages. The approval was based on safety and immune response data for the bivalent booster, along with previous data on the safety and effectiveness of the monovalent booster.

Bivalent mRNA vaccines have replaced monovalent boosters in several countries, including the USA and Israel. In Israel, the prioritization of bivalent mRNA boosters is primarily for individuals aged 65 years or older who are at high risk of severe COVID-19.

One study, published in The Lancet Infectious Diseases, aimed to evaluate the effectiveness of a bivalent mRNA vaccine booster dose in preventing hospitalizations and deaths due to COVID-19.

The retrospective, population-based cohort study was based in Israel. Investigators utilized electronic medical records from Clalit Health Services (CHS), a large healthcare organization. The study period spanned from September 27, 2022, to January 25, 2023, with a data extraction date of January 29, 2023.

The study cohort included all CHS members aged 65 years or older who were eligible for a bivalent mRNA COVID-19 booster vaccination. Eligibility criteria required participants to have had at least 3 months since their last vaccination, at least 3 months since their last COVID-19 infection, and completion of the primary two-dose monovalent mRNA vaccination series.

The primary endpoint of the study was COVID-19-related hospitalization, while the secondary endpoint was death due to COVID-19. Demographic data, previous immunity factors, and clinical risk factors for severe COVID-19 were collected for each participant. Statistical analysis, including univariate and multivariable survival analyses, was conducted to estimate the association between bivalent mRNA booster vaccination and COVID-19-related hospitalizations and deaths.

To address censoring, a multivariable Cox proportional hazards regression model with time-dependent covariates was utilized. The model adjusted for sociodemographic factors, previous immunity factors, and coexisting illnesses. Hazard ratios (HRs) and 95% confidence intervals (CIs) were calculated to determine the number needed to vaccinate to prevent 1 hospitalization or death due to COVID-19.

The findings of our study indicate that among adults aged 65 years or older, the bivalent BA.4 and BA.5 mRNA vaccine booster dose has a vaccine effectiveness of 72% (95% CI 60-81) for preventing hospitalization due to COVID-19 and 68% (95% CI 42-82) for preventing death due to COVID-19. The participants who received a bivalent booster vaccine had lower hospitalization rates for up to 120 days after vaccination.

The bivalent mRNA booster vaccine campaign in Israel primarily targeted high-risk older adults. Despite an ample supply of vaccines with no reported shortages, this retrospective study revealed a relatively low uptake of the bivalent booster vaccine in this group, at only 24%.

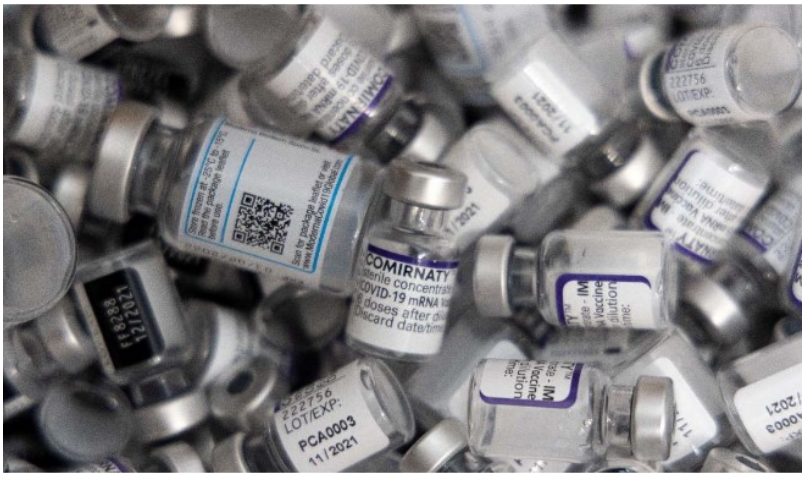
Comparatively, the United States had an even lower uptake of 10% as of November 15, 2022, according to the US Centers for Disease Control and Prevention (CDC).

In this Israeli study, the number needed to vaccinate to prevent one COVID-19-related death was 3722 people (95% CI 3086-6026), which was more than three times higher than that for the first monovalent booster vaccine (n = 1166, 95% CI 816-1633). The higher number needed to vaccinate for the bivalent vaccine primarily resulted from its lower effectiveness and higher hazard ratio (HR) in reducing COVID-19 deaths compared to the first monovalent booster (0.32 vs. 0.10).

These findings underscore the clinical significance of administering a bivalent mRNA vaccination booster dose to this high-risk population and emphasize the need to intensify efforts to encourage eligible individuals to get vaccinated. The study authors recommended this be achieved through government initiatives aimed at countering misinformation, enhancing confidence in vaccine safety and efficacy, building trust in the healthcare system, and engaging healthcare providers to endorse vaccination.

Fuente: Contagion Live. Disponible en https://www.contagionlive.com/view/effectiveness-of-bivalent-booster-vaccine-in-preventing-severe-covid-19-outcomes-in-high-risk-adults

## Europa y Pfizer acuerdan disminuir la entrega de dosis de la vacuna contra el Coronavirus




**29 may**. La Comisión Europea ha llegado a un acuerdo con Pfizer que modifica el contrato de suministro de vacunas contra el Coronavirus entre la farmacéutica y la autoridad. En concreto, se reducirá el numero de sueros que reciban los países miembros, sin embargo habrá una penalización por esa disminución cuyo valor se desconoce.

En un principio, iban a entregarse entre 2021 y 2023 un total de 900 millones de dosis. Ahora el acuerdo amplía en cuatro años el plazo en que los Gobiernos de los diferentes países podrán recibir las dosis de forma escalonada, es decir, hasta 2026. Tanto la reducción de sueros como el aumento del tiempo de entrega responden a las necesidades evolutivas de la población europea frente a la COVID-19.

Asimismo, todos los estados miembros seguirán recibiendo las últimas versiones disponibles de las vacunas contra la COVID-19.que vayan saliendo al mercado a la vez que surjan nuevas variantes del virus en el futuro "en consonancia con el acuerdo original". "El acuerdo modificado refleja el compromiso de las empresas de trabajar en colaboración para ayudar a hacer frente a las necesidades actuales de salud pública, respetando al mismo tiempo los principios del acuerdo original", afirman Pfizer y BioNtech.

Las negociaciones entre Europa y las farmacéuticas, es decir, Pfizer y BioNtech, comenzaron tras la denuncia de 27 ministros de sanidad porque recibían mensualmente demasiadas dosis para una época con poca demanda. La Comisión Europea ha atendido esta queja y la solución ha sido convertir las dosis contratadas originalmente por opciones de compra.

Pfizer estima que durante 2023 la facturación de la vacuna contra el Coronavirus caerá en un 64% respecto

al año pasado (alrededor de 36.000 euros). Implica una caída de ingresos de unos 24.000 millones. Esta abrupta caída será compensada por otras áreas de negocio del gigante. Durante el presente año, Pfizer espera que su cifra de ingresos se reduzca y quede en una horquilla entre 67.000 y 71.000 millones de dólares. Este hecho supondría una caída de entre el 33 y 29% respecto a los más de 100.000 millones de dólares de 2022.

Fuente: El Economista. Disponible en https://www.eleconomista.es/salud/noticias/12299402/05/23/europa-y-pfizer-acuerdan-disminuir-la-entrega-de-dosis-de-la-vacuna-contra-el-coronavirus.html

## China's Kangtai to Sell Pneumococcal Jab in India


**May 30**. Kangtai Biological Products is teaming up with a leading Indian drugmaker to retail and distribute the Chinese vaccine maker's 13-valent pneumococcal conjugate jab, which helps to prevent pneumonia, meningitis and sepsis, in the South Asian country as Kangtai continues to expand its global footprint.

Unit Minhai Biotech has recently penned a licensing agreement with the unnamed Indian drugmaker, which is one of the oldest and biggest pharmaceutical firms in India with 26 subsidiaries and over 2,000 distribution centers, the Shenzhen-based company said yesterday.

India became the world's most populous country last month, and last year had the most newborns at 23 million. As a result, its vaccine market has huge potential. In India, Kangtai's partner would be well positioned to directly compete with European and US jab makers, it said.

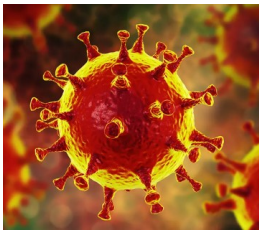
This is the latest in a series of international deals that Kangtai has entered into recently to promote the layout of its pneumocccal vaccines overseas. Since last year, it has linked arms with partners in the Philippines, Indonesia, Pakistan, Saudi Arabia and other countries.

Kangtai is on the hunt for additional streams of income after sales of its Covid-19 vaccine plunged with the lifting of pandemic prevention measures. The company logged losses of CNY133 million (USD18.8 million) in 2022, its first financial loss since it went public in February 2017.

Unmoved by the news, Kangtai's share price [SHE:300601] was trading down 1.8 percent at CNY27.64 (USD3.90) as of 12 noon China time today.

Fuente: Yi Cai Global. Disponible en https://www.yicaiglobal.com/news/20230530-07-chinas-kangtai-to-sell-pneumococcal-jab-in-india

## Cuáles son los síntomas de Arcturus, la nueva variante de la Covid-19: detectan primer caso en Ecuador



**31 may**. El Ministerio de Salud Pública de Ecuador informó sobre el primer caso de la nueva variante del sublinaje de SARS-CoV-2 XBB.116 reportado en ese país sudamericano y aseguró que mantiene activa la vigilancia epidemiológica por la COVID-19.

En un comunicado el domingo pasado, señaló que el laboratorio de referencia del Instituto

Nacional de Investigación en Salud Pública (INSPI) reportó el mencionado primer caso en una paciente de la ciudad de Quito, provincia de Pichincha, "quien al momento se encuentra sin sintomatología".

Según un análisis de la Organización Mundial de la Salud (OMS), el riesgo de la variante XBB.116 "es bajo", al apuntar que este sublinaje fue detectado por primera vez en enero pasado en India, donde se registra una prevalencia del 8 %.

En otros países de Latinoamérica como Guatemala, Chile y Brasil también se han reportados casos, aseveró el ministerio.

**CUÁLES SON LOS SÍNTOMAS DE LA NUEVA VARIANTE DE COVID LLAMADA ARCTURUS**

De acuerdo a la fuente, los síntomas de esta nueva variante son similares a los de la COVID-19:

- Fiebre
- Dolor de cabeza intenso
- Dolor de garganta
- Tos
- Dolor corporal
- En niños de un rango etario cercano a los 12 años se han manifestado síntomas relacionados con la conjuntivitis

Ante la presencia de síntomas, el Ministerio de Salud Pública de Ecuador recomendó a la población el uso de mascarilla, no automedicarse y acudir al centro de salud más cercano.

**CORONAVIRUS: ARCTURUS ES DEL MISMO LINAJE QUE ÓMICRON**

Se la conoce popularmente como Arcturus y es una nueva cepa de **Covid**-19 llamada XBB.1.16. La cepa ha generado atención en el mundo médico y es estudiada desde enero por la Organización Mundial de la Salud (OMS), ente que ha dicho que se trata de una variante del mismo linaje que ómicron.

La cepa está presente ya, según registros, en 33 países.

"Las vacunas bivalentes brindan una protección contra estas nuevas variantes ya que están elaboradas con la cepa original de Wuhan y la de ómicron", explican.

**OMS ADVIERTE QUE EL "COVID LARGO" SE MANIFIESTA YA EN UNO DE CADA 10 CASOS**

Aunque las muertes por covid han bajado un 95% desde principios de año y la pandemia parece remitir, ésta aún presenta amenazas como la de las personas que sufren síntomas incluso ya recuperados, el llamado "covid largo", que afecta ya a uno de cada diez casos, advirtió semanas atrás la Organización Mundial de la Salud (OMS).

En su rueda de prensa semanal, el director general del organismo, Tedros Adhanom Ghebreyesus, citó este dato, "que sugiere que cientos de millones de personas necesitarán cuidados a largo plazo" frente a la enfermedad.

"Estamos esperanzados en que en algún momento de este año podremos declarar el final de la emergencia internacional, pero este virus ha venido para quedarse y los países deben aprender a gestionar éste como otras enfermedades infecciosas", añadió Tedros.

En este sentido, el director general adelantó hoy que la OMS publicará la próxima semana una nueva guía para que los países lidien contra el virus, la cuarta desde febrero de 2020, pero esta vez centrada más en actuaciones de largo plazo y no respuestas de urgencia.

“Estará diseñada a guiar a los países en los próximos dos años hacia una transición desde una respuesta de emergencia a una de largo plazo”, explicó el experto etíope.

Pese a la menor atención internacional a la pandemia iniciada hace tres años, Tedros recordó que ésta aún sigue causando un alto número de muertes (14.000 en las últimas cuatro semanas) y algunos países siguen reportando aumentos de contagios.

“Además, la emergencia de la nueva variante XBB.1.16 (apodada “Arcturus” por algunos expertos y ligada a un aumento de los casos en India) demuestra que el virus sigue mutando y aún es capaz de causar nuevas olas de contagios y fallecimientos”, alertó Tedros.

Fuente: La Voz. Disponible en https://www.lavoz.com.ar/ciudadanos/cuales-son-los-sintomas-de-arcturus-la-nueva-variante-del-covid-detectan-primer-caso-en-ecuador/

## Bogotá tendrá su propia fábrica de vacunas de la mano de la farmacéutica china Sinovac

**31 may**. La alcaldesa de Bogotá, Claudia López, anunció este miércoles que la capital de Colombia tendrá su propia fábrica de vacunas después de que la farmacéutica china Sinovac ganara una convocatoria para ser socio principal de la nueva "BogotáBio".

"Abrimos una convocatoria internacional para producir farmacéuticos, ser socios de la investigación, desarrollo y patentes de esa producción. Participaron 15 firmas de todo el mundo y hoy quiero anunciar que Sinovac se ha ganado la convocatoria", anunció la alcaldesa durante la inauguración del Smart City Expo, que finalizará el próximo viernes.

López recordó que Colombia producía vacunas y farmacéuticos como industria colombiana, pero "alguien decidió en mala hora que era mejor importar vacunas que producirlas", destacó la alcaldesa en alusión a la suspensión de la producción de esos medicamentos en 2002.

La mandataria recordó que "la COVID-19 es la pandemia más reciente que hemos afrontado, pero no la última que va a afrontar la humanidad".

En esa dirección dijo: "Hay que invertir en conocimiento, innovación, investigación, en mitigación del cambio climático, en movilidad inteligente, en seguridad inteligente, en cuidados inteligentes y también en salud inteligente".

Explicó que su administración invirtió en esta iniciativa 354.000 millones de pesos (unos 79,6 millones de dólares o 74,6 millones de euros) procedentes de los impuestos de los bogotanos para hacer de la fábrica de vacunas BogotáBio "una realidad".

Se espera que BogotáBio produzca inicialmente tres vacunas: una contra la covid-19, otra contra la influenza y una contra el neumococo.

El inicio de las operaciones está previsto para diciembre de 2026, una vez se entregue la infraestructura de la nueva planta en la que se realizará una producción que convertirá a Colombia en el cuarto país de América Latina con capacidad local para producir vacunas, sumándose a Brasil, Cuba y Argentina.

Fuente: SWI swissinfo.ch. Disponible en https://www.swissinfo.ch/spa/colombia-vacunas_bogot%C3%A1-tendr%C3%A1-su-propia-f%C3%A1brica-de-vacunas-de-la-mano-de-la-farmac%C3%A9utica-china-sinovac/48556260

VacciMonitor es una revista dedicada a la vacunología y temas afines como Inmunología, Adyuvantes, Infectología, Microbiología, Epidemiología, Validación, Aspectos regulatorios, entre otros. Arbitrada, de acceso abierto y bajo la Licencia *Creative Commons* está indexada en:

**Síganos en redes sociales**

@vaccimonitor

@finlayediciones

@finlayediciones

# Artículos científicos publicados en Medline

*Filters activated: Publication date from 2023/05/16* to 2023/05/31. "COVID-19 vaccine" (Title/Abstract) 292 records.

Hermansky-Pudlak Syndrome.
Introne WJ, Huizing M, Malicdan MCV, O'Brien KJ, Gahl WA. 2000 Jul 24 [updated 2023 May 25]. In: Adam MP, Mirzaa GM, Pagon RA, Wallace SE, Bean LJH, Gripp KW, Amemiya A, editors. GeneReviews® [Internet]. Seattle (WA): University of Washington, Seattle; 1993–2023. PMID: 20301464

Covid-19 vaccination and postmenopausal bleeding.
Taylor A, Male V. BMJ. 2023 May 17;381:1122. doi: 10.1136/bmj.p1122. PMID: 37197776

Myocarditis and Autoimmunity.
Matsumori A. Expert Rev Cardiovasc Ther. 2023 May 27. doi: 10.1080/14779072.2023.2219895. Online ahead of print. PMID: 37243585

IgG4 Antibodies Induced by Repeated Vaccination May Generate Immune Tolerance to the SARS-CoV-2 Spike Protein.
Uversky VN, Redwan EM, Makis W, Rubio-Casillas A. Vaccines (Basel). 2023 May 17;11(5):991. doi: 10.3390/vaccines11050991. PMID: 37243095

COVID-19 Vaccine Hesitancy and Its Associated Factors Among Adolescents.
Alemu D, Diribsa T, Debelew GT. Patient Prefer Adherence. 2023 May 16;17:1271-1280. doi: 10.2147/PPA.S400972. eCollection 2023. PMID: 37214557

Diabetes, COVID-19, and questions unsolved.
D'Souza F, Buzzetti R, Pozzilli P. Diabetes Metab Res Rev. 2023 May 20:e3666. doi: 10.1002/dmrr.3666. Online ahead of print. PMID: 37209039

Antiviral Therapy of COVID-19.
Gudima G, Kofiadi I, Shilovskiy I, Kudlay D, Khaitov M. Int J Mol Sci. 2023 May 16;24(10):8867. doi: 10.3390/ijms24108867. PMID: 37240213

Safety and Efficacy of COVID-19 Vaccine in Africa: Systematic Review.
Mengstu S, Beyene Berha A. Infect Drug Resist. 2023 May 18;16:3085-3100. doi: 10.2147/IDR.S401074. eCollection 2023. PMID: 37222988

Immune Responses and Breakthrough Infections After COVID-19 Vaccination.
Kwon KT. J Korean Med Sci. 2023 May 22;38(20):e185. doi: 10.3346/jkms.2023.38.e185. PMID: 37218356

Perception and Acceptance of COVID-19 Vaccine Among Nurses in Jordan.
Rezq KA, Ai Zaghmouri AH. SAGE Open Nurs. 2023 May 24;9:23779608231177560. doi: 10.1177/23779608231177560. eCollection 2023 Jan-Dec. PMID: 37255582

Breakthrough infections and acceptance of COVID-19 vaccine boosters: A survey analysis.
Stevens CW, Neely SR, Scacco JM. PEC Innov. 2023 Dec;2:100167. doi: 10.1016/j.pecinn.2023.100167. Epub 2023 May 16. PMID: 37214503

COVID-19 Vaccines and Myocarditis: An Overview of Current Evidence.
Hromić-Jahjefendić A, Sezer A, Aljabali AAA, Serrano-Aroca Á, Tambuwala MM, Uversky VN, Redwan EM, Barh D, Lundstrom K. Biomedicines. 2023 May 17;11(5):1469. doi: 10.3390/biomedicines11051469. PMID: 37239140

From COVID-19 Vaccine Hesitancy to Vaccine Acceptance: Results of a Longitudinal Survey.
Fisher KA, Nguyen N, Fouayzi H, Crawford S, Singh S, Dong M, Wittenberg R, Mazor KM. Public Health Rep. 2023 May 27:333549231176006. doi: 10.1177/00333549231176006. Online ahead of print. PMID: 37243439

Global acceptance of COVID-19 vaccine among persons with diabetes: A systematic review and meta-analysis.
Ekpor E, Akyirem S. Diabetes Res Clin Pract. 2023 May 24;201:110731. doi: 10.1016/j.diabres.2023.110731. Online ahead of print. PMID: 37236364

COVID-19 vaccine deliberation in individuals directly impacted by incarceration.
Kim C, Aminawung JA, Brinkley-Rubinstein L, Wang EA, Puglisi LB. Vaccine. 2023 May 26;41(23):3475-3480. doi: 10.1016/j.vaccine.2023.04.068. Epub 2023 Apr 26. PMID: 37127524

Racial differences in COVID-19 vaccine acceptance in Arkansas.
Amick Iii BC, Allen JL, Brown CC, Goudie A, Tilford M, Williams M. PLoS One. 2023 May 18;18(5):e0268876. doi: 10.1371/journal.pone.0268876. eCollection 2023. PMID: 37200371

Unraveling attributes of COVID-19 vaccine acceptance and uptake in the U.S.: a large nationwide study.
McCabe SD, Hammershaimb EA, Cheng D, Shi A, Shyr D, Shen S, Cole LD, Cataldi JR, Allen W, Probasco R, Silbermann B, Zhang F, Marsh R, Travassos MA, Lin X. Sci Rep. 2023 May 24;13(1):8360. doi: 10.1038/s41598-023-34340-3. PMID: 37225748

BCG Vaccine Not Effective Against COVID-19.
Harris E. JAMA. 2023 May 23;329(20):1730. doi: 10.1001/jama.2023.7763. PMID: 37133901

COVID-19 vaccine hesitancy among first-generation immigrants living in Sweden.
Svallfors S, Larsson EC, Puranen B, Ekström AM. Eur J Public Health. 2023 May 25:ckad073. doi: 10.1093/eurpub/ckad073. Online ahead of print. PMID: 37229599

Clinical trials of COVID-19 vaccine development: a global overview.
Lopes JVA, Campos ALS, Moraes RR, Alves LC. Cad Saude Publica. 2023 May 22;39(5):e00165522. doi: 10.1590/0102-311XEN165522. eCollection 2023. PMID: 37222342

Vaccine hesitancy among health-care professionals in the era of COVID-19.
Pikkel Geva HZ, Gershgoren H, Nir D, Khazen M, Rose AJ. Health Educ Res. 2023 May 22;38(3):193-203. doi: 10.1093/her/cyad003. PMID: 36718591

Post-COVID mRNA-vaccine IgG4 shift: worrisome?
Kadkhoda K. mSphere. 2023 May 16:e0008523. doi: 10.1128/msphere.00085-23. Online ahead of print. PMID: 37191589

Impact of COVID-19 and vaccination on first and second trimester screening results.
Hantoushzadeh S, Younesi S, Mahdi Taheri Amin M, Saadati P, Jamali S, Nassiri S, Modarresi MH, Savad S, Delshad S, Soleiman Meiguni Z, Amidi S, Navidpour F, Yazdani B, Karimi Farani A, Saleh M, Ghafouri-Fard S. Cytokine. 2023 May 22;168:156228. doi: 10.1016/j.cyto.2023.156228. Online ahead of print. PMID: 37224577

Development of a COVID-19 vaccine effectiveness and safety assessment system in Japan: The VENUS study.
Fukuda H, Maeda M, Murata F. Vaccine. 2023 May 26;41(23):3556-3563. doi: 10.1016/j.vaccine.2023.03.059. Epub 2023 Mar 29. PMID: 37037707

The efficacy and effectiveness of COVID-19 vaccines around the world: a mini-review and meta-analysis.
Soheili M, Khateri S, Moradpour F, Mohammadzedeh P, Zareie M, Mortazavi SMM, Manifar S, Kohan HG, Moradi Y. Ann Clin Microbiol Antimicrob. 2023 May 19;22(1):42. doi: 10.1186/s12941-023-00594-y. PMID: 37208749

Temporal trends and determinants of COVID-19 vaccine series initiation after recent pregnancy.
Török E, Dhinsa T, Dimanlig-Cruz S, Alton GD, Sprague AE, Dunn SI, Shah PS, El-Chaâr D, Regan AK, Wilson K, Buchan SA, Kwong JC, Håberg SE, Gravel CA, Okun N, Walker MC, MacDonald SE, Wilson SE, Barrett J, Fell DB. Hum Vaccin Immunother. 2023 May 30:2215150. doi: 10.1080/21645515.2023.2215150. Online ahead of print. PMID: 37249316

Estimates of Bivalent mRNA Vaccine Durability in Preventing COVID-19-Associated Hospitalization and Critical Illness Among Adults with and Without Immunocompromising Conditions - VISION Network, September 2022-April 2023.
Link-Gelles R, Weber ZA, Reese SE, Payne AB, Gaglani M, Adams K, Kharbanda AB, Natarajan K, DeSilva MB, Dascomb K, Irving SA, Klein NP, Grannis SJ, Ong TC, Embi PJ, Dunne MM, Dickerson M, McEvoy C, Arndorfer J, Naleway AL, Goddard K, Dixon BE, Griggs EP, Hansen J, Valvi N, Najdowski M, Timbol J, Rogerson C, Fireman B, Fadel WF, Patel P, Ray CS, Wiegand R, Ball S, Tenforde MW. MMWR Morb Mortal Wkly Rep. 2023 May 26;72(21):579-588. doi: 10.15585/mmwr.mm7221a3. PMID: 37227984

The Mutational Landscape of SARS-CoV-2.
Saldivar-Espinoza B, Garcia-Segura P, Novau-Ferré N, Macip G, Martínez R, Puigbò P, Cereto-Massagué A, Pujadas G, Garcia-Vallve S. Int J Mol Sci. 2023 May 22;24(10):9072. doi: 10.3390/ijms24109072. PMID: 37240420

COVID-19 vaccine safety inquiries to the centers for disease control and prevention immunization safety office.
Miller ER, Moro PL, Shimabukuro TT, Carlock G, Davis SN, Freeborn EM, Roberts AL, Gee J, Taylor AW, Gallego R, Suragh T, Su JR. Vaccine. 2023 May 24:S0264-410X(23)00613-8. doi: 10.1016/j.vaccine.2023.05.054. Online ahead of print. PMID: 37248099

COVID-19 vaccination in adults with inflammatory bowel disease.
Lutz M, Lazarus S, Caldera F. Therap Adv Gastroenterol. 2023 May 22;16:17562848231173130. doi: 10.1177/17562848231173130. eCollection 2023. PMID: 37234702

Association between Overweight/Obesity and the Safety and Efficacy of COVID-19 Vaccination: A Systematic Review.
Fu C, Lin N, Zhu J, Ye Q. Vaccines (Basel). 2023 May 17;11(5):996. doi: 10.3390/vaccines11050996. PMID: 37243100

Knowledge and Perception of the Employees Towards COVID-19 Vaccination at Palestinian Universities.
Shouli MM, Ayed A, Shouli KM, Alekel K. SAGE Open Nurs. 2023 May 18;9:23779608231176880. doi: 10.1177/23779608231176880. eCollection 2023 Jan-Dec. PMID: 37223220

Neurological Adverse Reactions to SARS-CoV-2 Vaccines.
Finsterer J. Clin Psychopharmacol Neurosci. 2023 May 30;21(2):222-239. doi: 10.9758/cpn.2023.21.2.222. PMID: 37119215

COVID-19 Vaccines, Healthcare Policies and Stock Markets: Are There Winners and Losers?
Diaz RF, Herrador-Alcaide TC, Sanchez-Robles B. Risk Manag Healthc Policy. 2023 May 24;16:971-989. doi: 10.2147/RMHP.S406216. eCollection 2023. PMID: 37256165

Correlates of COVID-19 vaccine uptake among U.S. College students.
Soulakova JN, Crockett LJ, Schmidt-Owens M, Schrimshaw EW. Prev Med Rep. 2023 Aug;34:102232. doi: 10.1016/j.pmedr.2023.102232. Epub 2023 May 19. PMID: 37234565

Inactivated COVID-19 vaccines: potential concerns of antibody-dependent enhancement and original antigenic sin.
Kan AKC, Li PH. Immunol Lett. 2023 May 23;259:21-23. doi: 10.1016/j.imlet.2023.05.007. Online ahead of print. PMID: 37230399

Determinants of Covid-19 vaccination: Evidence from the US pulse survey.
Roy A. PLOS Glob Public Health. 2023 May 18;3(5):e0001927. doi: 10.1371/journal.pgph.0001927. eCollection 2023. PMID: 37200233

Attitudes toward COVID-19 vaccination of pregnant and lactating women in Hungary.
Szalma I, Bitó T. J Perinat Med. 2022 Nov 18;51(4):531-537. doi: 10.1515/jpm-2022-0372. Print 2023 May 25. PMID: 36398329

COVID-19 Vaccine and Health Care Visits for Menstrual Changes.
Harris E. JAMA. 2023 May 17. doi: 10.1001/jama.2023.8658. Online ahead of print. PMID: 37195725

Sex-disaggregated effectiveness data reporting in COVID-19 vaccine research: a systematic review.
Sulis G, Kim JY, Rodrigue V, Gore G, Peebles A, Ulrich AK, Horn M, Basta NE. Commun Med (Lond). 2023 May 19;3(1):69. doi: 10.1038/s43856-023-00297-7. PMID: 37208492

Prevalence of post-vaccine side effects among COVID-19 immunized community of Southern Pakistan.
Qureshi A, Syed Sulaiman SA, Rehman W, Mehmood A, Idrees S, Kumar N. PLoS One. 2023 May 23;18(5):e0285736. doi: 10.1371/journal.pone.0285736. eCollection 2023. PMID: 37220099

Uncovering inequities in Covid-19 vaccine coverage for adults and elderly in Brazil: A multilevel study of 2021-2022 data.
Boing AF, Boing AC, Barberia L, Borges ME, Subramanian SV. Vaccine. 2023 May 17:S0264-410X(23)00569-8. doi: 10.1016/j.vaccine.2023.05.030. Online ahead of print. PMID: 37221119

Corona virus 19(COVID-19) Conceptual Modeling a Single-Center Prospective: Cross-Sectional Study.
Abuauf M, Raboei EH, Alshareef M, Rabie N, Al-Zailai R, Alharbi A, Felemban W, Al Nasser I, Shalabi H. JMIR Form Res. 2023 May 29. doi: 10.2196/41376. Online ahead of print. PMID: 37256829

Vaccine effectiveness against delta and omicron variants of SARS-CoV-2.
Kundi M. BMJ. 2023 May 23;381:1111. doi: 10.1136/bmj.p1111. PMID: 37220942

Antioxidant and Immune-Related Implications of Minerals in COVID-19: A Possibility for Disease Prevention and Management.
Toledano JM, Puche-Juarez M, Moreno-Fernandez J, Ochoa JJ, Diaz-Castro J. Antioxidants (Basel). 2023 May 16;12(5):1104. doi: 10.3390/antiox12051104. PMID: 37237970

After COVID-19 vaccinations: what does living and working in nursing homes look like?
Urlings JHJ, Backhaus R, Verbeek H, de Boer B, Koopmans RTCM, Gerritsen DL, Hamers JPH. BMC Geriatr. 2023 May 16;23(1):298. doi: 10.1186/s12877-023-03987-y. PMID: 37193994

Effectiveness of chatbots on COVID vaccine confidence and acceptance in Thailand, Hong Kong, and Singapore.
Lee KY, Dabak SV, Kong VH, Park M, Kwok SLL, Silzle M, Rachatan C, Cook A, Passanante A, Pertwee E, Wu Z, Elkin JA, Larson HJ, Lau EHY, Leung K, Wu JT, Lin L. NPJ Digit Med. 2023 May 25;6(1):96. doi: 10.1038/s41746-023-00843-6. PMID: 37231110

Perceptions of vaccine trust and conspiracy among those with COVID-19 vaccine hesitancy and resistance: a cross-sectional study.
Eriş H, Karasu F, Ayar D. Glob Health Promot. 2023 May 20:17579759231174750. doi: 10.1177/17579759231174750. Online ahead of print. PMID: 37208910

Efficacy and safety of mRNA and AstraZeneca COVID-19 vaccines in patients with autoimmune rheumatic diseases: A systematic review.
Joudeh AI, Lutf AQ, Mahdi S, Tran G. Vaccine. 2023 May 22:S0264-410X(23)00609-6. doi: 10.1016/j.vaccine.2023.05.048. Online ahead of print. PMID: 37244811

BNT162b2 COVID-19 Vaccines in Children, Adolescents and Young Adults with Cancer-A 1-Year Follow-Up.
Donze C, Min V, Ninove L, de Lamballerie X, Revon Rivière G, Verschuur A, Saultier P, André N. Vaccines (Basel). 2023 May 16;11(5):989. doi: 10.3390/vaccines11050989. PMID: 37243093

Investigating Canadian Public Attitudes Toward COVID-19 Vaccine Mandates with a Nested Analysis Framework.
Yang Y, Lei X, Zhou Z, Tsao SF, Butt ZA, Chen HH. Stud Health Technol Inform. 2023 May 18;302:783-787. doi: 10.3233/SHTI230266. PMID: 37203495

Monkeypox vaccination in the global south: Fighting a war without a weapon.
Ogunkola IO, Abiodun OE, Bale BI, Elebesunu EE, Ujam SB, Umeh IC, Tom-James M, Musa SS, Manirambona E, Evardone SB, Lucero-Prisno DE 3rd. Clin Epidemiol Glob Health. 2023 Jul-Aug;22:101313. doi: 10.1016/j.cegh.2023.101313. Epub 2023 May 19. PMID: 37220529

COVID-19 Vaccine Hesitancy among Patients Recovered from COVID-19 Infection in Wuhan, China: A Cross-Sectional Questionnaire Study.
Huang Y, Zhang L, Fu J, Wu Y, Wang H, Xiao W, Xin Y, Dai Z, Si M, Chen X, Jia M, Leng Z, Cui D, Su X. JMIR Public Health Surveill. 2023 May 26. doi: 10.2196/42958. Online ahead of print. PMID: 37247615

Female reproduction and abnormal uterine bleeding after COVID-19 vaccination.
Paik H, Kim SK. Clin Exp Reprod Med. 2023 Jun;50(2):69-77. doi: 10.5653/cerm.2023.05925. Epub 2023 May 16. PMID: 37258099

Safety of the BNT162b2 COVID-19 Vaccine in Children Aged 5 to 17 Years.
Hu M, Wong HL, Feng Y, Lloyd PC, Smith ER, Amend KL, Kline A, Beachler DC, Gruber JF, Mitra M, Seeger JD, Harris C, Secora A, Obidi J, Wang J, Song J, McMahill-Walraven CN, Reich C, McEvoy R, Do R, Chillarige Y, Clifford R, Cooper DD, Shoaibi A, Forshee R, Anderson SA. JAMA Pediatr. 2023 May 22:e231440. doi: 10.1001/jamapediatrics.2023.1440. Online ahead of print. PMID: 37213095

Robust and prototypical immune responses toward COVID-19 vaccine in First Nations peoples are impacted by comorbidities.
Zhang W, Kedzierski L, Chua BY, Mayo M, Lonzi C, Rigas V, Middleton BF, McQuilten HA, Rowntree LC, Allen LF, Purcell RA, Tan HX, Petersen J, Chaurasia P, Mordant F, Pogorelyy MV, Minervina AA, Crawford JC, Perkins GB, Zhang E, Gras S, Clemens EB, Juno JA, Audsley J, Khoury DS, Holmes NE, Thevarajan I, Subbarao K, Krammer F, Cheng AC, Davenport MP, Grubor-Bauk B, Coates PT, Christensen B, Thomas PG, Wheatley AK, Kent SJ, Rossjohn J, Chung AW, Boffa J, Miller A, Lynar S, Nelson J, Nguyen THO, Davies J, Kedzierska K. Nat Immunol. 2023 Jun;24(6):966-978. doi: 10.1038/s41590-023-01508-y. Epub 2023 May 29. PMID: 37248417

COVID-19 mortality in two waves of the pandemic in Cali, Colombia, before and during vaccination roll-out.
Reina C, Roa P, Garcés A, Valencia A, Torres M, Concha-Eastman A. Rev Panam Salud Publica. 2023 May 22;47:e76. doi: 10.26633/RPSP.2023.76. eCollection 2023. PMID: 37223328

Long COVID risk and pre-COVID vaccination in an EHR-based cohort study from the RECOVER program.
Brannock MD, Chew RF, Preiss AJ, Hadley EC, Redfield S, McMurry JA, Leese PJ, Girvin AT, Crosskey M, Zhou AG, Moffitt RA, Funk MJ, Pfaff ER, Haendel MA, Chute CG; N3C; RECOVER Consortia. Nat Commun. 2023 May 22;14(1):2914. doi: 10.1038/s41467-023-38388-7. PMID: 37217471

Obesity as an independent risk factor for COVID-19 severity and mortality.
Tadayon Najafabadi B, Rayner DG, Shokraee K, Shokraie K, Panahi P, Rastgou P, Seirafianpour F, Momeni Landi F, Alinia P, Parnianfard N, Hemmati N, Banivaheb B, Radmanesh R, Alvand S, Shahbazi P,

Dehghanbanadaki H, Shaker E, Same K, Mohammadi E, Malik A, Srivastava A, Nejat P, Tamara A, Chi Y, Yuan Y, Hajizadeh N, Chan C, Zhen J, Tahapary D, Anderson L, Apatu E, Schoonees A, Naude CE, Thabane L, Foroutan F. Cochrane Database Syst Rev. 2023 May 24;5(5):CD015201. doi: 10.1002/14651858.CD015201. PMID: 37222292

Omicron variant evolution on vaccines and monoclonal antibodies.
Sabbatucci M, Vitiello A, Clemente S, Zovi A, Boccellino M, Ferrara F, Cimmino C, Langella R, Ponzo A, Stefanelli P, Rezza G. Inflammopharmacology. 2023 May 19:1-10. doi: 10.1007/s10787-023-01253-6. Online ahead of print. PMID: 37204696

A modeling-based approach to optimize COVID-19 vaccine dosing schedules for improved protection.
Dogra P, Schiavone C, Wang Z, Ruiz-Ramírez J, Caserta S, Staquicini DI, Markosian C, Wang J, Sostman HD, Pasqualini R, Arap W, Cristini V. JCI Insight. 2023 May 25:e169860. doi: 10.1172/jci.insight.169860. Online ahead of print. PMID: 37227783

COVID-19 Vaccination in the WHO African Region: Progress Made in 2022 and Factors Associated.
Mboussou F, Farham B, Nsasiirwe S, Atagbaza A, Oyaole D, Atuhebwe PL, Alegana V, Osei-Sarpong F, Bwaka A, Paluku G, Petu A, Efe-Aluta O, Kalu A, Bagayoko MM, Impouma B. Vaccines (Basel). 2023 May 22;11(5):1010. doi: 10.3390/vaccines11051010. PMID: 37243114

Assessment of Safety and Prophylactic Efficacy of the EpiVacCorona Peptide Vaccine for COVID-19 Prevention (Phase III).
Ryzhikov AB, Ryzhikov EA, Bogryantseva MP, Usova SV, Nechaeva EA, Danilenko ED, Pyankov SA, Gudymo AS, Moiseeva AA, Onkhonova GS, Pyankov OV, Sleptsova ES, Lomakin NV, Vasilyeva VS, Tulikov MV, Gusarov VG, Pulin AA, Balalaeva MA, Erofeeva SB, Terpigorev SA, Rychkova OA, Petrov IM, Delian VY, Rafalskiy VV, Tyranovets SV, Gavrilova EV, Maksyutov RA. Vaccines (Basel). 2023 May 18;11(5):998. doi: 10.3390/vaccines11050998. PMID: 37243102

COVID-19 vaccine distribution: A high reliability organization approach.
Houtsma C, Raines AM, Reggio A, Rushing LK, Harding E, Payton E, Martin-Klinger C. Vaccine. 2023 May 16;41(21):3305-3307. doi: 10.1016/j.vaccine.2023.04.031. Epub 2023 Apr 17. PMID: 37105890

An elephant in the glasshouse? Trade-offs between acceleration and transformation in COVID-19 vaccine innovation policies.
van de Burgwal L, van der Valk T, Kempter H, Gadau M, Stubbs D, Boon W. Environ Innov Soc Transit. 2023 Sep;48:100736. doi: 10.1016/j.eist.2023.100736. Epub 2023 May 24. PMID: 37250374

Clinical virology and effect of Covid-19 vaccination and monoclonal antibodies against highly infectious SARS- CoV-2 omicron sub variant BF.7 (BA.5.2.1.7): A systematic review.
Chenchula S, Amerneni KC, Ghanta MK, Padmavathi R, Chandra MB, Adusumilli MB, Chavan M, Mudda S, Gupta R, Lakhawat B. Virology. 2023 Jul;584:38-43. doi: 10.1016/j.virol.2023.04.007. Epub 2023 May 19. PMID: 37229914

False Beliefs and Attitude Are Barriers to COVID-19 Vaccination.
Brannen DE, Howell M, Zindani F, Halderman A. Disaster Med Public Health Prep. 2023 May 18;17:e398. doi: 10.1017/dmp.2023.23. PMID: 37198938

Should states restrict recipient choice amongst relevant and available COVID-19 vaccines?
Cave E, McMahon A. Med Law Rev. 2023 May 25;31(2):272-292. doi: 10.1093/medlaw/fwac042. PMID: 36240460

Circulating eosinophils associated with responsiveness to COVID-19 vaccine and the disease severity in patients with SARS-CoV-2 omicron variant infection.
Zhu Z, Cai J, Tang Q, Mo YY, Deng T, Zhang X, Xu K, Wu B, Tang H, Zhang Z. BMC Pulm Med. 2023 May 22;23(1):177. doi: 10.1186/s12890-023-02473-w. PMID: 37217986

Tanzania's COVID-19 vaccination strategy: lessons, learning, and execution.
Mfinanga SG, Gatei W, Tinuga F, Mwengee WMP, Yoti Z, Kapologwe N, Nagu T, Swaminathan M, Makubi A. Lancet. 2023 May 20;401(10389):1649. doi: 10.1016/S0140-6736(23)00723-7. PMID: 37210109

COVID-19 vaccination, risk-compensatory behaviours, and contacts in the UK.
Buckell J, Jones J, Matthews PC, Diamond SI, Rourke E, Studley R, Cook D, Walker AS, Pouwels KB; COVID-19 Infection Survey Team. Sci Rep. 2023 May 25;13(1):8441. doi: 10.1038/s41598-023-34244-2. PMID: 37231004

Developmental and reproductive toxicity of a recombinant protein subunit COVID-19 vaccine (ZF2001) in rats.
Song Y, Shao J, She G, Lv W, Chen G, Liu J, Zhang L, Zhang C, Wang J, Tian R, Dai L, Gao GF, Huang E, Zhang L. NPJ Vaccines. 2023 May 24;8(1):74. doi: 10.1038/s41541-023-00673-3. PMID: 37225729

Immunogenicity and safety of mixed COVID-19 vaccine regimens in patients with immune-mediated inflammatory diseases: a single-centre prospective cohort study.
Hitchon CA, Mesa C, Bernstein CN, Marrie RA, Card C, O'Brien SF, Kim J. BMJ Open. 2023 May 30;13(5):e071397. doi: 10.1136/bmjopen-2022-071397. PMID: 37253487

Methodological changes implemented over time to support accurate and timely COVID-19 vaccine coverage estimates: Ontario, Canada.
Leigh Hobbs J, Paul LA, Buchan SA, Harris T, Wilson SE. Vaccine. 2023 May 16;41(21):3328-3336. doi: 10.1016/j.vaccine.2023.04.007. Epub 2023 Apr 7. PMID: 37087395

Hidradenitis suppurativa patient-reported influences on COVID-19 vaccine acceptance and hesitancy.
Williams JC, Alhusayen R, Guilbault S, Ingram JR, Lowes MA, Yannuzzi CA, Naik HB. Br J Dermatol. 2023 May 20:ljad166. doi: 10.1093/bjd/ljad166. Online ahead of print. PMID: 37210215

Efficacy and safety of a fourth dose of the COVID-19 vaccine in kidney transplant recipients: A systematic review and meta-analysis.
Kuniduzi Y, Chen B, Zeng J, Sun X, Chen T, Qian X, Wang J, Liang F, Abuduxukuer R, Yusufu M, Xu S, Zhang X. Transpl Immunol. 2023 May 23;79:101864. doi: 10.1016/j.trim.2023.101864. Online ahead of print. PMID: 37230397

Vaccine hesitancy promotes emergence of new SARS-CoV-2 variants.
Jing S, Milne R, Wang H, Xue L. J Theor Biol. 2023 May 18;570:111522. doi: 10.1016/j.jtbi.2023.111522. Online ahead of print. PMID: 37210068

Axillary Lymphadenopathy After a COVID-19 Vaccine Booster Dose: Time to Resolution on Ultrasound Follow-Up and Associated Factors.
Mema E, Lane EG, Drotman MB, Eisen CS, Thomas C, Prince MR, Dodelzon K. AJR Am J Roentgenol. 2023 May 31:1-9. doi: 10.2214/AJR.22.28970. Online ahead of print. PMID: 36883774

Adverse Effects Post Covid -19 Vaccination and Its Association with Age, Gender and Comorbid Disease in Basrah City Southern of Iraq.
Najim Abdul-Nabi Z, Kadhim Mohamed-Jawad N, Yousif Fareed N, Falih Neama N, Hassan Shari F. Curr Drug Saf. 2023 May 25. doi: 10.2174/1574886318666230525142152. Online ahead of print. PMID: 37231751

Determinants of COVID-19 vaccine uptake among Nigerians: evidence from a cross-sectional national survey.
Ojo TO, Ojo AO, Ojo OE, Akinwalere BO, Akinwumi AF. Arch Public Health. 2023 May 26;81(1):95. doi: 10.1186/s13690-023-01107-1. PMID: 37237389

Canine Olfactory Detection of SARS-CoV-2-Infected Humans - a Systematic Review.
Meller S, Caraguel C, Twele F, Charalambous M, Schoneberg C, Chaber AL, Desquilbet L, Grandjean D, Mardones FO, Kreienbrock L, de la Rocque S, Volk HA. Ann Epidemiol. 2023 May 18:S1047-2797(23)00087-X. doi: 10.1016/j.annepidem.2023.05.002. Online ahead of print. PMID: 37209927

The discovery and development of mRNA vaccines for the prevention of SARS-CoV-2 infection.
Xue VW, Wong SCC, Li B, Cho WCS. Expert Opin Drug Discov. 2023 May 26:1-12. doi: 10.1080/17460441.2023.2218083. Online ahead of print. PMID: 37237360

Evidence-driven spatiotemporal COVID-19 hospitalization prediction with Ising dynamics.
Gao J, Heintz J, Mack C, Glass L, Cross A, Sun J. Nat Commun. 2023 May 29;14(1):3093. doi: 10.1038/s41467-023-38756-3. PMID: 37248229

Headache following vaccination against COVID-19 among healthcare workers with a history of COVID-19 infection: a cross-sectional study in Iran with a meta-analytic review of the literature.
Nasergivehchi S, Togha M, Jafari E, Sheikhvatan M, Shahamati D. Head Face Med. 2023 May 19;19(1):19. doi: 10.1186/s13005-023-00363-4. PMID: 37202794

Organizations affect their employees' vaccine readiness: A self-perception theory perspective.
Roswag M, Häusser JA, Abdel Hadi S, Hubert P, Mojzisch A. Appl Psychol Health Well Being. 2023 May 17. doi: 10.1111/aphw.12457. Online ahead of print. PMID: 37194474

Association Between Vaccination Status and Outcomes in Patients Admitted to the ICU With COVID-19.
van Diepen S, McAlister FA, Chu LM, Youngson E, Kaul P, Kadri SS. Crit Care Med. 2023 May 16. doi: 10.1097/CCM.0000000000005928. Online ahead of print. PMID: 37192450

Understanding the spatial heterogeneity of COVID-19 vaccination uptake in England.
Chen H, Cao Y, Feng L, Zhao Q, Torres JRV. BMC Public Health. 2023 May 16;23(1):895. doi: 10.1186/s12889-023-15801-w. PMID: 37189026

Immunogenicity and safety of COVID-19 BNT162b2 booster vaccine in end-stage kidney disease patients receiving haemodialysis in Yogyakarta, Indonesia: a cohort prospective study.
Puspitasari M, Sattwika PD, Hidayat ARP, Wijaya W, Wardhani Y, Intansari US, Kertia N, Purwanto B, Thobari JA. BMC Nephrol. 2023 May 30;24(1):151. doi: 10.1186/s12882-023-03218-x. PMID: 37248445

[Knowledge and attitudes about vaccinations among medical students during the COVID-19 pandemic].
Paulik E, Molnár R, Zsiros V, Máté Z, Maróti-Nagy Á, Markó-Kucsera M, Sisák A, Mátó V. Orv Hetil. 2023 May 28;164(21):803-810. doi: 10.1556/650.2023.32774. Print 2023 May 28. PMID: 37245204

Safety, efficacy, and immunogenicity of the NVX-CoV2373 vaccine.
Underwood E, Dunkle LM, Madhi SA, Gay CL, Heath PT, Kotloff KL, Smith K, Chau G, Galbiati S, McGarry A, Woo W, Cho I, Alves K, Áñez G, Bennett C, Shinde V, Fries L, Mallory RM, Glenn GM, Toback S. Expert Rev Vaccines. 2023 May 29. doi: 10.1080/14760584.2023.2218913. Online ahead of print. PMID: 37246757

Utilization of Marine Seaweeds as a Promising Defense Against COVID-19: a Mini-review.
Gunathilaka MDTL. Mar Biotechnol (NY). 2023 May 27:1-13. doi: 10.1007/s10126-023-10214-7. Online ahead of print. PMID: 37243809

Disparities in COVID-19 vaccine hesitancy among a diverse community-based sample in Connecticut, United States.
Eger WH, Suttiratana SC, Herbst RL, Behringer H, Ibrahim E, Jones BA. Prev Med Rep. 2023 Aug;34:102263. doi: 10.1016/j.pmedr.2023.102263. Epub 2023 May 24. PMID: 37252068

COVID-19 epidemic modelling for policy decision support in Victoria, Australia 2020-2021.
Scott N, Abeysuriya RG, Delport D, Sacks-Davis R, Nolan J, West D, Sutton B, Wallace EM, Hellard M. BMC Public Health. 2023 May 27;23(1):988. doi: 10.1186/s12889-023-15936-w. PMID: 37237343

COVID-19 vaccination requirements, encouragement and hesitancy among non-health care, non-congregate workers in Chicago: results from the WEVax survey.
Lendacki FR, Forst LS, Mehta SD, Kerins JL. BMC Public Health. 2023 May 25;23(1):951. doi: 10.1186/s12889-023-15781-x. PMID: 37231367

Bench-to-bedside: Innovation of small molecule anti-SARS-CoV-2 drugs in China.
Yang L, Wang Z. Eur J Med Chem. 2023 May 18;257:115503. doi: 10.1016/j.ejmech.2023.115503. Online ahead of print. PMID: 37229831

An mRNA-based T-cell-inducing antigen strengthens COVID-19 vaccine against SARS-CoV-2 variants.
Tai W, Feng S, Chai B, Lu S, Zhao G, Chen D, Yu W, Ren L, Shi H, Lu J, Cai Z, Pang M, Tan X, Wang P, Lin J, Sun Q, Peng X, Cheng G. Nat Commun. 2023 May 23;14(1):2962. doi: 10.1038/s41467-023-38751-8. PMID: 37221158

In-Depth Ethical Analysis of the COVID-19 Vaccine Rollout for Migrant Workers in the Gulf Countries.
Alahmad B, AlMekhled D, Busalacchi K, Wang WC. Int J Soc Determinants Health Health Serv. 2023 May 22:27551938231177845. doi: 10.1177/27551938231177845. Online ahead of print. PMID: 37218178

"They Don't Really Consider Us Essential, But We Are": a Qualitative Investigation of Vaccine Acceptance and Perceived Workplace Safety Among Black Transit Workers During the COVID-19 Pandemic.
Ameen K, St Jean DT, Woko C. J Racial Ethn Health Disparities. 2023 May 23:1-11. doi: 10.1007/s40615-023-01606-5. Online ahead of print. PMID: 37219734

Randomized clinical trials of COVID-19 vaccines: Do adenovirus-vector vaccines have beneficial non-specific effects?
Benn CS, Schaltz-Buchholzer F, Nielsen S, Netea MG, Aaby P. iScience. 2023 May 19;26(5):106733. doi: 10.1016/j.isci.2023.106733. Epub 2023 Apr 25. PMID: 37163200

A tailored COVID-19 vaccination pathway for children 5-11 years in Victoria, Australia.
Gordon SF, Lam J, Vasquez JT, Cercone R, Tenneti N, Hart J, Chisholm M, Heland M, Hoq M, Kaufman J, Danchin M. Vaccine. 2023 May 22;41(22):3436-3445. doi: 10.1016/j.vaccine.2023.04.032. Epub 2023 Apr 17. PMID: 37120401

Unintended consequences of communicating rapid COVID-19 vaccine policy changes- a qualitative study of health policy communication in Ontario, Canada.
Vernon-Wilson E, Tetui M, Nanyonjo A, Adil M, Bala A, Nelson D, Sayers E, Waite N, Grindrod K. BMC Public Health. 2023 May 23;23(1):932. doi: 10.1186/s12889-023-15861-y. PMID: 37221519

Future COVID-19 Booster Vaccine Refusal in Healthcare Workers after a Massive Breakthrough Infection Wave, a Nationwide Survey-Based Study.
Gu F, Lin H, Chen Z, Ambler G, Chen X, Chen X, Xia P, Liu N, Du H. Vaccines (Basel). 2023 May 16;11(5):987. doi: 10.3390/vaccines11050987. PMID: 37243091

The Impact of Vaccination on COVID-19 Burden of Disease in the Adult and Elderly Population: A Systematic Review of Italian Evidence.
Calabrò GE, Pappalardo C, D'Ambrosio F, Vece M, Lupi C, Lontano A, Di Russo M, Ricciardi R, de Waure C. Vaccines (Basel). 2023 May 22;11(5):1011. doi: 10.3390/vaccines11051011. PMID: 37243115

Durability and determinants of anti-SARS-CoV-2 spike antibodies following the second and third doses of mRNA COVID-19 vaccine.
Yamamoto S, Oshiro Y, Inamura N, Nemoto T, Horii K, Okudera K, Konishi M, Ozeki M, Mizoue T, Sugiyama H, Aoyanagi N, Sugiura W, Ohmagari N. Clin Microbiol Infect. 2023 May 24:S1198-743X(23)00244-6. doi: 10.1016/j.cmi.2023.05.020. Online ahead of print. PMID: 37236545

Disease relapse rate in children with autoimmune rheumatic diseases after COVID-19 infection and vaccination.
Šinkovec Savšek T, Zajc Avramovič M, Avčin T, Korva M, Avšič Županc T, Toplak N. Pediatr Rheumatol Online J. 2023 May 19;21(1):46. doi: 10.1186/s12969-023-00829-4. PMID: 37208721

CS-2034 mRNA vaccine: a new option for COVID-19 infection?
Zhang R, Hung IF. Lancet Infect Dis. 2023 May 19:S1473-3099(23)00277-3. doi: 10.1016/S1473-3099(23)00277-3. Online ahead of print. PMID: 37216959

Short- and long-term outcomes of patients with hyper or hypothyroidism following COVID vaccine.
Markus E, Bel-Ange A, Benbassat C, Steinschneider M, Koren R. J Investig Med. 2023 May 18:10815589231173876. doi: 10.1177/10815589231173876. Online ahead of print. PMID: 37199279

Assessment of long-term adverse events regarding different COVID-19 vaccine regimens within an 18-month follow-up study.
Sadat Larijani M, Sorouri R, Eybpoosh S, Doroud D, Moradi L, Ahmadinezhad M, Bavand A, Ashrafian F, Tajmehrabi Namini P, Zali M, Ramezani A. Pathog Dis. 2023 May 25:ftad010. doi: 10.1093/femspd/ftad010. Online ahead of print. PMID: 37230943

Optimizing the COVID-19 cold chain vaccine distribution network with medical waste management: A robust optimization approach.
Ensar Işık E, Topaloglu Yildiz S. Expert Syst Appl. 2023 Nov 1;229:120510. doi: 10.1016/j.eswa.2023.120510. Epub 2023 May 19. PMID: 37251535

Smoking Status, Nicotine Medication, Vaccination, and COVID-19 Hospital Outcomes: Findings from the COVID EHR Cohort at the University of Wisconsin (CEC-UW) Study.
Piasecki TM, Smith SS, Baker TB, Slutske WS, Adsit RT, Bolt DM, Conner KL, Bernstein SL, Eng OD, Lazuk D, Gonzalez A, Jorenby DE, D'Angelo H, Kirsch JA, Williams BS, Nolan MB, Hayes-Birchler T, Kent S, Kim H, Lubanski S, Yu M, Suk Y, Cai Y, Kashyap N, Mathew JP, McMahan G, Rolland B, Tindle HA, Warren GW, An LC, Boyd AD, Brunzell DH, Carrillo V, Chen LS, Davis JM, Deshmukh VG, Dilip D, Ellerbeck EF, Goldstein AO, Iturrate E, Jose T, Khanna N, King A, Klass E, Mermelstein RJ, Tong E, Tsoh JY, Wilson KM, Theobald WE, Fiore MC. Nicotine Tob Res. 2023 May 22;25(6):1184-1193. doi: 10.1093/ntr/ntac201. PMID: 36069915

Impact of Holding Immunosuppressive Therapy in Patients with Inflammatory Bowel Disease Around mRNA COVID-19 Vaccine Administration on Humoral Immune Response and Development of COVID-19 Infection.
Motwani KK, Hashash JG, Farraye FA, Kappelman MD, Weaver KN, Zhang X, Long MD, Cross RK. J Crohns Colitis. 2023 May 26:jjad085. doi: 10.1093/ecco-jcc/jjad085. Online ahead of print. PMID: 37232444

A cross-sectional study on COVID-19 vaccine hesitancy at peri-urban areas in Kanpur, Uttar Pradesh, India.
Pundhir A, Jaiswal A, Kushwaha P, Goel AD, Gahlot A, Singh L, Kaur M. Monaldi Arch Chest Dis. 2023 May 31. doi: 10.4081/monaldi.2023.2577. Online ahead of print. PMID: 37259812

Pandemic Phase-Adjusted Analysis of COVID-19 Outcomes Reveals Reduced Intrinsic Vulnerability and Substantial Vaccine Protection From Severe Acute Respiratory Syndrome Coronavirus 2 in Patients With Breast Cancer.
Tagliamento M, Gennari A, Lambertini M, Salazar R, Harbeck N, Del Mastro L, Aguilar-Company J, Bower M, Sharkey R, Dalla Pria A, Plaja A, Jackson A, Handford J, Sita-Lumsden A, Martinez-Vila C, Matas M, Miguel Rodriguez A, Vincenzi B, Tonini G, Bertuzzi A, Brunet J, Pedrazzoli P, D'Avanzo F, Biello F, Sinclair A, Lee AJX, Rossi S, Rizzo G, Mirallas O, Pimentel I, Iglesias M, Sanchez de Torre A, Guida A, Berardi R, Zambelli A, Tondini C, Filetti M, Mazzoni F, Mukherjee U, Diamantis N, Parisi A, Aujayeb A, Prat A, Libertini M, Grisanti S, Rossi M, Zoratto F, Generali D, Saura C, Lyman GH, Kuderer NM, Pinato DJ, Cortellini A. J Clin Oncol. 2023 May 20;41(15):2800-2814. doi: 10.1200/JCO.22.01667. Epub 2023 Jan 31. PMID: 36720089

The Prevalence of mRNA Related Discussions During the Post-COVID-19 Era.
Kokkinakis D, Bruinsma B, Hammarlin MM. Stud Health Technol Inform. 2023 May 18;302:798-802. doi: 10.3233/SHTI230269. PMID: 37203498

Safety and immunogenicity of SCB-2019, an adjuvanted, recombinant SARS-CoV-2 trimeric S-protein subunit COVID-19 vaccine in healthy 12-17 year-old adolescents.
Lopez P, Bravo L, Buntinx E, Borja-Tabora C, Velasquez H, Rodriquez EJ, Rodriguez CA, Carlos J, Montellano MEB, Alberto ER, Salvani-Bautista M, Huang Y, Hu B, Li P, Han HH, Baccarini C, Smolenov I. Hum Vaccin Immunother. 2023 May 25:2206359. doi: 10.1080/21645515.2023.2206359. Online ahead of print. PMID: 37226504

Addressing Persistent Vaccine Hesitancy in a Military Community Through a Physician-Led Intervention.
Glendening J, Bickford B, Markert R, Yuhas J, Berglund A, Kelly D, Scott J, Burtson K. Mil Med. 2023 May 16;188(5-6):928-931. doi: 10.1093/milmed/usac176. PMID: 35762461

Influenza and pertussis vaccine coverage in pregnancy in Australia, 2016-2021.
McRae JE, McHugh L, King C, Beard FH, Blyth CC, Danchin MH, Giles ML, Mohammed H, Wood N, Macartney K. Med J Aust. 2023 May 29. doi: 10.5694/mja2.51989. Online ahead of print. PMID: 37248802

Study protocol for the use of time series forecasting and risk analyses to investigate the effect of the COVID-19 pandemic on hospital admissions associated with new-onset disability and frailty in a national, linked electronic health data setting.
Thomas S, Machuel P, Foubert J, Nafilyan V, Bannister N, Colvin H, Routen A, Morriss R, Khunti K, Farooqi A, Armstrong N, Gray L, Gordon A. BMJ Open. 2023 May 19;13(5):e067786. doi: 10.1136/bmjopen-2022-067786. PMID: 37208137

COVID-19 misinformation on YouTube: An analysis of its impact and subsequent online information searches for verification.
Kessler SH, Humprecht E. Digit Health. 2023 May 25;9:20552076231177131. doi: 10.1177/20552076231177131. eCollection 2023 Jan-Dec. PMID: 37256011

Prevalence and functional profile of SARS-CoV-2 T cells in asymptomatic Kenyan adults.
Samandari T, Ongalo J, McCarthy K, Biegon RK, Madiega P, Mithika A, Orinda J, Mboya GM, Mwaura P, Anzala O, Onyango C, Oluoch FO, Osoro EM, Dutertre CA, Tan N, Hang SK, Hariharaputran S, Lye DC, Herman-Roloff A, Le Bert N, Bertoletti A. J Clin Invest. 2023 May 23:e170011. doi: 10.1172/JCI170011. Online ahead of print. PMID: 37219944

Timing and implications for immune response to vaccine in SARS-CoV-2 breakthrough infections.
Arsuffi S, Sansone E, Focà E, Storti S, Diaferia T, Bonfanti C, Terlenghi L, Caruso A, Sala E, Castelli F, De Palma G, Quiros-Roldan E. iScience. 2023 May 19;26(5):106716. doi: 10.1016/j.isci.2023.106716. Epub 2023 Apr 23. PMID: 37152764

Uveitis including Vogt-Koyanagi-Harada syndrome following inactive covid-19 vaccination: a case series.
Shariati MM, Abrishami M, Jahani S, Bolouki A, Ansari-Astaneh MR, Hosseini SM. J Ophthalmic Inflamm Infect. 2023 May 19;13(1):26. doi: 10.1186/s12348-023-00347-0. PMID: 37204647

COVID-19 mRNA BNT162b2 vaccine immunogenicity among children with a history of paediatric multisystem inflammatory syndrome temporally associated with COVID-19 (PIMS-TS).
Ludwikowska KM, Popiel A, Matkowska-Kocjan A, Biela M, Wójcik M, Szenborn F, Wielgos K, Pielka-Markiewicz E, Zaryczański J, Kursa MB, Szenborn L. Vaccine. 2023 May 16;41(21):3317-3327. doi: 10.1016/j.vaccine.2023.04.035. Epub 2023 Apr 14. PMID: 37087396

"How about me giving blood for the COVID vaccine and not being able to get vaccinated?" A cognitive interview study on understanding of and agreement with broad consent for future use of data and samples in Colombia and Nicaragua.
Maxwell L, Chamorro JB, Leegstra LM, Laguna HS, Miranda Montoya MC. PLOS Glob Public Health. 2023 May 17;3(5):e0001253. doi: 10.1371/journal.pgph.0001253. eCollection 2023. PMID: 37195974

Lipid Nanoparticle (LNP) Enables mRNA Delivery for Cancer Therapy.
Zong Y, Lin Y, Wei T, Cheng Q. Adv Mater. 2023 May 17:e2303261. doi: 10.1002/adma.202303261. Online ahead of print. PMID: 37196221

Impact of prior SARS-COV-2 infection and vaccination on COVID-19 hospital admission and mortality amongst nursing home residents.
España PP, Bilbao-González A, Larrea N, Castillo-Sintes I, García-Gutiérrez S, Portuondo J, Villanueva A, Uranga A, Legarreta MJ, Gascon M, Quintana JM; COVID-Health Basque Country Research Group. Aging Clin Exp Res. 2023 May 30. doi: 10.1007/s40520-023-02446-3. Online ahead of print. PMID: 37249860

Dynamic antibody response in SARS-CoV-2 infected patients and COVID-19 vaccine recipients alongside vaccine effectiveness in comorbid and multimorbid groups.
Das D, Raha FK, Adnan KM, Siraj MR, Shapla MJ, Shumy F, Haque ME, Khan MH, Sanyal S, Hosen MI, Nabi AN, Sanyal M, Chakraborty S, Amin MZ. Heliyon. 2023 May 20;9(5):e16349. doi: 10.1016/j.heliyon.2023.e16349. eCollection 2023 May. PMID: 37251854

Hematologic adverse events reported after COVID-19 vaccination in the Philippines: A national database study.
Mesina FZ, Sapinoso FAD, De Castro JAV, Vaswani PPM, Sy CES, Oquendo RAA, Lirasan MRA. Vaccine. 2023 May 26;41(23):3550-3555. doi: 10.1016/j.vaccine.2023.04.066. Epub 2023 May 1. PMID: 37150619

Comparison of attitudes toward routine maternal vaccines and COVID-19 vaccines among pregnant patients in an urban safety-net setting.
Zimmerman M, Zapata LP, Bachiller K, Devera JL, Hall TA, Casey SM, Pierre-Joseph N, Perkins RB. J Natl Med Assoc. 2023 May 18:S0027-9684(23)00057-3. doi: 10.1016/j.jnma.2023.04.003. Online ahead of print. PMID: 37210252

Children's care: family centred but child focused.
Purssell E, Sagoo R. Br J Nurs. 2023 May 25;32(10):466-470. doi: 10.12968/bjon.2023.32.10.466. PMID: 37219973

Sars-escape network for escape prediction of SARS-COV-2.
Singh Bist P, Tayara H, To Chong K. Brief Bioinform. 2023 May 19;24(3):bbad140. doi: 10.1093/bib/bbad140. PMID: 37039673

Effectiveness of mRNA and inactivated COVID-19 vaccines: a test-negative study in an infection-naïve Hong Kong population.
Ng RW, Sze RK, Chong KC, Zhao S, Ling L, Lui G, Leung AS, Yeung AC, Ho WC, Wong MC, Chen Z, Boon SS, Hui DS, Chan PK. J Infect. 2023 May 26:S0163-4453(23)00298-0. doi: 10.1016/j.jinf.2023.05.020. Online ahead of print. PMID: 37245544

Global Misinformation Spillovers in the Vaccination Debate Before and During the COVID-19 Pandemic: Multilingual Twitter Study.
Lenti J, Mejova Y, Kalimeri K, Panisson A, Paolotti D, Tizzani M, Starnini M. JMIR Infodemiology. 2023 May 24;3:e44714. doi: 10.2196/44714. PMID: 37223965

How to reduce vaccination hesitancy? The relevance of evidence and its communicator.
Eger J, Kaplan LC, Sternberg H. Vaccine. 2023 May 22:S0264-410X(23)00298-0. doi: 10.1016/j.vaccine.2023.03.026. Online ahead of print. PMID: 37221120

Impaired humoral immunity to BQ.1.1 in convalescent and vaccinated patients.
Dewald F, Pirkl M, Paluschinski M, Kühn J, Elsner C, Schulte B, Knüfer J, Ahmadov E, Schlotz M, Oral G, Bernhard M, Michael M, Luxenburger M, Andrée M, Hennies MT, Hafezi W, Müller MM, Kümpers P, Risse J, Kill C, Manegold RK, von Frantzki U, Richter E, Emmert D, Monzon-Posadas WO, Gräff I, Kogej M, Büning A, Baum M, Teipel F, Mochtarzadeh B, Wolff M, Gruell H, Di Cristanziano V, Burst V, Streeck H, Dittmer U, Ludwig S, Timm J, Klein F. Nat Commun. 2023 May 19;14(1):2835. doi: 10.1038/s41467-023-38127-y. PMID: 37208323

Effectiveness of the COVID-19 vaccines on preventing symptomatic SARS-CoV-2 infections and hospitalizations in Southwestern Alaska, January-December 2021.
Lefferts B, Bruden D, Plumb ID, Hodges E, Bates E, January G, Bruce MG. Vaccine. 2023 May 26;41(23):3544-3549. doi: 10.1016/j.vaccine.2023.04.070. Epub 2023 May 1. PMID: 37150620

Immune Responses 6 Months After mRNA-1273 COVID-19 Vaccination and the Effect of a Third Vaccination in Patients with Inborn Errors of Immunity.
van Leeuwen LPM, Grobben M, GeurtsvanKessel CH, Ellerbroek PM, de Bree GJ, Potjewijd J, Rutgers A, Jolink H, van de Veerdonk FL, van Gils MJ, de Vries RD, Dalm VASH; VACOPID Research Group. J Clin Immunol. 2023 May 26:1-14. doi: 10.1007/s10875-023-01514-7. Online ahead of print. PMID: 37231290

Heterologous versus homologous boosting elicits qualitatively distinct, BA.5-cross-reactive T cells in transplant recipients.
Thompson EA, Ngecu W, Stoddart L, Johnston TS, Chang A, Cascino K, Alejo JL, Abedon AT, Samaha H, Rouphael N, Tobian AA, Segev DL, Werbel WA, Karaba AH, Blankson JN, Cox AL. JCI Insight. 2023 May 22;8(10):e168470. doi: 10.1172/jci.insight.168470. PMID: 37104041

[Recurrent livedo-like skin lesions following a vector-based COVID-19 vaccine].
Kränke T, Cerpes U, Legat F, Arbab E, Kränke B. Dermatologie (Heidelb). 2023 May 26:1-3. doi: 10.1007/s00105-023-05160-3. Online ahead of print. PMID: 37237145

Effects of pneumococcal conjugate vaccines on reducing the risk of respiratory disease associated with coronavirus infection.

Dunne EM, Nunes MC, Slack MPE, Theilacker C, Gessner BD. Pneumonia (Nathan). 2023 May 25;15(1):10. doi: 10.1186/s41479-023-00112-w. PMID: 37226198

Undergraduate Students' Knowledge, Attitudes and Willingness to Receive COVID-19 Vaccines: A Survey of Convenience Sample in Namibia.
Tomas N, Munangatire T, Nampila S. SAGE Open Nurs. 2023 May 22;9:23779608231177565. doi: 10.1177/23779608231177565. eCollection 2023 Jan-Dec. PMID: 37250766

The Influence of Mass Media on the COVID-19 Vaccination Decision-making Process: Prospective Survey-Based Study.
Quon CM, Walker M, Graves L. J Med Internet Res. 2023 May 17;25:e45417. doi: 10.2196/45417. PMID: 37195740

February 2023 Updates of the Advisory Committee on Immunization Practices.
Gaviria-Agudelo C, Yonts AB, Kimberlin DW, O'Leary ST, Paulsen GC. J Pediatric Infect Dis Soc. 2023 May 31;12(5):257-261. doi: 10.1093/jpids/piad026. PMID: 37094832

Bivalent mRNA COVID-19 Vaccine-Related Pericarditis on 18F-FDG PET/CT.
Wu YC, Kao CH, Liao CW, Sun SS, Hsieh TC. Clin Nucl Med. 2023 May 29. doi: 10.1097/RLU.0000000000004711. Online ahead of print. PMID: 37256729

Changing Severity and Epidemiology of Adults Hospitalized With Coronavirus Disease 2019 (COVID-19) in the United States After Introduction of COVID-19 Vaccines, March 2021-August 2022.
Kojima N, Adams K, Self WH, Gaglani M, McNeal T, Ghamande S, Steingrub JS, Shapiro NI, Duggal A, Busse LW, Prekker ME, Peltan ID, Brown SM, Hager DN, Ali H, Gong MN, Mohamed A, Exline MC, Khan A, Wilson JG, Qadir N, Chang SY, Ginde AA, Withers CA, Mohr NM, Mallow C, Martin ET, Lauring AS, Johnson NJ, Casey JD, Stubblefield WB, Gibbs KW, Kwon JH, Baughman A, Chappell JD, Hart KW, Jones ID, Rhoads JP, Swan SA, Womack KN, Zhu Y, Surie D, McMorrow ML, Patel MM, Tenforde MW; Investigating Respiratory Viruses in the Acutely Ill (IVY) Network. Clin Infect Dis. 2023 May 31:ciad276. doi: 10.1093/cid/ciad276. Online ahead of print. PMID: 37255285

A qualitative study on COVID-19 pandemic impacts on parental attitudes and intentions for routine adolescent vaccinations: The role of trust.
Bolsewicz KT, Steffens MS, King C, Abdi I, Bullivant B, Beard F. Vaccine. 2023 May 22:S0264-410X(23)00586-8. doi: 10.1016/j.vaccine.2023.05.037. Online ahead of print. PMID: 37246066

SARS-CoV-2 seroprevalence among blood donors in Uganda: 2019-2022.
Bloch EM, Kyeyune D, White JL, Ddungu H, Ashokkumar S, Habtehyimer F, Baker O, Kasirye R, Patel EU, Grabowski MK, Musisi E, Moses K, Hume HA, Lubega I, Shrestha R, Motevalli M, Fernandez RE, Reynolds SJ, Redd AD, Wambongo Musana H, Dhabangi A, Ouma J, Eroju P, de Lange T, Fowler MG, Musoke P, Stramer SL, Whitby D, Zimmerman PA, McCullough J, Sachithanandham J, Pekosz A, Goodrich R, Quinn TC, Ness PM, Laeyendecker O, Tobian AAR. Transfusion. 2023 May 31. doi: 10.1111/trf.17449. Online ahead of print. PMID: 37255467

Seronegative acute encephalitis following COVID-19 vaccines: a case series of an overlooked diagnosis with literature review.

Mansour K, Chadli Z, Ghachem I, Fredj NB, Romdhane HB, Fadhel NB, Boughatas N, Aouam K, Chaabane A, Younes S. Eur J Clin Pharmacol. 2023 May 26:1-13. doi: 10.1007/s00228-023-03510-7. Online ahead of print. PMID: 37231308

PastoCovac and PastoCovac Plus as protein subunit COVID-19 vaccines led to great humoral immune responses in BBIP-CorV immunized individuals.
Ramezani A, Sorouri R, Haji Maghsoudi S, Dahmardeh S, Doroud D, Sadat Larijani M, Eybpoosh S, Mostafavi E, Olyaeemanesh A, Salehi-Vaziri M, Bavand A, Zarghani G, Moradi L, Ashrafian F, Bagheri Amiri F, Mashayekhi P, Tahmasebi Z, Biglari A. Sci Rep. 2023 May 18;13(1):8065. doi: 10.1038/s41598-023-35147-y. PMID: 37202438

Towards Predicting Length of Stay and Identification of Cohort Risk Factors Using Self-Attention-Based Transformers and Association Mining: COVID-19 as a Phenotype.
Alam F, Ananbeh O, Malik KM, Odayani AA, Hussain IB, Kaabia N, Aidaroos AA, Saudagar AKJ. Diagnostics (Basel). 2023 May 17;13(10):1760. doi: 10.3390/diagnostics13101760. PMID: 37238244

FDA Simplifies COVID-19 Vaccination, Permits Some Additional Doses.
Harris E. JAMA. 2023 May 16;329(19):1633-1634. doi: 10.1001/jama.2023.6624. PMID: 37099335

Evaluation of association of anti-PEG antibodies with anaphylaxis after mRNA COVID-19 vaccination.
Zhou ZH, Cortese MM, Fang JL, Wood R, Hummell DS, Risma KA, Norton AE, KuKuruga M, Kirshner S, Rabin RL, Agarabi C, Staat MA, Halasa N, Ware RE, Stahl A, McMahon M, Browning P, Maniatis P, Bolcen S, Edwards KM, Su JR, Dharmarajan S, Forshee R, Broder KR, Anderson S, Kozlowski S. Vaccine. 2023 May 16:S0264-410X(23)00568-6. doi: 10.1016/j.vaccine.2023.05.029. Online ahead of print. PMID: 37244808

Antibody Response to the BA.5 Bivalent Vaccine Shot: a Two-Year Follow-Up Study following Initial COVID-19 mRNA Vaccination.
Hirotsu Y, Sugiura H, Takatori M, Mochizuki H, Omata M. Microbiol Spectr. 2023 May 16:e0131623. doi: 10.1128/spectrum.01316-23. Online ahead of print. PMID: 37191496

The T-cell-directed vaccine BNT162b4 encoding conserved non-spike antigens protects animals from severe SARS-CoV-2 infection.
Arieta CM, Xie YJ, Rothenberg DA, Diao H, Harjanto D, Meda S, Marquart K, Koenitzer B, Sciuto TE, Lobo A, Zuiani A, Krumm SA, Cadima Couto CI, Hein S, Heinen AP, Ziegenhals T, Liu-Lupo Y, Vogel AB, Srouji JR, Fesser S, Thanki K, Walzer K, Addona TA, Türeci Ö, Şahin U, Gaynor RB, Poran A. Cell. 2023 May 25;186(11):2392-2409.e21. doi: 10.1016/j.cell.2023.04.007. Epub 2023 Apr 13. PMID: 37164012

Clinical characteristics of SARS-CoV-2 vaccine-related acute appendicitis.
Quint E, Kukeev I, Hazan I, Grupel D, Dukhno O, Osyntsov A, Sebbag G, Guetta O, Czeiger D. Can J Surg. 2023 May 24;66(3):E304-E309. doi: 10.1503/cjs.009322. Print 2023 May-Jun. PMID: 37225246

Serodominant SARS-CoV-2 Nucleocapsid Peptides Map to Unstructured Protein Regions.
Vandervaart JP, Inniss NL, Ling-Hu T, Minasov G, Wiersum G, Rosas-Lemus M, Shuvalova L, Achenbach CJ, Hultquist JF, Satchell KJF, Bachta KER. Microbiol Spectr. 2023 May 16:e0032423. doi: 10.1128/spectrum.00324-23. Online ahead of print. PMID: 37191546

nCoVDock2: a docking server to predict the binding modes between COVID-19 targets and its potential ligands.
Liu K, Lu X, Shi H, Xu X, Kong R, Chang S. Nucleic Acids Res. 2023 May 17:gkad414. doi: 10.1093/nar/gkad414. Online ahead of print. PMID: 37194703

Molecular Epidemiology of SARS-CoV-2 during Five COVID-19 Waves and the Significance of Low-Frequency Lineages.
Subramoney K, Mtileni N, Giandhari J, Naidoo Y, Ramphal Y, Pillay S, Ramphal U, Maharaj A, Tshiabuila D, Tegally H, Wilkinson E, de Oliveira T, Fielding BC, Treurnicht FK. Viruses. 2023 May 18;15(5):1194. doi: 10.3390/v15051194. PMID: 37243279

Relapse of minimal change disease following the third mRNA COVID-19 vaccination: a case report and literature review.
Teragaki M, Tanaka M, Yamamoto H, Watanabe T, Takeoka J, Fukumi A, Maeda K, Takami Y, Saita H, Iwanari S, Ikeda M, Takeoka H. CEN Case Rep. 2023 May 27:1-6. doi: 10.1007/s13730-023-00798-3. Online ahead of print. PMID: 37244881

Decision nears for fall coronavirus vaccine.
Couzin-Frankel J. Science. 2023 May 26;380(6647):784. doi: 10.1126/science.adi8797. Epub 2023 May 25. PMID: 37228209

THE EFFECT OF THE COVID-19 VACCINE AND COVID-19 INFECTION ON MENSTRUAL CYCLE LENGTH: AN ANALYSIS OF 12 MONTHS OF CONTINUOUS MENSTRUAL CYCLE DATA FROM 5,314 PARTICIPANTS.
Hariton E, Morris JR, Ho K, Chen C, Cui E, Cedars MI. Fertil Steril. 2023 May 23:S0015-0282(23)00535-6. doi: 10.1016/j.fertnstert.2023.05.158. Online ahead of print. PMID: 37230409

Human Immunodeficiency Virus Status, Tenofovir Exposure, and the Risk of Poor Coronavirus Disease 19 Outcomes: Real-World Analysis From 6 United States Cohorts Before Vaccine Rollout.
Lea AN, Leyden WA, Sofrygin O, Marafino BJ, Skarbinski J, Napravnik S, Agil D, Augenbraun M, Benning L, Horberg MA, Jefferson C, Marconi VC, Park LS, Gordon KS, Bastarache L, Gangireddy S, Althoff KN, Coburn SB, Gebo KA, Lang R, Williams C, Silverberg MJ. Clin Infect Dis. 2023 May 24;76(10):1727-1734. doi: 10.1093/cid/ciad084. PMID: 36861341

Tdap vaccination during pregnancy and risk of chorioamnionitis and related infant outcomes.
Greenberg V, Vazquez-Benitez G, Kharbanda EO, Daley MF, Fu Tseng H, Klein NP, Naleway AL, Williams JTB, Donahue J, Jackson L, Weintraub E, Lipkind H, DeSilva MB. Vaccine. 2023 May 22;41(22):3429-3435. doi: 10.1016/j.vaccine.2023.04.043. Epub 2023 Apr 26. PMID: 37117057

Serious neurological adverse events following immunization against SARS-CoV-2: a narrative review of the literature.
Eslait-Olaciregui S, Llinás-Caballero K, Patiño-Manjarrés D, Urbina-Ariza T, Cediel-Becerra JF, Domínguez-Domínguez CA. Ther Adv Drug Saf. 2023 May 21;14:20420986231165674. doi: 10.1177/20420986231165674. eCollection 2023. PMID: 37223456

The impacts of priority settings at the start of COVID-19 mass vaccination on subsequent vaccine uptake in Japan: One-year prospective cohort study.

Hori D, Takahashi T, Ozaki A, Tabuchi T. JMIR Public Health Surveill. 2023 May 24. doi: 10.2196/42143. Online ahead of print. PMID: 37235691

HPV prevalence and genotype distribution among women in eastern China during the Covid-19 pandemic.
Ma Y, Xia X, Zheng W, Dai Y, Zhuang X. Hum Vaccin Immunother. 2023 May 25:2212571. doi: 10.1080/21645515.2023.2212571. Online ahead of print. PMID: 37226673

Development of anti-NXP2 dermatomyositis following Comirnaty COVID-19 vaccination.
Lee AYS, Lee C, Brown DA, Suan D. Postgrad Med J. 2023 May 22;99(1170):363-364. doi: 10.1136/postgradmedj-2022-141510. PMID: 37227977

Quality of routine health data at the onset of the COVID-19 pandemic in Ethiopia, Haiti, Laos, Nepal, and South Africa.
Ayele W, Gage A, Kapoor NR, Kassahun Gelaw S, Hensman D, Derseh Mebratie A, Nega A, Asai D, Molla G, Mehata S, Mthethwa L, Mfeka-Nkabinde NG, Joseph JP, Pierre DM, Thermidor R, Arsenault C. Popul Health Metr. 2023 May 20;21(1):7. doi: 10.1186/s12963-023-00306-w. PMID: 37210556

Preventing infections in immunocompromised patients with kidney diseases: vaccines and antimicrobial prophylaxis.
Windpessl M, Kostopoulou M, Conway R, Mentese IB, Bruchfeld A, Soler MJ, Sester M, Kronbichler A. Nephrol Dial Transplant. 2023 May 22:gfad080. doi: 10.1093/ndt/gfad080. Online ahead of print. PMID: 37218705

[Research and application of the SARS-CoV-2 vaccine based on adenovirus vector technology platform].
Zhang Y, Yu WZ, Yin ZD, Wang TZ, Sun XD, Xu AQ. Zhonghua Yu Fang Yi Xue Za Zhi. 2023 May 17;57:1-14. doi: 10.3760/cma.j.cn112150-20230419-00309. Online ahead of print. PMID: 37198717

Incidence of myopericarditis after mRNA COVID-19 vaccination: A meta-analysis with focus on adolescents aged 12-17 years.
Guo BQ, Li HB, Yang LQ. Vaccine. 2023 May 22:S0264-410X(23)00610-2. doi: 10.1016/j.vaccine.2023.05.049. Online ahead of print. PMID: 37246067

Association between Covid-19 vaccination and incidence of type 1 diabetes in China: Evidence from 14.14 million registered residents between 2007 and 2021.
Liu C, Guo MN, Chai Z, Xin Z, Chen G, Zimmet PZ, Yang JK. Diabetes Res Clin Pract. 2023 May 18;201:110723. doi: 10.1016/j.diabres.2023.110723. Online ahead of print. PMID: 37209876

Challenges in the Development and Application of Organ-on-Chips for Intranasal Drug Delivery Studies.
Usman Khan M, Cai X, Shen Z, Mekonnen T, Kourmatzis A, Cheng S, Gholizadeh H. Pharmaceutics. 2023 May 22;15(5):1557. doi: 10.3390/pharmaceutics15051557. PMID: 37242799

Interaction of Biochemical Processes between Chronic Obstructive Pulmonary Disease (COPD), Pulmonary Arterial Hypertension (PAH), and Coronavirus Disease 2019 (COVID-19).
Tian Z, Cen L. Pol J Microbiol. 2023 May 22. doi: 10.33073/pjm-2023-015. Online ahead of print. PMID: 37216361

COVID-19 vaccination success in Bangladesh: Key strategies were prompt response, early drives for vaccines, and effective awareness campaigns.
Nazmunnahar, Ahamed B, Haque MA, Tanbir M, Roknuzzaman ASM, Sarker R, Rabiul Islam M. Health Sci Rep. 2023 May 17;6(5):e1281. doi: 10.1002/hsr2.1281. eCollection 2023 May. PMID: 37205936

Editorial Comment: Duration of Axillary Lymphadenopathy After COVID-19 Vaccine Booster Administration.
Mullen LA. AJR Am J Roentgenol. 2023 May 31:9. doi: 10.2214/AJR.23.29309. Online ahead of print. PMID: 36946901

An examination of the emerging field of community paramedicine: a national cross-sectional survey of community paramedics.
Okoh CM, Moczygemba LR, Thurman W, Brown C, Hanson C, Baffoe JO. BMC Health Serv Res. 2023 May 23;23(1):516. doi: 10.1186/s12913-023-09537-x. PMID: 37221608

The effects of methotrexate on the immune responses to the COVID-19 vaccines in the patients with immune-mediated inflammatory disease: A systematic review of clinical evidence.
Al-Haideri MT, Mannani R, Kaboli R, Gharebakhshi F, Darvishzadehdeldari S, Tahmasebi S, Faramarzi F, Cotrina-Aliaga JC, Khorasani S, Alimohammadi M, Darvishi M, Akhavan-Sigari R. Transpl Immunol. 2023 May 24:101858. doi: 10.1016/j.trim.2023.101858. Online ahead of print. PMID: 37236514

Barriers and facilitators of HPV vaccination in sub-saharan Africa: a systematic review.
Kutz JM, Rausche P, Gheit T, Puradiredja DI, Fusco D. BMC Public Health. 2023 May 26;23(1):974. doi: 10.1186/s12889-023-15842-1. PMID: 37237329

Feasibility of self-organized blood sample collection in adults for study purposes in a primary care setting.
Schröder D, Müller F, Heesen G, Hummers E, Dopfer-Jablonka A, Vahldiek K, Klawonn F, Steffens S, Mikuteit M, Niewolik J, Heinemann S. PLoS One. 2023 May 25;18(5):e0286014. doi: 10.1371/journal.pone.0286014. eCollection 2023. PMID: 37228048

Environmental impact assessment for the use of an orally aerosolised adenovirus type-5 vector-based COVID-19 vaccine in randomised clinical trials.
Xia X, Tan ZM, Wan P, Zheng H, Tang R, Chen XQ, Guo XL, Zhu T, Feng JL, Zhong J, Li XL, Zhang ZY, Zhu FC, Li JX. J Infect Dis. 2023 May 18:jiad134. doi: 10.1093/infdis/jiad134. Online ahead of print. PMID: 37202147

Iron deficiency and the effectiveness of the BNT162b2 vaccine for SARS-CoV-2 infection: A retrospective, longitudinal analysis of real-world data.
Tene L, Karasik A, Chodick G, Pereira DIA, Schou H, Waechter S, Göhring UM, Drakesmith H. PLoS One. 2023 May 22;18(5):e0285606. doi: 10.1371/journal.pone.0285606. eCollection 2023. PMID: 37216375

Observational Study of Patients Hospitalized With Neurologic Events After SARS-CoV-2 Vaccination, December 2020-June 2021.
Kim CY, McNeill EN, Young C, King F, Clague M, Caldwell M, Boruah A, Zucker J, Thakur KT. Neurol Clin Pract. 2023 Aug;13(4):e200166. doi: 10.1212/CPJ.0000000000200166. Epub 2023 May 25. PMID: 37251368

Motivating COVID-19 Vaccination through Persuasive Communication: A Systematic Review of Randomized Controlled Trials.
Xia S, Nan X. Health Commun. 2023 May 31:1-24. doi: 10.1080/10410236.2023.2218145. Online ahead of print. PMID: 37254940

Anti-SARS-CoV-2 antibody among SARS-CoV-2 vaccinated vs post-infected blood donors in a tertiary hospital, Bangkok, Thailand.
Permpikul P, Tongyoo S, Chaimayo C, Kanpai P, Virat J, Virat S, Chuchaaim J, Thongput A, Bhatnagar S. PLoS One. 2023 May 18;18(5):e0285737. doi: 10.1371/journal.pone.0285737. eCollection 2023. PMID: 37200273

NVX-CoV2373 vaccine efficacy against hospitalization: A post hoc analysis of the PREVENT-19 phase 3, randomized, placebo-controlled trial.
Marchese AM, Zhou X, Kinol J, Underwood E, Woo W, McGarry A, Beyhaghi H, Áñez G, Toback S, Dunkle LM. Vaccine. 2023 May 22;41(22):3461-3466. doi: 10.1016/j.vaccine.2023.04.054. Epub 2023 Apr 29. PMID: 37127523

Severity of the Omicron SARS-CoV-2 variant compared with the previous lineages: A systematic review.
Arabi M, Al-Najjar Y, Mhaimeed N, Salameh MA, Paul P, AlAnni J, Abdelati AA, Laswi I, Khanjar B, Al-Ali D, Elshafeey A, Mhaimeed O, Burney Z, D'Souza A, Sinha P, Bhatti M, Pillai KV, Homssi M, Bshesh K, Yagan L, Zakaria D. J Cell Mol Med. 2023 May 18. doi: 10.1111/jcmm.17747. Online ahead of print. PMID: 37203288

Beta-containing bivalent SARS-CoV-2 protein vaccine elicits durable broad neutralization in macaques and protection in hamsters.
Berry C, Pavot V, Anosova NG, Kishko M, Li L, Tibbitts T, Raillard A, Gautheron S, Cummings S, Bangari DS, Kar S, Atyeo C, Deng Y, Alter G, Gutzeit C, Koutsoukos M, Chicz RM, Lecouturier V. Commun Med (Lond). 2023 May 26;3(1):75. doi: 10.1038/s43856-023-00302-z. PMID: 37237062

Phase I randomized, observer-blinded, placebo-controlled study of a SARS-CoV-2 mRNA vaccine PTX-COVID19-B.
Martin-Orozco N, Vale N, Mihic A, Amor T, Reiter L, Arita Y, Samson R, Hu Q, Gingras AC, Sorenson BT, Marcusson EG, Patel P. Sci Rep. 2023 May 26;13(1):8557. doi: 10.1038/s41598-023-35662-y. PMID: 37236995

Role of non-coding rnas in tuberculosis and their potential for clinical applications.
Jumat MI, Sarmiento ME, Acosta A, Chin KL. J Appl Microbiol. 2023 May 17:lxad104. doi: 10.1093/jambio/lxad104. Online ahead of print. PMID: 37197901

Immunohistologic Features of Cerebral Venous Thrombosis Due to Vaccine-Induced Immune Thrombotic Thrombocytopenia.
Geeraerts T, Guilbeau-Frugier C, Garcia C, Memier V, Raposo N, Bonneville F, Gales C, Darcourt J, Voisin S, Ribes A, Piel-Julian M, Bounes F, Albucher JF, Roux FE, Izopet J, Telmon N, Olivot JM, Sié P, Bauer J, Payrastre B, Liblau RS. Neurol Neuroimmunol Neuroinflamm. 2023 May 26;10(4):e200127. doi: 10.1212/NXI.0000000000200127. Print 2023 Jul. PMID: 37236806

Relative Effectiveness of Coronavirus Disease 2019 Vaccination and Booster Dose Combinations Among 18.9 Million Vaccinated Adults During the Early Severe Acute Respiratory Syndrome Coronavirus 2 Omicron Period-United States, 1 January 2022 to 31 March 2022.
Kompaniyets L, Wiegand RE, Oyalowo AC, Bull-Otterson L, Egwuogu H, Thompson T, Kahihikolo K, Moore L, Jones-Jack N, El Kalach R, Srinivasan A, Messer A, Pilishvili T, Harris AM, Gundlapalli AV, Link-Gelles R, Boehmer TK. Clin Infect Dis. 2023 May 24;76(10):1753-1760. doi: 10.1093/cid/ciad063. PMID: 36750643

Physical distancing versus testing with self-isolation for controlling an emerging epidemic.
Newbold SC, Ashworth M, Finnoff D, Shogren JF, Thunström L. Sci Rep. 2023 May 20;13(1):8185. doi: 10.1038/s41598-023-35083-x. PMID: 37210388

What matters to us: Bridging research and accurate information through dialogue (BRAID) to build community trust and cultivate vaccine confidence.
Stephenson-Hunter C, Yusuf Y, Larson R, Campanella J, Gutnick DN. Prev Med Rep. 2023 Aug;34:102253. doi: 10.1016/j.pmedr.2023.102253. Epub 2023 May 20. PMID: 37252070

Detection of anti-SARS-CoV-2 antibodies in tears: Ocular surface immunity to COVID-19.
Guemes-Villahoz N, Burgos-Blasco B, Echevarria-Torres PL, Vidal-Villegas B, Rodriguez de la Peña A, Diaz-Valle D, Fernández-Vigo JI, Sánchez-Ramón S, Garcia-Feijoo J. Arch Soc Esp Oftalmol (Engl Ed). 2023 May 27:S2173-5794(23)00083-X. doi: 10.1016/j.oftale.2023.05.009. Online ahead of print. PMID: 37247663

Predictors of Parents' Willingness to Vaccinate Their Children Against COVID-19 in India: A Web-Based Cross-Sectional Survey.
Goruntla N, Ayisha MU, Sreeram M. Health Serv Res Manag Epidemiol. 2023 May 16;10:23333928231175798. doi: 10.1177/23333928231175798. eCollection 2023 Jan-Dec. PMID: 37213221

Estimating global changes in routine childhood vaccination coverage during the COVID-19 pandemic, 2020-2021.
Ghaznavi C, Eguchi A, Suu Lwin K, Yoneoka D, Tanoue Y, Kumar Rauniyar S, Horiuchi S, Hashizume M, Nomura S. Vaccine. 2023 May 22:S0264-410X(23)00583-2. doi: 10.1016/j.vaccine.2023.05.034. Online ahead of print. PMID: 37246068

A retrospective cohort study of incidence and risk factors for severe SARS-CoV-2 breakthrough infection among fully vaccinated people.
Meister T, Kolde A, Fischer K, Pisarev H, Kolde R, Kalda R, Suija K, Tisler A, Uusküla A. Sci Rep. 2023 May 26;13(1):8531. doi: 10.1038/s41598-023-35591-w. PMID: 37237050

Incidence of ventricular arrhythmias related to COVID infection and vaccination in patients with Brugada syndrome: Insights from a large Italian multicenter registry based on continuous rhythm monitoring.
Casella M, Conti S, Compagnucci P, Ribatti V, Narducci ML, Marcon L, Massara F, Valeri Y, De Francesco L, Martino AM, Ghiglieno C, Schiavone M, Balla C, Dell'Era G, Pelargonio G, Forleo GB, Iacopino S, Sgarito G, Calò L, Tondo C, Russo AD, Patti G. J Cardiovasc Electrophysiol. 2023 May 17. doi: 10.1111/jce.15929. Online ahead of print. PMID: 37194742

ESCRT recruitment to SARS-CoV-2 spike induces virus-like particles that improve mRNA vaccines.
Hoffmann MAG, Yang Z, Huey-Tubman KE, Cohen AA, Gnanapragasam PNP, Nakatomi LM, Storm KN, Moon WJ, Lin PJC, West AP Jr, Bjorkman PJ. Cell. 2023 May 25;186(11):2380-2391.e9. doi: 10.1016/j.cell.2023.04.024. Epub 2023 Apr 21. PMID: 37146611

Epidemiological characteristics of patients from fever clinics during the COVID-19 epidemic in 2022 in Shanghai, China.
Zhang Y, Wang J, Xie Y, Cao X, Huang H, Liu Q, Hang X, Wang J. Arch Virol. 2023 May 20;168(6):164. doi: 10.1007/s00705-023-05755-0. PMID: 37209311

A case study of using natural language processing to extract consumer insights from tweets in American cities for public health crises.
Wang Y, Willis E, Yeruva VK, Ho D, Lee Y. BMC Public Health. 2023 May 24;23(1):935. doi: 10.1186/s12889-023-15882-7. PMID: 37226165

Bivalent COVID-19 Vaccines: Can the Original Antigenic Sin Be Forgiven?
Blankson JN. J Infect Dis. 2023 May 29;227(11):1221-1223. doi: 10.1093/infdis/jiad073. PMID: 37016931

A Third Dose of SARS-CoV-2 mRNA Vaccine Improves Immune Response in Chronic Kidney Disease Patients.
Poli MC, Vial C, Rey-Jurado E, González N, Cortés LJ, Hormazabal J, Ramírez-Riffo C, de la Cruz J, Ulloa C. Vaccines (Basel). 2023 May 22;11(5):1012. doi: 10.3390/vaccines11051012. PMID: 37243116

Type I Kounis syndrome induced by COVID-19 vaccination in China: a case report.
Deng Y, Peng Z, Peng X. BMC Cardiovasc Disord. 2023 May 23;23(1):267. doi: 10.1186/s12872-023-03289-6. PMID: 37221464

Discovery of interconnected causal drivers of COVID-19 vaccination intentions in the US using a causal Bayesian network.
Fung H, Sgaier SK, Huang VS. Sci Rep. 2023 May 16;13(1):6988. doi: 10.1038/s41598-023-33745-4. PMID: 37193707

*'It has been the hardest decision of my* life': a mixed-methods study of pregnant women's COVID-19 vaccination hesitancy.
Kola-Palmer S, Keely A, Walsh J. Psychol Health. 2023 May 22:1-21. doi: 10.1080/08870446.2023.2214569. Online ahead of print. PMID: 37218284

Comparative mRNA booster effectiveness against death or hospitalization with COVID-19 pneumonia across at-risk US Veteran populations.
Kelly JD, Leonard S, Boscardin WJ, Hoggatt KJ, Lum EN, Austin CC, Byers A, Tien PC, Austin PC, Bravata DM, Keyhani S. Nat Commun. 2023 May 23;14(1):2976. doi: 10.1038/s41467-023-38503-8. PMID: 37221198

Molecular modeling study of natural products as potential bioactive compounds against SARS-CoV-2.
Ribeiro R, Botelho FD, Pinto AMV, La Torre AMA, Almeida JSFD, LaPlante SR, Franca TCC, Veiga-Junior VF, Dos Santos MC. J Mol Model. 2023 May 22;29(6):183. doi: 10.1007/s00894-023-05586-5. PMID: 37212923

Self-Destructive Structural Color Liquids for Time-Temperature Indicating.
Huang C, Shang Y, Hua J, Yin Y, Du X. ACS Nano. 2023 May 31. doi: 10.1021/acsnano.3c00467. Online ahead of print. PMID: 37255215

Application of Protection Motivation Theory to COVID-19 vaccination among a predominantly Hispanic sample of adolescents.
Unger JB, Herzig E, Rodriguez V, Soto D, Lee R, Sood N. Prev Med Rep. 2023 Aug;34:102245. doi: 10.1016/j.pmedr.2023.102245. Epub 2023 May 19. PMID: 37252067

New onset of hypomegakaryocytic thrombocytopenia with the potential for progression to aplastic anemia after BNT162b2 mRNA COVID-19 vaccination.
Kobayashi M, Mori A, Oda Y, Yokoyama E, Kanaya M, Izumiyama K, Saito M, Tanaka S, Morioka M, Kondo T. Int J Hematol. 2023 May 23:1-6. doi: 10.1007/s12185-023-03618-7. Online ahead of print. PMID: 37219678

Hybrid immunity expands the functional humoral footprint of both mRNA and vector-based SARS-CoV-2 vaccines.
Kaplonek P, Deng Y, Shih-Lu Lee J, Zar HJ, Zavadska D, Johnson M, Lauffenburger DA, Goldblatt D, Alter G. Cell Rep Med. 2023 May 16;4(5):101048. doi: 10.1016/j.xcrm.2023.101048. Epub 2023 Apr 25. PMID: 37182520

Community dialogue meetings among district leaders improved their willingness to receive COVID-19 vaccines in Western Uganda, May 2021.
Nsubuga EJ, Fitzmaurice AG, Komakech A, Odoi TD, Kadobera D, Bulage L, Kwesiga B, Elyanu PJ, Ario AR, Harris JR. BMC Public Health. 2023 May 26;23(1):969. doi: 10.1186/s12889-023-15903-5. PMID: 37237258

Sustained cell-mediated but not humoral responses in rituximab-treated rheumatic patients after vaccination against SARS-CoV-2.
Thomas K, Grigoropoulos I, Alexopoulou P, Karofylakis E, Galani E, Papadopoulou KK, Tsiavou A, Ntourou A, Mavrou E, Qevani I, Katsimbri P, Koutsianas C, Mavrea E, Vassilopoulos D, Pournaras S, Tsiodras S, Boumpas D, Antoniadou A. Rheumatology (Oxford). 2023 May 25:kead236. doi: 10.1093/rheumatology/kead236. Online ahead of print. PMID: 37228039

Prolonged generalized immune response on $^{18}$F-FDG PET/CT following COVID-19 vaccination.
Sawant DA, Razmaria AA, Pandit-Taskar N. Radiol Case Rep. 2023 May 23;18(8):2552-2557. doi: 10.1016/j.radcr.2023.04.046. eCollection 2023 Aug. PMID: 37250482

Detoxified synthetic bacterial membrane vesicles as a vaccine platform against bacteria and SARS-CoV-2.
Park KS, Svennerholm K, Crescitelli R, Lässer C, Gribonika I, Andersson M, Boström J, Alalam H, Harandi AM, Farewell A, Lötvall J. J Nanobiotechnology. 2023 May 19;21(1):156. doi: 10.1186/s12951-023-01928-w. PMID: 37208676

Inside-out assembly of viral antigens for the enhanced vaccination.
Cao F, Peng S, An Y, Xu K, Zheng T, Dai L, Ogino K, Ngai T, Xia Y, Ma G. Signal Transduct Target Ther. 2023 May 24;8(1):189. doi: 10.1038/s41392-023-01414-7. PMID: 37221173

Healthcare workers exposed to COVID-19 patients present an inflammatory status and Th2/Th17/Th22 immune profile: findings from before vaccine application in Brazil.
Aquino RCA, Barros BRS, Silva GAS, Sousa GF, Souza EB, Silva DRC, Nascimento AVD, Sá IWA, Lima ELS, Silva BO, Lima LPO, Vieira AM, Barbosa Neto AG, Marcos BFS, Silva AJD, Oliveira THA, Carvalho BM, Muniz MTC, Freitas AC, Campelo Júnior EB, Melo CML. An Acad Bras Cienc. 2023 May 29;95(suppl 1):e20220502. doi: 10.1590/0001-3765202320220502. eCollection 2023. PMID: 37255169

Efficacy of primary series AZD1222 (ChAdOx1 nCoV-19) vaccination against SARS-CoV-2 variants of concern: Final analysis of a randomized, placebo-controlled, phase 1b/2 study in South African adults (COV005).
Koen AL, Izu A, Baillie V, Kwatra G, Cutland CL, Fairlie L, Padayachee SD, Dheda K, Barnabas SL, Bhorat QE, Briner C, Ahmed K, Bhikha S, Bhiman JN, du Plessis J, Esmail A, Horne E, Hwa SH, Oommen-Jose A, Lambe T, Laubscher M, Malahleha M, Benade G, McKenzie S, Oelofse S, Patel F, Pillay S, Rhead S, Rodel H, Taoushanis C, Tegally H, Thombrayil A, Villafana TL, Gilbert S, Pollard AJ, Madhi SA. Vaccine. 2023 May 26;41(23):3486-3492. doi: 10.1016/j.vaccine.2023.04.058. Epub 2023 Apr 27. PMID: 37149443

Background incidence rates of selected adverse events of special interest (AESI) to monitor the safety of COVID-19 vaccines.
Pillsbury A, Phillips A, Deng L, Quinn H, Macartney K, Gidding H. Vaccine. 2023 May 22;41(22):3422-3428. doi: 10.1016/j.vaccine.2023.04.041. Epub 2023 Apr 18. PMID: 37088604

XBB.1.16 Omicron subvariant rise to a variant of interest: Implications for global alertness and preparedness.
John OO, Olabode ON, Lucero-Prisno Iii DE, Adebimpe OT, Singh A. J Taibah Univ Med Sci. 2023 Dec;18(6):1285-1287. doi: 10.1016/j.jtumed.2023.05.013. Epub 2023 May 23. PMID: 37250814

Postural orthostatic tachycardia syndrome-like symptoms following COVID-19 vaccination: An overview of clinical literature.
Tv P, Tran TT, Hao HT, Hau NTH, Jain N, Reinis A. Hum Antibodies. 2023 May 22. doi: 10.3233/HAB-220013. Online ahead of print. PMID: 37248893

Age-specific SARS-CoV-2 infection fatality rates derived from serological data vary with income and income inequality.
Rickards CG, Kilpatrick AM. PLoS One. 2023 May 17;18(5):e0285612. doi: 10.1371/journal.pone.0285612. eCollection 2023. PMID: 37196049

A severe case of rhabdomyolysis after Moderna mRNA anti-COVID-19 vaccine with a literature review.
Sheka M, Coattrenec Y, Lorenzini KI, Nendaz M. Clin Case Rep. 2023 May 16;11(5):e7184. doi: 10.1002/ccr3.7184. eCollection 2023 May. PMID: 37207086

Specific immune response to mRNA vaccines against COVID-19 in patients receiving allogeneic stem cell transplantation for myeloid malignancy was altered by immunosuppressive therapy.
Macková J, Hainz P, Kryštofová J, Roubalová K, Šťastná-Marková M, Vaníková Š, Musil J, Vydra J, Němečková Š. Leuk Res. 2023 May 16;130:107314. doi: 10.1016/j.leukres.2023.107314. Online ahead of print. PMID: 37216792

Multiscale Geographically Weighted Regression in the Investigation of Local COVID-19 Anomalies Based on Population Age Structure in Poland.
Ciski M, Rząsa K. Int J Environ Res Public Health. 2023 May 19;20(10):5875. doi: 10.3390/ijerph20105875. PMID: 37239602

Exploring the factors contributing to low vaccination uptake for nationally recommended routine childhood and adolescent vaccines in Kenya.
Essoh TA, Adeyanju GC, Adamu AA, Tall H, Aplogan A, Tabu C. BMC Public Health. 2023 May 19;23(1):912. doi: 10.1186/s12889-023-15855-w. PMID: 37208649

Vaccinia Virus Strain MVA Expressing a Prefusion-Stabilized SARS-CoV-2 Spike Glycoprotein Induces Robust Protection and Prevents Brain Infection in Mouse and Hamster Models.
Lorenzo MM, Marín-López A, Chiem K, Jimenez-Cabello L, Ullah I, Utrilla-Trigo S, Calvo-Pinilla E, Lorenzo G, Moreno S, Ye C, Park JG, Matía A, Brun A, Sánchez-Puig JM, Nogales A, Mothes W, Uchil PD, Kumar P, Ortego J, Fikrig E, Martinez-Sobrido L, Blasco R. Vaccines (Basel). 2023 May 21;11(5):1006. doi: 10.3390/vaccines11051006. PMID: 37243110

The Influence of Adjuvant Type on the Immunogenicity of RBD/N Cocktail Antigens as a Vaccine Candidate against SARS-CoV-2 Virus.
Brzuska G, Zimna M, Baranska K, Szewczyk B, Strakova P, Ruzek D, Krol E. Microbiol Spectr. 2023 May 18:e0256422. doi: 10.1128/spectrum.02564-22. Online ahead of print. PMID: 37199661

Immunization with Recombinant Accessory Protein-Deficient SARS-CoV-2 Protects against Lethal Challenge and Viral Transmission.
Ye C, Park JG, Chiem K, Dravid P, Allué-Guardia A, Garcia-Vilanova A, Pino Tamayo P, Shivanna V, Kapoor A, Walter MR, Kobie JJ, Plemper RK, Torrelles JB, Martinez-Sobrido L. Microbiol Spectr. 2023 May 16:e0065323. doi: 10.1128/spectrum.00653-23. Online ahead of print. PMID:

Critical Damage of Lung Parenchyma Complicated with Massive Pneumothorax in COVID-19 Pneumonia.
Ghenu MI, Manea MM, Timofte D, Balcangiu-Stroescu AE, Ionescu D, Tulin R, Ciornei MC, Dragoş D. Clin Med Insights Case Rep. 2023 May 20;16:11795476231175644. doi: 10.1177/11795476231175644. eCollection 2023. PMID: 37220587

Short- and Long-Interval Prime-Boost Vaccination with the Candidate Vaccines MVA-SARS-2-ST and MVA-SARS-2-S Induces Comparable Humoral and Cell-Mediated Immunity in Mice.
Kalodimou G, Jany S, Freudenstein A, Schwarz JH, Limpinsel L, Rohde C, Kupke A, Becker S, Volz A, Tscherne A, Sutter G. Viruses. 2023 May 17;15(5):1180. doi: 10.3390/v15051180. PMID: 37243266

Safety of heterologous ChAdOx1-S/BNT162b2 primary schedule versus homologous BNT162b2 vaccination: Insights from an Italian post-marketing study, 2021.
Fortunato F, Prato R, Iannelli G, Ascatigno L, Loconsole D, Lopalco PL, Martinelli D. Hum Vaccin Immunother. 2023 May 25:2209919. doi: 10.1080/21645515.2023.2209919. Online ahead of print. PMID: 37226552

A budding new approach strengthens an important message.
Zost SJ, Carnahan RH. Cell. 2023 May 25;186(11):2283-2285. doi: 10.1016/j.cell.2023.04.034. PMID: 37236153

Autoantibodies Neutralizing Type I IFNs in the Bronchoalveolar Lavage of at Least 10% of Patients During Life-Threatening COVID-19 Pneumonia.
Philippot Q, Fekkar A, Gervais A, Le Voyer T, Boers LS, Conil C, Bizien L, de Brabander J, Duitman JW, Romano A, Rosain J, Blaize M, Migaud M, Jeljeli M, Hammadi B, Desmons A, Marchal A; ArtDECO consortium; COVID HGE consortium; Mayaux J, Zhang Q, Jouanguy E, Borie R, Crestani B, Luyt CE, Adle-Biassette H, Sene D, Megarbane B, Cobat A, Bastard P, Bos LDJ, Casanova JL, Puel A. J Clin Immunol. 2023 May 20:1-11. doi: 10.1007/s10875-023-01512-9. Online ahead of print. PMID: 37209324

A case of APMPPE-like panuveitis presenting with extensive outer retinal layer impairment following COVID-19 vaccination.
Ogino Y, Namba K, Iwata D, Suzuki K, Mizuuchi K, Hiraoka M, Kitaichi N, Ishida S. BMC Ophthalmol. 2023 May 24;23(1):233. doi: 10.1186/s12886-023-02978-2. PMID: 37226110

Nucleocapsid-specific T cell responses associate with control of SARS-CoV-2 in the upper airways before seroconversion.
Eser TM, Baranov O, Huth M, Ahmed MIM, Deák F, Held K, Lin L, Pekayvaz K, Leunig A, Nicolai L, Pollakis G, Buggert M, Price DA, Rubio-Acero R, Reich J, Falk P, Markgraf A, Puchinger K, Castelletti N, Olbrich L, Vanshylla K, Klein F, Wieser A, Hasenauer J, Kroidl I, Hoelscher M, Geldmacher C. Nat Commun. 2023 May 24;14(1):2952. doi: 10.1038/s41467-023-38020-8. PMID: 37225706

Humoral immunogenicity of a Coronavirus Disease 2019 (COVID-19) DNA vaccine in rhesus macaques (Macaca mulatta) delivered using needle-free jet injection.
Jay A, Kwilas SA, Josleyn M, Ricks K, Hooper JW. PLoS One. 2023 May 31;18(5):e0275082. doi: 10.1371/journal.pone.0275082. eCollection 2023. PMID: 37256884

The Impact of Severe Acute Respiratory Syndrome Coronavirus 2 Vaccination and Infection on Neutralizing Antibodies: A Nation-wide Cross-sectional Analysis.
Althaus T, Landier J, Zhu F, Raps H, Dejoux O, Costantini A, Lavagna C, Rampal P, Mattiuzzo G, Xu S, Wang LF, Voiglio EJ. J Infect Dis. 2023 May 29;227(11):1255-1265. doi: 10.1093/infdis/jiad030. PMID: 36780397

Persistence of SARS-CoV-2 RNA shedding and infectivity in immunized population: Prospective study along different epidemiological periods in Argentina.
Theaux C, Martin Y, Montoto Piazza L, Wenk G, Notaristefano G, Miño L, Sevilla ME, Aprea V, Claps A, Nabaes Jodar M, Acuña D, Salvatori M, Álvarez L, Langan ME, Turk G, Del Olmo R, Viegas M, Bruno M, Bokser V. PLoS One. 2023 May 17;18(5):e0285704. doi: 10.1371/journal.pone.0285704. eCollection 2023. PMID: 37196044

Correspondence on the evaluation of patients with COVID-19 vaccine side effects.
Kleebayoon A, Wiwanitkit V. Rev Assoc Med Bras (1992). 2023 May 29;69(6):e20230225. doi: 10.1590/1806-9282.20s230225. eCollection 2023. PMID: 37255089

Dose-Dependent Production of Anti-PEG IgM after Intramuscular PEGylated-Hydrogenated Soy Phosphatidylcholine Liposomes, but Not Lipid Nanoparticle Formulations of DNA, Correlates with the Plasma Clearance of PEGylated Liposomal Doxorubicin in Rats.
Subasic CN, Butcher NJ, Minchin RF, Kaminskas LM. Mol Pharm. 2023 May 31. doi: 10.1021/acs.molpharmaceut.3c00104. Online ahead of print. PMID: 37256791

Diagnosis of multisystem inflammatory syndrome in children by a whole-blood transcriptional signature.
Jackson HR, Miglietta L, Habgood-Coote D, D'Souza G, Shah P, Nichols S, Vito O, Powell O, Davidson MS, Shimizu C, Agyeman PKA, Beudeker CR, Brengel-Pesce K, Carrol ED, Carter MJ, De T, Eleftheriou I, Emonts M, Epalza C, Georgiou P, De Groot R, Fidler K, Fink C, van Keulen D, Kuijpers T, Moll H, Papatheodorou I, Paulus S, Pokorn M, Pollard AJ, Rivero-Calle I, Rojo P, Secka F, Schlapbach LJ, Tremoulet AH, Tsolia M, Usuf E, Van Der Flier M, Von Both U, Vermont C, Yeung S, Zavadska D, Zenz W, Coin LJM, Cunnington A, Burns JC, Wright V, Martinon-Torres F, Herberg JA, Rodriguez Manzano J, Kaforou M, Levin M; EUCLIDS, PERFORM and DIAMONDS Consortia. J Pediatric Infect Dis Soc. 2023 May 31:piad035. doi: 10.1093/jpids/piad035. Online ahead of print. PMID: 37255317

Efficacy of mRNA-1273 and Novavax ancestral or BA.1 spike booster vaccines against SARS-CoV-2 BA.5 infection in non-human primates.
Routhu NK, Stampfer SD, Lai L, Akhtar A, Tong X, Yuan D, Chicz TM, McNamara RP, Jakkala K, Davis-Gardner ME, St Pierre EL, Smith B, Green KM, Golden N, Picou B, Jean SM, Wood J, Cohen J, Moore IN, Patel N, Guebre-Xabier M, Smith G, Glenn G, Kozlowski PA, Alter G, Ahmed R, Suthar MS, Amara RR. Sci Immunol. 2023 May 16:eadg7015. doi: 10.1126/sciimmunol.adg7015. Online ahead of print. PMID: 37191508

Adverse outcomes of SARS-CoV-2 infection with delta and omicron variants in vaccinated versus unvaccinated US veterans: retrospective cohort study.
Bohnert AS, Kumbier K, Rowneki M, Gupta A, Bajema K, Hynes DM, Viglianti E, O'Hare AM, Osborne T, Boyko EJ, Young-Xu Y, Iwashyna TJ, Maciejewski M, Schildhouse R, Dimcheff D, Ioannou GN. BMJ. 2023 May 23;381:e074521. doi: 10.1136/bmj-2022-074521. PMID: 37220941

Effects of Antibody Response after Booster Vaccination on SARS-CoV-2 Breakthrough Infections and Disease Outcomes in Advanced Cancer Patients: A Prospective Analysis of the Vax-on-Third Study.
Nelli F, Fabbri A, Virtuoso A, Giannarelli D, Giron Berrios JR, Marrucci E, Fiore C, Schirripa M, Signorelli C, Chilelli MG, Primi F, Pessina G, Natoni F, Silvestri MA, Ruggeri EM. Curr Oncol. 2023 May 17;30(5):5103-5115. doi: 10.3390/curroncol30050386. PMID: 37232844

Safety and immunogenicity of homologous versus heterologous booster dose with AZD1222, mRNA-1273, or MVC-COV1901 SARS-CoV-2 vaccines in adults: An observer-blinded, multi-center, phase 2 randomized trial.
Estephan L, Lin YC, Lin YT, Chen YH, Pan SC, Hsieh SM, Torkehagen PF, Weng YJ, Cheng HY, Estrada JA, Waits A, Chen C, Lien CE. Vaccine. 2023 May 26;41(23):3497-3505. doi: 10.1016/j.vaccine.2023.04.029. Epub 2023 Apr 12. PMID: 37080829

Correction to: Effectiveness of COVID-19 mRNA Vaccines in Preventing COVID-19-Associated Outpatient Visits and Hospitalizations Among American Indian and Alaska Native Persons, January-November 2021: A Test-Negative Case-Control Analysis Using Surveillance Data.
[No authors listed] Open Forum Infect Dis. 2023 May 24;10(5):ofad261. doi: 10.1093/ofid/ofad261. eCollection 2023 May. PMID: 37250176

Strong CD4+ T-Cell Responses to Ancestral and Variant Spike Proteins Are Established by NVX-CoV2373 SARS-CoV-2 Primary Vaccination.

Fries L, Formica N, Mallory RM, Zhou H, Plested JS, Kalkeri R, Moldovan I, Patel N, Albert G, Robinson M, Cho I, Chau G, Dubovsky F, Glenn GM; 2019nCoV-101 Study Group. J Infect Dis. 2023 May 21:jiad163. doi: 10.1093/infdis/jiad163. Online ahead of print. PMID: 37210741

Safety, immunogenicity, and efficacy of the mRNA vaccine CS-2034 as a heterologous booster versus homologous booster with BBIBP-CorV in adults aged ≥18 years: a randomised, double-blind, phase 2b trial.
Wu JD, Li JX, Liu J, Wang HM, Zhou GH, Li J, Wu D, Chen X, Feng Y, Qi XY, Wang X, Gou JB, Ma TL, Yang XY, Xu LF, Wan P, Zhu T, Wang ZF, Zhu FC; CanSino COVID-19 Study Group. Lancet Infect Dis. 2023 May 19:S1473-3099(23)00199-8. doi: 10.1016/S1473-3099(23)00199-8. Online ahead of print. PMID: 37216958

SARS-CoV-2 omicron BA.1.1 is highly resistant to antibody neutralization of convalescent serum from the origin strain.
Li J, Li X, Mao H, Huang C, Sun Y, Miao L, Li J, Song W, Zhang Y, Huang J, Chen K. Virus Res. 2023 May 20;332:199131. doi: 10.1016/j.virusres.2023.199131. Online ahead of print. PMID: 37178794

Analysis of immune responses in patients with CLL after heterologous COVID-19 vaccination.
Lee HK, Hoechstetter MA, Buchner M, Pham TT, Huh JW, Müller K, Zange S, von Buttlar H, Girl P, Wölfel R, Brandmeier L, Pfeuffer L, Furth PA, Wendtner CM, Hennighausen L. Blood Adv. 2023 May 23;7(10):2214-2227. doi: 10.1182/bloodadvances.2022008445. PMID: 36630562

Learning from five bad arguments against mandatory vaccination.
Smith MJ, Emanuel EJ. Vaccine. 2023 May 16;41(21):3301-3304. doi: 10.1016/j.vaccine.2023.04.046. Epub 2023 Apr 25. PMID: 37105891

Severe Acute Respiratory Syndrome Coronavirus 2 Infection History and Antibody Response to 3 Coronavirus Disease 2019 Messenger RNA Vaccine Doses.
Herring MK, Romine JK, Wesley MG, Ellingson KD, Yoon SK, Caban-Martinez AJ, Meece J, Gaglani M, Grant L, Olsho LEW, Tyner HL, Naleway AL, Khan SM, Phillips AL, Solle NS, Rose S, Mak J, Fuller SB, Hunt A, Kuntz JL, Beitel S, Yoo YM, Zheng PQ, Arani G, Lamberte JM, Edwards T, Thompson MG, Sprissler R, Thornburg NJ, Lowe AA, Pilishvili T, Uhrlaub JL, Lutrick K, Burgess JL, Fowlkes AL. Clin Infect Dis. 2023 May 24;76(10):1822-1831. doi: 10.1093/cid/ciac976. PMID: 36578137

Overlap of disorders of gut-brain interaction: a systematic review and meta-analysis.
Fairlie T, Shah A, Talley NJ, Chey WD, Koloski N, Yeh Lee Y, Gwee KA, Jones MP, Holtmann G. Lancet Gastroenterol Hepatol. 2023 May 18:S2468-1253(23)00102-4. doi: 10.1016/S2468-1253(23)00102-4. Online ahead of print. PMID: 37211024

A Web-Based Public Health Intervention for Addressing Vaccine Misinformation: Analysis of Learner Engagement and Shift in Hesitancy to Vaccinate.
Powell L, Nour R, Al Suwaidi H, Zary N. Stud Health Technol Inform. 2023 May 18;302:463-467. doi: 10.3233/SHTI230173. PMID: 37203717

Second monovalent SARS-CoV-2 mRNA booster restores Omicron-specific neutralizing activity in both nursing home residents and health care workers.

Nugent C, Abul Y, White EM, Shehadeh F, Kaczynski M, Oscar Felix L, Ganesan N, Oyebanji OA, Vishnepolskiy I, Didion EM, Paxitzis A, Sheehan ML, Chan PA, Pfeifer WM, Dickerson E, Kamojjala S, Wilson BM, Mylonakis E, King CL, Balazs AB, Canaday DH, Gravenstein S. Vaccine. 2023 May 22;41(22):3403-3409. doi: 10.1016/j.vaccine.2023.04.034. Epub 2023 Apr 24. PMID: 37117056

The multidimensional nature of attitudes towards preventive vaccinations - a cross-sectional survey among Poles aged 15-39 years.
Raciborski F, Tomaszewska A, Rakocy K, Samel-Kowalik P, Samoliński B, Gujski M, Pinkas J, Jankowski M. Int J Occup Med Environ Health. 2023 May 23;36(2):214-228. doi: 10.13075/ijomeh.1896.02068. Epub 2023 Apr 24. PMID: 37184146

Variation in antibody titers determined by Abbott and Roche Elecsys SARS-CoV-2 assays in vaccinated healthcare workers.
Nakai M, Yokoyama D, Sato T, Sato R, Kojima C, Shimosawa T. Heliyon. 2023 Jun;9(6):e16547. doi: 10.1016/j.heliyon.2023.e16547. Epub 2023 May 22. PMID: 37235203

saRNA vaccine expressing membrane-anchored RBD elicits broad and durable immunity against SARS-CoV-2 variants of concern.
Komori M, Nogimori T, Morey AL, Sekida T, Ishimoto K, Hassett MR, Masuta Y, Ode H, Tamura T, Suzuki R, Alexander J, Kido Y, Matsuda K, Fukuhara T, Iwatani Y, Yamamoto T, Smith JF, Akahata W. Nat Commun. 2023 May 19;14(1):2810. doi: 10.1038/s41467-023-38457-x. PMID: 37208330

Discovery of Peptidic Ligands against the SARS-CoV-2 Spike Protein and Their Use in the Development of a Highly Sensitive Personal Use Colorimetric COVID-19 Biosensor.
Yu X, Pan B, Zhao C, Shorty D, Solano LN, Sun G, Liu R, Lam KS. ACS Sens. 2023 May 30. doi: 10.1021/acssensors.2c02386. Online ahead of print. PMID: 37253267

A Methodological Framework for Assessing the Benefit of SARS-CoV-2 Vaccination following Previous Infection: Case Study of Five- to Eleven-Year-Olds.
Pagel C, Wilde H, Tomlinson C, Mateen B, Brown K. Vaccines (Basel). 2023 May 16;11(5):988. doi: 10.3390/vaccines11050988. PMID: 37243092

$Th_1$-dominant cytokine responses in kidney patients after COVID-19 vaccination are associated with poor humoral responses.
den Hartog Y, Malahe SRK, Rietdijk WJR, Dieterich M, Gommers L, Geers D, Bogers S, van Baarle D, Diavatopoulos DA, Messchendorp AL, van der Molen RG, Remmerswaal EBM, Bemelman FJ, Gansevoort RT, Hilbrands LB, Sanders JS, GeurtsvanKessel CH, Kho MML, Reinders MEJ, de Vries RD, Baan CC; RECOVAC Consortium. NPJ Vaccines. 2023 May 17;8(1):70. doi: 10.1038/s41541-023-00664-4. PMID: 37198189

Ability of SpikoGen®, an Advax-CpG adjuvanted recombinant spike protein vaccine, to induce cross-neutralising antibodies against SARS-CoV-2 variants.
Honda-Okubo Y, Antipov A, Andre G, Barati S, Kafi H, Petrovsky N. Immunology. 2023 May 18. doi: 10.1111/imm.13661. Online ahead of print. PMID: 37199229

Assay Harmonization Study To Measure Immune Response to SARS-CoV-2 Infection and Vaccines: a Serology Methods Study.

Kemp TJ, Hempel HA, Pan Y, Roy D, Cherry J, Lowy DR, Pinto LA. Microbiol Spectr. 2023 May 16:e0535322. doi: 10.1128/spectrum.05353-22. Online ahead of print. PMID: 37191544

Psychometric evaluation of the Symptoms of Infection with Coronavirus-19 (SIC): results from a cross-sectional study and a phase 3 clinical trial.
Chan EKH, Williams V, Romano C, Fehnel S, Slagle AF, Stoddard J, Sadoff J, Mayorga M, Lewis S, Yarr S, Ma J, Liu Y, Katz EG, McNulty P, van Dromme I, McQuarrie K. J Patient Rep Outcomes. 2023 May 17;7(1):45. doi: 10.1186/s41687-023-00581-z. PMID: 37195456

Flattening the Curve after the Initial Outbreak of Coronavirus Disease 2019: A Data-Driven Modeling Analysis for the Omicron Pandemic in China.
Sun J, Li Y, Xiao LF, Shao NY, Liu M. Vaccines (Basel). 2023 May 22;11(5):1009. doi: 10.3390/vaccines11051009. PMID: 37243113

Relationship Between Immune Response to Severe Acute Respiratory Syndrome Coronavirus 2 Vaccines and Development of Breakthrough Infection in Solid Organ Transplant Recipients: The CONTRAST Cohort.
Bonazzetti C, Tazza B, Gibertoni D, Pasquini Z, Caroccia N, Fanì F, Fornaro G, Pascale R, Rinaldi M, Miani B, Gamberini C, Morelli MC, Tamé M, Busutti M, Comai G, Potena L, Borgese L, Salvaterra E, Lazzarotto T, Scudeller L, Viale P, Giannella M; CONTRAST Study Group. Clin Infect Dis. 2023 May 24;76(10):1761-1767. doi: 10.1093/cid/ciad016. PMID: 36636955

Quantitative Mutation Analysis of Genes and Proteins of Major SARS-CoV-2 Variants of Concern and Interest.
Liang F. Viruses. 2023 May 18;15(5):1193. doi: 10.3390/v15051193. PMID: 37243278

Long-term follow-up of cardiac magnetic resonance imaging in myocarditis following messenger ribonucleic acid COVID-19 vaccination: a case report.
Kittichokechai P, Seripanu P, Laksomya T. Eur Heart J Case Rep. 2023 May 18;7(5):ytad245. doi: 10.1093/ehjcr/ytad245. eCollection 2023 May. PMID: 37234878

Coronavirus spike protein-specific antibodies indicate frequent infections and reinfections in infancy and among BNT162b2-vaccinated healthcare workers.
Kolehmainen P, Huttunen M, Iakubovskaia A, Maljanen S, Tauriainen S, Yatkin E, Pasternack A, Naves R, Toivonen L, Tähtinen PA, Ivaska L, Lempainen J, Peltola V, Waris M, Kakkola L, Ritvos O, Julkunen I. Sci Rep. 2023 May 24;13(1):8416. doi: 10.1038/s41598-023-35471-3. PMID: 37225867

Spike substitution T813S increases Sarbecovirus fusogenicity by enhancing the usage of TMPRSS2.
Ma Y, Li P, Hu Y, Qiu T, Wang L, Lu H, Lv K, Xu M, Zhuang J, Liu X, He S, He B, Liu S, Liu L, Wang Y, Yue X, Zhai Y, Luo W, Mai H, Kuang Y, Chen S, Ye F, Zhou N, Zhao W, Chen J, Chen S, Xiong X, Shi M, Pan JA, Chen YQ. PLoS Pathog. 2023 May 17;19(5):e1011123. doi: 10.1371/journal.ppat.1011123. eCollection 2023 May. PMID: 37196033

Accelerating clinical development of a live attenuated vaccine against *Salmonella* Paratyphi A (VASP): study protocol for an observer-participant-blind randomised control trial of a novel oral vaccine using a human challenge model of *Salmonella* Paratyphi A infection in healthy adult volunteers.

McCann N, Emary K, Singh N, Mclean F, Camara S, Jones E, Kim YC, Liu X, Greenland M, Conlin K, Hill J, Verheul M, Robinson H, Angus B, Ramasamy MN, Levine MM, Pollard AJ. BMJ Open. 2023 May 24;13(5):e068966. doi: 10.1136/bmjopen-2022-068966. PMID: 37225278

To Get Vaccinated or Not? The Vaccination Decision-Making by Healthcare Professionals Working in Haematology: A Qualitative Study.
Tunisi GL, Ambrosi E, Zulianello G, Allegrini E, Provenzano D, Rizzello T, Canzan F. Int J Environ Res Public Health. 2023 May 21;20(10):5901. doi: 10.3390/ijerph20105901. PMID: 37239627

Identification and Profiling of a Novel *Bombyx mori latent virus* Variant Acutely Infecting *Helicoverpa armigera* and *Trichoplusia ni*.
Verdonckt TW, Bilsen A, Van Nieuwerburgh F, De Troij L, Santos D, Vanden Broeck J. Viruses. 2023 May 17;15(5):1183. doi: 10.3390/v15051183. PMID: 37243270

Saturation time of exposure interval for cross-neutralization response to SARS-CoV-2: Implications for vaccine dose interval.
Miyamoto S, Kuroda Y, Kanno T, Ueno A, Shiwa-Sudo N, Iwata-Yoshikawa N, Sakai Y, Nagata N, Arashiro T, Ainai A, Moriyama S, Kishida N, Watanabe S, Nojima K, Seki Y, Mizukami T, Hasegawa H, Ebihara H, Fukushi S, Takahashi Y, Maeda K, Suzuki T. iScience. 2023 May 19;26(5):106694. doi: 10.1016/j.isci.2023.106694. Epub 2023 Apr 19. PMID: 37124417

An Efficacy and Mechanism Driven Study on the Impact of Hypoxia on Lipid Nanoparticle Mediated mRNA Delivery.
Ma Y, Fenton OS. J Am Chem Soc. 2023 May 24;145(20):11375-11386. doi: 10.1021/jacs.3c02584. Epub 2023 May 15. PMID: 37184377

Discovery of quinazolin-4-one-based non-covalent inhibitors targeting the severe acute respiratory syndrome coronavirus 2 main protease (SARS-CoV-2 $M^{pro}$).
Zhang K, Wang T, Li M, Liu M, Tang H, Wang L, Ye K, Yang J, Jiang S, Xiao Y, Xie Y, Lu M, Zhang X. Eur J Med Chem. 2023 May 24;257:115487. doi: 10.1016/j.ejmech.2023.115487. Online ahead of print. PMID: 37257212

Adverse Events & Serological Responses Following SARS-CoV-2 Vaccination in Individuals with Inflammatory Bowel Disease.
Markovinović A, Quan J, Herauf M, Hracs L, Windsor JW, Sharifi N, Coward S, Caplan L, Gorospe J, Ernest-Suarez K, Ma C, Panaccione R, Ingram RJM, Kanji JN, Tipples G, Holodinsky JK, Bernstein CN, Mahoney DJ, Bernatsky S, Benchimol EI, Kaplan GG; STOP COVID-19 in IBD Research Group; STOP COVID-19 in IBD Research Group. Am J Gastroenterol. 2023 May 22. doi: 10.14309/ajg.0000000000002337. Online ahead of print. PMID: 37216598

Enhancement of SARS-CoV-2 vaccine-induced immunity by a Toll-like receptor 7 agonist adjuvant.
Li G, Yu M, Ke Q, Sun J, Peng Y, Xiong C, Monteiro O; COVID-19 Infection and Immunity Investigation Group; Zhao J, Xiang AP. Signal Transduct Target Ther. 2023 May 24;8(1):213. doi: 10.1038/s41392-023-01485-6. PMID: 37225686

Oral adverse events following immunization against SARS-CoV-2: A case series.
Mahajan R, Davila A, Sollecito TP, Stoopler ET, Kulkarni R. Oral Dis. 2023 May 30. doi: 10.1111/odi.14606. Online ahead of print. PMID: 37249069

Cellular and humoral immune responses to SARS-CoV-2 vaccination in patients after CD19.CAR T-cell therapy.
Reimann H, Kremer AN, Blumenberg V, Schmidt K, Aigner M, Jacobs B, Eisenhauer N, Kämpf A, Rösler W, Kharboutli S, Mougiakakos D, Lang V, Lischer C, Irrgang P, Leppkes M, Gonzalez JV, Krönke G, Kremer AE, Tenbusch M, Bruns H, Harrer T, Müller F, Schett G, Mackensen A, Subklewe M, Völkl S. Blood Adv. 2023 May 23;7(10):2066-2069. doi: 10.1182/bloodadvances.2022007806. PMID: 36206194

Answers to comments on "Comparison of severe acute respiratory syndrome coronavirus 2 (COVID-19) vaccine side effects by age groups".
Tosun F, Bülbül M, Tosun İ. Rev Assoc Med Bras (1992). 2023 May 29;69(6):e20230122. doi: 10.1590/1806-9282.20230122. eCollection 2023. PMID: 37255085

Qualitative monitoring of SARS-CoV-2 mRNA vaccination in humans using droplet microfluidics.
Broketa M, Sokal A, Mor M, Canales-Herrerias P, Perima A, Meola A, Fernández I, Iannascoli B, Chenon G, Vandenberghe A, Languille L, Michel M, Godeau B, Gallien S, Melica G, Backovic M, Rey FA, Baudry J, Freund NT, Mahevas M, Bruhns P. JCI Insight. 2023 May 30:e166602. doi: 10.1172/jci.insight.166602. Online ahead of print. PMID: 37252802

Inhibitory effects of 190 compounds against SARS-CoV-2 $M^{pr\ o}$ protein: Molecular docking interactions.
Souza GB, Sens L, Hammerschmidt SJ, de Sousa NF, de Carvalho MAG, Dos Santos CVD, Tizziani T, Moreira MA, Pollo LAE, Martin EF, Neto JSS, Biavatti MW, de Assis FF, Ngadjui BT, Simo IK, Ambassa P, Scotti MT, Scotti L, Braga AL, Schirmeister T, Sandjo LP. Arch Pharm (Weinheim). 2023 May 31:e2300207. doi: 10.1002/ardp.202300207. Online ahead of print. PMID: 37255416

Protection against SARS-CoV-2 Omicron BA.4/5 variant following booster vaccination or breakthrough infection in the UK.
Wei J, Matthews PC, Stoesser N, Newton JN, Diamond I, Studley R, Taylor N, Bell JI, Farrar J, Kolenchery J, Marsden BD, Hoosdally S, Jones EY, Stuart DI, Crook DW, Peto TEA, Walker AS, Pouwels KB, Eyre DW; COVID-19 Infection Survey team. Nat Commun. 2023 May 16;14(1):2799. doi: 10.1038/s41467-023-38275-1. PMID: 37193713

Serological response to Nuvaxovid (NVX-CoV2373) vaccine given as a fifth dose in non- and low-responder kidney transplant recipients.
Nowak A, Hemmingsson P, Evans M, Wijkström J. Nephrol Dial Transplant. 2023 May 31;38(6):1564-1566. doi: 10.1093/ndt/gfad010. PMID: 36652995

Third-dose SARS-CoV-2 mRNA vaccine increases Omicron variant neutralization in patients with chronic myeloid disorders.
Harrington P, Kurshan A, Delord M, Lechmere T, Sheikh A, Saunders J, Saha C, Dillon R, Woodley C, Asirvatham S, Curto-Garcia N, Sullivan JO, Kordasti S, Radia D, McLornan D, Malim MH, Harrison C, Doores KJ, de Lavallade H. Blood Adv. 2023 May 23;7(10):1954-1957. doi: 10.1182/bloodadvances.2022008375. PMID: 36083126

An isotope dilution mass spectrometry assay to track Norovirus-like particles in vaccine process intermediates by quantifying capsid protein VP1.
Jhingree JR, Boisvert J, Mercier G. Anal Methods. 2023 May 18. doi: 10.1039/d3ay00411b. Online ahead of print. PMID: 37199095

Identification of broad, potent antibodies to functionally constrained regions of SARS-CoV-2 spike following a breakthrough infection.
Guenthoer J, Lilly M, Starr TN, Dadonaite B, Lovendahl KN, Croft JT, Stoddard CI, Chohan V, Ding S, Ruiz F, Kopp MS, Finzi A, Bloom JD, Chu HY, Lee KK, Overbaugh J. Proc Natl Acad Sci U S A. 2023 Jun 6;120(23):e2220948120. doi: 10.1073/pnas.2220948120. Epub 2023 May 30. PMID: 37253011

Immune Responses After Vaccination With Primary 2-Dose ChAdOx1 Plus a Booster of BNT162b2 or Vaccination With Primary 2-Dose BNT162b2 Plus a Booster of BNT162b2 and the Occurrence of Omicron Breakthrough Infection.
Choi SH, Park JY, Kweon OJ, Park JH, Kim MC, Lim Y, Chung JW. J Korean Med Sci. 2023 May 22;38(20):e155. doi: 10.3346/jkms.2023.38.e155. PMID: 37218354

# Patentes registradas en Patentscope

Estrategia de búqueda: *Vaccine in the title or abstract AND 20230516:20230531 as the publication date 84 records*

1.WO/2023/087532RECOMBINANT NEWCASTLE DISEASE VIRUS VECTOR CONTAINING SARS-COV-2 DUAL-ANTIGEN TARGET SEQUENCE COMBINATION, CORRESPONDING VACCINE STRAIN, AND VACCINE
WO - 25.05.2023
Clasificación Internacional C12N 15/86 Nº de solicitud PCT/CN2022/072049 Solicitante ZHEJIANG DIFFERENCE BIOLOGICAL TECHNOLOGY CO., LTD. Inventor/a SONG, Jiasheng
A recombinant Newcastle disease virus (NDV) vector containing a SARS-COV-2 dual-antigen target sequence combination, a corresponding vaccine strain, and a vaccine, relating to the technical field of biological medicines. By using a NDV vector, taking a SARS-COV-2 S protein gene and an S protein receptor binding domain (RBD) gene as antigen sequences, jointly inserting the S protein gene and the RBD gene into an NDV genome, and utilizing a virus reverse genetics technology, a vaccine strain having a limited infectious NDV virus vector is rescued and obtained. The vaccine strain can be identified by respiratory cells to produce mucosal immunity, and infect the cells, resulting in an elevated level of specific immune antibodies. Due to the introduction of a dual-antigen target, the immunogenicity of the vaccine strain is enhanced, moreover, the generation of toxic and side effects of a vaccine strain is reduced, and the immune effect is more advantageous than that of a single-target antigen.

2.20230158131COMBINATION OF VACCINATION AND INHIBITION OF THE PD-1 PATHWAY
US - 25.05.2023
Clasificación Internacional A61K 39/00 Nº de solicitud 17822054 Solicitante CureVac SE Inventor/a Mariola FOTIN-MLECZEK
The present invention relates to a vaccine/inhibitor combination comprising an RNA vaccine comprising at least one RNA comprising at least one open reading frame (ORF) coding for at least one antigen and a composition comprising at least one PD-1 pathway inhibitor, preferably directed against PD-1 receptor or its ligands PD-L1 and PD-L2. The present invention furthermore relates to a pharmaceutical composition

and a kit of parts comprising the components of such a vaccine/inhibitor combination. Additionally the present invention relates to medical use of such a vaccine/inhibitor combination, the pharmaceutical composition and the kit of parts comprising such a vaccine/inhibitor combination, particularly for the prevention or treatment of tumor or cancer diseases or infectious diseases. Furthermore, the present invention relates to the use of an RNA vaccine in therapy in combination with a PD-1 pathway inhibitor and to the use of a PD-1 pathway inhibitor in therapy in combination with an RNA vaccine.

3.20230159488APPLICATION OF HETEROCYCLIC COMPOUND CONTAINING AT LEAST TWO SULFUR ATOMS IN PREPARING NANO-VACCINE AND PREPARED NANO-VACCINE
US - 25.05.2023
Clasificación Internacional C07D 339/04 Nº de solicitud 17920139 Solicitante SUZHOU WEAST BIOTECHNOLOGY CO., LTD. Inventor/a Huanghao Yang
The present disclosure pertains to the technical field of immunotherapy or disease prevention and treatment with vaccines, in particular to a heterocyclic compound containing two or more sulfur atoms and an application thereof in preparing a nano-vaccine. Provided is the application of the heterocyclic compound containing at least two sulfur atoms and capable of being covalently or non-covalently linked to a polypeptide in preparing the nano-vaccine. A nanoparticle prepared by self-assembly of the compound and an antigen can enter the dendritic cytoplasm in nonendocytic pathway, thereby improving the uptake efficiency of the antigen and an immune adjuvant. In the process of entering a cell, the nano-vaccine can effectively avoid or reduce biodegradation of the antigen or nucleic acid adjuvant caused by enzymes in lysosomes, and therefore the nano-vaccine can efficiently activate the dendritic cells and improve the cross-presentation of the antigen, thereby effectively activating CD8+ T cells and promoting T cell proliferation. Therefore, the nano-vaccine can prevent tumor cell proliferation and virus infection by efficient immune activation and immune regulation.

4.4181952IMPFSTOFFFORMULIERUNG MIT KONTROLLIERTER FREISETZUNG
EP - 24.05.2023
Clasificación Internacional A61K 39/12 Nº de solicitud 21742914 Solicitante PHIBRO ANIMAL HEALTH CORPORATION Inventor/a FINGER AVNER
Vaccine formulations comprising polyglycerol polyricinoleate (PGPR) are disclosed. Certain disclosed exemplary vaccine formulations comprised an aqueous phase comprising inactivated bacteria and/or viruses, and/or bacterial and/or viral antigens. One particular embodiment comprised an inactivated H9N2 PGPR emulsion-based vaccine for day-old chicks. Disclosed PGPR-based vaccine formulations can be administered alone, or in combination with or as a composition including a second standard fast release vaccine. Disclosed vaccines delay antigen release, and therefore delay an immune response in a subject receiving the vaccine, typically by 7 - 35 days. The present invention also concerns a method for vaccinating a subject, such as poultry or fish, with disclosed vaccine formulations, as well as a method for making PGPR-based vaccine formulations.

5.20230158135IMMUNOGENIC COMPOSITION FORMING A VACCINE, AND A METHOD FOR ITS MANUFACTURE
US - 25.05.2023
Clasificación Internacional A61K 39/12 Nº de solicitud 18100842 Solicitante ENGIMATA, INC Inventor/a Mitra Mosharraf
A method of manufacturing an immunogenic composition forming a vaccine is disclosed. The method includes providing an antigen, providing a dry lipid blend, hydrating the dry lipid blend with an antigen solution, wherein the hydration is configured to form a colloidal vaccine solution, and extruding the colloidal vaccine solution, wherein the extrusion is configured to form a vaccine particle.

6.WO/2023/082454VACCINE SYSTEM FOR PREVENTING OR TREATING DISEASES ON BASIS OF WHOLE-CELL COMPONENTS OF ONE OR MORE BACTERIA, AND PREPARATION METHOD THEREFOR AND USE THEREOF
WO - 19.05.2023
Clasificación Internacional A61K 39/02 Nº de solicitud PCT/CN2021/144063 Solicitante SUZHOU ERSHENG BIOPHARMACEUTICAL CO., LTD. Inventor/a LIU, Mi
A vaccine system for preventing or treating diseases on the basis of whole-cell components of one or more bacteria, specifically, a vaccine system for preventing or treating diseases reassembled from water-soluble components and/or water-insoluble components obtained after whole-cell lysis of bacteria. The water-soluble ingredients and the water-insoluble ingredients of the whole-cell components of one or more bacteria are loaded using nanometer-scale or micrometer-scale particles for the preparation of a vaccine for preventing or treating diseases. Water-soluble components and water-insoluble components are loaded in nanoparticles or microparticles, that is, the components of bacteria are loaded in a nano-vaccine or micro-vaccine, thereby being used for the prevention and treatment of diseases.

7.202121052641SYSTEM AND METHOD FOR DETERMINING AN OPTIMAL AND COST-EFFECTIVE VACCINE DISTRIBUTION CHAIN NETWORK
IN - 19.05.2023
Clasificación Internacional A61K / Nº de solicitud 202121052641 Solicitante Tata Consultancy Services Limited Inventor/a MONDAL, Jayeeta
This disclosure relates to a system and method for determining an optimal and cost-effective vaccine distribution chain network. The method of the present disclosure addresses unresolved problems of optimizing vaccine distribution during mass vaccinations. Embodiments of the present disclosure utilizes a smart framework that is capable of learning and predicting the distribution chain network of vaccines optimally by leveraging supervised deep learning and reinforcement learning. More Specifically, the present disclosure describes a deep neural architecture design that predicts state-wise cost-efficient optimal vaccine allocations as per daily vaccination demands during a mass vaccination program using an RNN-based vaccine demand prediction model and a reinforcement learning-based cost optimization technique for cold chain network.[To be published with FIG. 2]

8.4178607VERFAHREN ZUR HERSTELLUNG EINER IMPFSTOFFZUSAMMENSETZUNG AUS LYOPHILISIERTEN ANTIGENEN
EP - 17.05.2023
Clasificación Internacional A61K 39/00 Nº de solicitud 21746533 Solicitante VAXINANO Inventor/a BETBEDER DIDIER
The invention relates to the field of extemporaneous preparation of vaccine compositions from lyophilised antigens. More specifically, the invention relates to the use of cationic nanoparticles to render the lyophilised antigens more soluble without adding a lyophilisation aid, with a view to extemporaneous use for administering a vaccine composition. In a particular embodiment, the invention allows a vaccine formulation to be prepared or one or more valencies to be added to a previously formulated vaccine composition.

9.WO/2023/088988A METHOD TO PRODUCE A VACCINE AGAINST STREPTOCOCCUS SUIS AND THE SAID VACCINE
WO - 25.05.2023
Clasificación Internacional A61K 39/09 Nº de solicitud PCT/EP2022/082177 Solicitante INTERVET INTERNATIONAL B.V. Inventor/a JACOBS, Antonius, Arnoldus, Christiaan
The invention pertains to a method to produce a vaccine to protect a pig against a pathogenic infection with Streptococcus suis, the method comprising recombinantly expressing an IgM protease antigen in E.

coli bacteria, subjecting the E. coli bacteria to a high pressure homogenisation operation at a pressure of at least 500 bar to induce lysis of the E. coli bacteria and release of the IgM protease antigen into the supernatant of the lysate, separating the supernatant from the pellet and mixing the supernatant comprising the IgM protease antigen with a pharmaceutically acceptable carrier to constitute the vaccine. The invention also pertains to a vaccine produced with this method.

10.4183413IMPFSTOFFZUSAMMENSETZUNG ZUR PRÄVENTION EINER INFEKTION MIT SCHWEREM AKUTEM RESPIRATORISCHEM SYNDROM CORONAVIRUS 2
EP - 24.05.2023
Clasificación Internacional A61K 39/215 Nº de solicitud 21841541 Solicitante GENEONE LIFE SCIENCE INC Inventor/a PARK YOUNG KEUN
The present invention relates to a vaccine composition for preventing severe acute respiratory syndrome coronavirus 2 infection. The vaccine composition for preventing severe acute respiratory syndrome coronavirus 2 infection according to the present invention comprises spike and ORF3a or nucleocapsid as an antigen against SARS-CoV-2. The vaccine composition has a significant effect of inducing antibody immune responses and T-cell immune responses by a plurality of co-expressed antigens compared to those comprising one antigen, and thus can be variously used in the field of prevention of severe acute respiratory syndrome coronavirus 2 infection.

11.4183410MITTEL ZUR PRÄVENTION VON JAPANISCHE ENZEPHALITIS UND IMPFSTOFF GEGEN JAPANISCHE ENZEPHALITIS
EP - 24.05.2023
Clasificación Internacional A61K 39/12 Nº de solicitud 21842214 Solicitante FUJIFILM CORP Inventor/a OYAMADA TAKAYOSHI
It is an object of the present invention to provide a Japanese encephalitis preventive agent and a Japanese encephalitis vaccine agent, which are capable of imparting sufficient immunity to humans, even if these agents are used at a lower dose than the dose of a Japanese encephalitis vaccine for subcutaneous injection, or at a smaller number of administrations than the number of administrations of a Japanese encephalitis vaccine for subcutaneous injection. According to the present invention, provided is a Japanese encephalitis preventive agent, comprising a microneedle array having a sheet portion and a plurality of needle portions present on the upper surface of the sheet portion, wherein the aforementioned needle portions contain or carry an inactivated Japanese encephalitis virus.

12.WO/2023/085821EXOSOME-BASED ANTIVIRAL VACCINE AND MANUFACTURING METHOD THEREOF
WO - 19.05.2023
Clasificación Internacional A61K 39/215 Nº de solicitud PCT/KR2022/017672 Solicitante CK-EXOGENE CO., LTD. Inventor/a KIM, Jae Young
The present invention relates to an exosome platform-based antiviral vaccine. With the ability to induce a strong immune response to viruses and induce a stable and long-term immune response even to viruses with frequent mutations, the exosome platform-based antiviral vaccine can be utilized effectively for use as an antiviral vaccine.

13.WO/2023/092023METHODS OF PREVENTING, TREATING, OR REDUCING THE SEVERITY OF CORONAVIRUS DISEASE 2019 (COVID-19)
WO - 25.05.2023
Clasificación Internacional A61K 39/215 Nº de solicitud PCT/US2022/080068 Solicitante CITY OF HOPE Inventor/a DIAMOND, Don J.
Disclosed are methods of preventing or treating COVID-19 caused by a coronavirus infection or variants thereof by administration to a subject in need thereof a synthetic MVA-based vaccine. Also disclosed are

methods of preventing or treating a coronavirus infection, or increasing an immune response in a subject who has previously received a SARS-CoV-2 vaccine by administration to the subject or a booster dose of a synthetic MVA-based vaccine.

14.20230149533SARS-COV-2 MUCOSAL VACCINE COMPOSITION, PREPARATION AND USE THEREOF
US - 18.05.2023
Clasificación Internacional A61K 39/215 Nº de solicitud 17881892 Solicitante National Tsing Hua University Inventor/a SUH CHIN WU
The invention provides a SARS-CoV-2 mucosal vaccine composition, preparation, and use thereof. The SARS-CoV-2 mucosal vaccine composition comprises an antigen fusion protein which includes a SARS-CoV-2 antigen and a Type IIb heat-labile enterotoxin A subunit from *Escherichia coli*. Immunization with the antigen fusion protein elicits cellular and humoral immune responses, including systemic and mucosal immune responses, against SARS-CoV-2 in a subject, and thus protects the subject from viral infection.

15.3142684PROOF OF VACCINE CARD PRINTING
CA - 21.05.2023
Clasificación Internacional B42D 25/20 Nº de solicitud 3142684 Solicitante AHSAN, SYED Inventor/a AHSAN, SYED
Image of proof of vaccine is printed/transferred on a PVC/plastic card having the size which is resized to standard North American ID card size and is easy to carry anywhere as other ID cards and can be kept with other ID cards in a wallet, purse, pocket or ID card holder etc. Due to this idea, proof of vaccine card image is safe for a long time and due to the property of a PVC/plastic card it is not easily tear able or bendable and is water proof like other ID cards. This idea is cheap and needs no special attention to keep proof of vaccine card separately and saves time to find out as it can be kept with other ID cards.

16.20230149538METHODS FOR PREVENTING DENGUE AND HEPATITIS A
US - 18.05.2023
Clasificación Internacional A61K 39/295 Nº de solicitud 17869776 Solicitante Takeda Vaccines, Inc. Inventor/a Derek WALLACE
The invention relates to a method for preventing dengue disease and hepatitis A in a subject or subject population by simultaneously administering a unit dose of a dengue vaccine composition and a hepatitis A vaccine on the same day. The unit dose of a dengue vaccine composition includes constructs of each dengue serotype, such as TDV-1, TDV-2, TDV-3 and TDV-4, at various concentrations in order to improve protection from dengue infection.

17.4183409IMPFSTOFF MIT VERBESSERTER IMMUNOGENITÄT GEGEN MUTANTE CORONAVIREN
EP - 24.05.2023
Clasificación Internacional A61K 39/12 Nº de solicitud 21208786 Solicitante UNIV BERLIN CHARITE Inventor/a CICHON GÜNTER
The invention relates to an isolated nucleic acid molecule encoding a variant spike (spike-like) protein of a corona virus or fragment thereof wherein the variant spike protein comprises an amino acid sequence with at least two amino acid differences over SARS-CoV-2 "Wuhan Sequence", and wherein said variant spike protein comprises amino acid differences over SARS-CoV-2 "Wuhan Sequence" from at least two of the B.1.1.7 (alpha-variant), B.1.351 (beta-variant), B.1.1.28 (gamma-variant), B1.617.2 (delta-variant), and C.37 (lambda-variant) spike proteins. The variant comprises an amino acid sequence comprising preferably at least four amino acid differences over SARS-CoV-2 "Wuhan Sequence" being capable of inducing an immunogenic response in a human subject against a human coronavirus and variants thereof. In further aspects, the invention relates to a pharmaceutical composition in the form of a vaccine for use in the prevention and/or reduction of risk of a human coronavirus infection. The invention further

relates to the medical use and corresponding methods of administering a vaccine of the invention in the reduction of risk of a human coronavirus infection and/or prevention of a medical condition associated with coronavirus, in particular SARS-COV-2 and SARS-CoV-2 variants.

18.WO/2023/089071VACCINE WITH IMPROVED IMMUNOGENICITY AGAINST MUTANT CORONAVIRUSES
WO - 25.05.2023
Clasificación Internacional A61K 39/12 Nº de solicitud PCT/EP2022/082351 Solicitante CHARITÉ - UNIVERSITÄTSMEDIZIN BERLIN Inventor/a CICHON, Günter
The invention relates to an isolated nucleic acid molecule encoding a variant spike (spike-like) protein of a corona virus or fragment thereof wherein the variant spike protein comprises an amino acid sequence with at least two amino acid differences over SARS-CoV-2 "Wuhan Sequence", and wherein said variant spike protein comprises amino acid differences over SARS-CoV-2 "Wuhan Sequence" from at least two of the B.1.1.7 (alpha-variant), B.1.351 (beta-variant), B.1.1.28 (gamma-variant), B1.617.2 (delta-variant), C.37 (lambda-variant), and B 1.1.529 (omicron-variant) spike proteins. The variant preferably comprises an amino acid sequence comprising at least four amino acid differences over SARS-CoV-2 "Wuhan Sequence" being capable of inducing an immunogenic response in a human subject against a human coronavirus and variants thereof. In further aspects, the invention relates to a pharmaceutical composition in the form of a vaccine for use in the prevention and/or reduction of risk of a human coronavirus infection. The invention further relates to the medical use and corresponding methods of administering a vaccine of the invention in the reduction of risk of a human coronavirus infection and/or prevention of a medical condition associated with coronavirus, in particular SARS-COV-2 and SARS-CoV-2 variants.

19.WO/2023/087441VACCINE SYSTEM FOR PREVENTING OR TREATING CANCER AND USE THEREOF
WO - 25.05.2023
Clasificación Internacional A61K 39/00 Nº de solicitud PCT/CN2021/137431 Solicitante SUZHOU ERSHENG BIOMEDICAL CO., LTD. Inventor/a LIU, Mi
A vaccine system for preventing or treating cancer, comprising a delivery particle and cell components loaded thereon, wherein the delivery particle is a nanoparticle or a microparticle, and the cell components are water-soluble components derived from whole-cell components of one or more cancer cells and/or tumor tissue or a mixture formed by the water-soluble components, or water-insoluble components derived from whole-cell components of one or more cancer cells and/or tumor tissue or a mixture formed by the water-insoluble components. The vaccine system can be used for preventing and treating cancers.

20.WO/2023/090772RECOMBINANT FOOT-AND-MOUTH DISEASE TYPE A VIRUS INDUCING STRONG ADAPTIVE IMMUNE RESPONSE AND OVERCOMING INTERFERENCE FROM MATERNALLY-DERIVED ANTIBODIES, AND FOOT-AND-MOUTH DISEASE VACCINE COMPOSITION COMPRISING SAME
WO - 25.05.2023
Clasificación Internacional C12N 15/63 Nº de solicitud PCT/KR2022/017807 Solicitante REPUBLIC OF KOREA(ANIMAL AND PLANT QUARANTINE AGENCY) Inventor/a LEE, Min Ja
The present invention relates to a recombinant foot-and-mouth disease virus, and a foot-and-mouth disease vaccine composition comprising an antigen isolated and purified from the virus, and may provide: a vaccine composition that induces a humoral immune response through a strong cellular immune response in the early stage of vaccination, and enables active immunity and allows interference from maternally-derived antibodies (MDA) to be overcome by stimulation of B cell receptors when the maternally-derived antibodies (MDA) are present; and a method for preventing or treating foot-and-mouth disease using the composition.

21.20230158088COMPOSITIONS FOR MODULATING GUT MICROFLORA POPULATIONS, ENHANCING DRUG POTENCY AND TREATING VIRAL INFECTIONS, AND METHODS FOR MAKING AND USING SAME
US - 25.05.2023
Clasificación Internacional A61K 35/747 Nº de solicitud 17914703 Solicitante PERSEPHONE BIOSCIENCES, INC. Inventor/a Stephanie J. CULLER
Provided are compositions, including products of manufacture and kits, and methods, comprising combinations of microbes, such as non-pathogenic, live bacteria and/or bacterial spores, for the control, amelioration, prevention, and treatment of a disease or condition, for example, a viral infection such as a COVID19 infection, and these non-pathogenic, live bacteria and/or bacterial spores can be administered to an individual, thereby resulting in a modification or modulation of the individual's gut microfloral population(s), and by modulating or modifying the individual's gut microbial population(s) using compositions, products of manufacture and methods as provided herein, the pharmacodynamics or effectiveness of a drug or a vaccine administered to the individual is altered, for example, the pharmacodynamics of the drug or vaccine is enhanced, the individual's ability to absorb a drug is modified or the dose efficacy of a drug or vaccine is increased.

22.WO/2023/085956NOVEL THERAPEUTIC VACCINES
WO - 19.05.2023
Clasificación Internacional C07K 14/005 Nº de solicitud PCT/NZ2022/050141 Solicitante AVALIA IMMUNOTHERAPIES LIMITED Inventor/a SETTE, Alessandro
The present invention is concerned with novel therapeutic vaccines for infectious disease. The present invention provides immunogenic peptides, immunogenic peptide groups, vaccine compositions and methods of therapy targeting chronic hepatitis B virus (HBV) infection in humans. The immunogenic peptides include a unique selection/combinatorial assembly of human leukocyte antigen (HLA) class I restricted T-cell epitopes to yield vaccine compositions that achieve extensive population coverage, for example, by geography and/or ethnicity. The vaccine compositions according to this invention will provide a much required solution to management of this chronic disease for which there is no current bone fide curative therapy.

23.20230157967NANOPARTICLE VACCINE ADJUVANT AND METHODS OF USE THEREOF
US - 25.05.2023
Clasificación Internacional A61K 9/51 Nº de solicitud 18151182 Solicitante Massachusetts Institute of Technology Inventor/a Darrell J. Irvine
Non-liposome, non-micelle particles formed of a lipid, an additional adjuvant such as a TLR4 agonist, a sterol, and a saponin are provided. The particles are porous, cage-like nanoparticles, also referred to as nanocages, and are typically between about 30 nm and about 60 nm. In some embodiments, the nanocages include or are administered in combination with an antigen. The particles can increase immune responses and are particularly useful as adjuvants in vaccine applications and related methods of treatment. Preferred lipids, additional adjuvants including TLR4 agonists, sterols, and saponins, methods of making the nanocages, and method of using them are also provided.

24.20230149524IMMUNOGENIC COMPOSITIONS AGAINST ENTERIC DISEASES AND METHODS FOR ITS PREPARATION THEREOF
US - 18.05.2023
Clasificación Internacional A61K 39/112 Nº de solicitud 17753248 Solicitante Serum Institute of India Private Limited Inventor/a Rajeev Mhalasakant Dhere
The present disclosure relates to novel immunogenic monovalent and multivalent polysaccharide-protein conjugate vaccine compositions comprising a polysaccharide selected from Salmonella serovar strains S.

*typhi;* S. *paratyphi* A; S. *typhimurium and* S. *enteritidis* and alternative improved methods of polysaccharide fermentation, polysaccharide purification, polysaccharide-protein conjugation and stable formulation. The present disclosure further relates to methods for inducing an immune response in subjects against *Salmonella typhi* and non-typhi related diseases and/or for reducing or preventing *Salmonella typhi* and non-typhi related diseases in subjects using the compositions disclosed herein. The vaccine elicits bactericidal antibodies and is useful for prevention of gastroenteritis, enteric and typhoid fever.

25.4181956LEBEND ABGESCHWÄCHTER VIRUSIMPFSTOFF
EP - 24.05.2023
Clasificación Internacional A61K 39/12 Nº de solicitud 21842353 Solicitante UNIV GRIFFITH Inventor/a MAHALINGAM SURENDRAN
This invention relates to a codon deoptimized severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) genome. In particular, embodiments of the invention concern a vaccine comprising live attenuated SARS-CoV-2 comprising a partly codon deoptimized viral genome, SARS-CoV-2 comprising a partly codon deoptimized viral genome, as well as their use in methods of treatment and prevention of viral infection. The ORF1a region of the viral genome has been codon deoptimized.

26.WO/2023/090956NOVEL ANTI-CANCER VACCINE COMPOSITION AND VACCINATION METHOD USING SAME
WO - 25.05.2023
Clasificación Internacional C12N 15/74 Nº de solicitud PCT/KR2022/018361 Solicitante EULJI UNIVERSITY INDUSTRY ACADEMY COOPERATION FOUNDATION Inventor/a LEE, Seung Hoon
The present invention provides an anticancer vaccine composition and a vaccination method using same, wherein the PD-L1 or PD-L1-T epitope protein is expressed on the surface of a Lactobacillus sp. strain to induce vaccination, whereby the onset and growth of various cancers including colorectal cancer can be effectively suppressed.

27.20230158138MODIFIED GENE VACCINES AGAINST AVIAN CORONAVIRUSES AND METHODS OF USING THE SAME
US - 25.05.2023
Clasificación Internacional A61K 39/215 Nº de solicitud 18058513 Solicitante WISCONSIN ALUMNI RESEARCH FOUNDATION Inventor/a Adel Talaat
The present invention provides both QuilA-loaded chitosan (QAC)-encapsulated NA vaccine compositions and viral vaccine compositions that encode an Infectious Bronchitis Virus (IBV) spike (S) protein, an IBV nucleocapsid (N) protein, or both the S protein and the N protein. Additionally, the present invention provides methods in which the disclosed vaccines are administered to a subject to induce an immune response against IBV or to vaccinate the subject against IBV.

28.20230149532VACCINES FORMED BY VIRUS AND ANTIGEN CONJUGATION
US - 18.05.2023
Clasificación Internacional A61K 39/215 Nº de solicitud 17851428 Solicitante KBIO HOLDINGS LIMITED Inventor/a Steven D. Hume
Disclosed herein are methods of forming compounds and exemplary stable compounds in the nature of a conjugated compound at refrigerated or room temperature, which in some embodiments comprises an antigen and virus particle mixed in a conjugation reaction to form a conjugate mixture, such that the conditions and steps of forming these products allow for use of the conjugate mixture as a vaccine, including but not limited to use as a vaccine against various pathogens including for treatment of diseases caused by novel coronaviruses (including SARS-COV 2).

29.4180447TRÄGERPROTEIN, DAS EINER ORTSSPEZIFISCHEN MUTATION UNTERZOGEN WURDE, UND VERWENDUNG DAVON BEI DER HERSTELLUNG EINES IMPFSTOFFS
EP - 17.05.2023
Clasificación Internacional C07K 14/22 Nº de solicitud 21837338 Solicitante CANSINO BIOLOGICS INC Inventor/a WANG HAOMENG
Provided are a protein antigen subjected to site-directed mutation and site-directed modification, and a method for site-directed mutation and site-directed modification of the protein antigen. The method comprises: site-directedly introducing an unnatural amino acid into a specific site of the protein antigen by genetic codon expansion technique; and performing site-directed modification with the protein antigen by the unnatural amino acid and a modifier, wherein the modifier is a receptor agonist such as tripalmitoyl-S-glyceryl cysteine and monophosphoryl lipid A. Further provided is use of the protein antigen subjected to site-directed mutation and site-directed modification, such as use as a vaccine.

30.20230158142BLOCKADE OF IFN SIGNALING DURING CANCER VACCINATION
US - 25.05.2023
Clasificación Internacional A61K 39/395 Nº de solicitud 17990480 Solicitante McMaster University Inventor/a Yonghong Wan
The present disclosure relates to a method for stimulating tumor antigen-specific immune responses comprising cancer vaccination involving the blockade or inhibition of interferon signaling. In particular, the method comprises administering an inhibitor of interferon signaling and a cancer vaccine comprising a tumor antigen, wherein the inhibitor of interferon signaling is administered before the cancer vaccine.

31.4181990IMPFSTOFFVERABREICHUNGSVORRICHTUNG UND EINZELDOSISKAMMERN
EP - 24.05.2023
Clasificación Internacional A61M 15/00 Nº de solicitud 21742116 Solicitante STAMFORD DEVICES LTD Inventor/a POWER JOHN
A single dose aerosol chamber (110) is used with a dispensing apparatus (100) by users to take a chamber (110), fill the chamber with an aerosolized vaccine (104), and dispose of used chambers (120). A display (103) provides instructions to encourage prompt inhalation by the user from a dispensed and filled chamber. The station allows very fast administration of vaccines to large numbers of people. The aerosol dispenser apparatus detects the chamber is in correct position and delivers a pre-determined dose of aerosol. The chamber has a nebulizer delivery port (114) optimized for delivery of aerosol into the chamber container (111) and to act as a vent during inhalation via the inhalation port (115).

32.4182699COVID-19-MUKOSALANTIKÖRPERTEST
EP - 24.05.2023
Clasificación Internacional G01N 33/68 Nº de solicitud 21846127 Solicitante NANTCELL INC Inventor/a FLEENOR COURTNEY
Methods and compositions are disclosed for inducing immunity against a virus such as a coronavirus in the mucosal tissue of a patient, include administering a vaccine composition to the patient by oral administration (*e.g.*, nasal injection, nasal inhalation, oral inhalation, and/or oral ingestion). Compositions for assaying the presence of anti-viral antibodies induced by the administered vaccine or the presence of viral proteins in a saliva sample include an assay protocol for detecting neutralizing antibodies (*e.g.*, IgA) against the virus in the saliva sample. Compositions include a kit including a stabilizing solution for the patient sample (*e.g.*, saliva sample) and may also include conjugated aragonite particle beads for antibody or viral protein capture.

33.4181989VORRICHTUNG UND VERFAHREN ZUR VERABREICHUNG VON IMPFSTOFFEN
EP - 24.05.2023

Clasificación Internacional A61M 15/00 Nº de solicitud 21740531 Solicitante STAMFORD DEVICES LTD Inventor/a POWER JOHN
A dispensing apparatus (100) is for use by users to take a chamber (110), fill the chamber with an aerosolized vaccine or other medicament (104), and dispose of used chambers (120). A display (103) provides instructions to encourage prompt inhalation by the user from a dispensed and filled chamber. The apparatus allows very fast administration of vaccines to large numbers of people. The aerosol dispenser apparatus detects the chamber is in correct position and delivers a predetermined dose of aerosol. Once the dose is delivered a visual and/or audible indicator informs the user that the chamber is filled and that they can take the inhalation. The single dose aerosol chamber (110) is optimized for efficient administration of an aerosol.

34.WO/2023/090771RECOMBINANT FOOT-AND-MOUTH DISEASE VIRUS TYPE O FOR INDUCING ROBUST ADAPTIVE IMMUNE RESPONSE AND OVERCOMING MATERNALLY-DERIVED ANTIBODY INTERFERENCE, AND FOOT-AND-MOUTH DISEASE VACCINE COMPOSITION COMPRISING SAME
WO - 25.05.2023
Clasificación Internacional C12N 15/63 Nº de solicitud PCT/KR2022/017801 Solicitante REPUBLIC OF KOREA(ANIMAL AND PLANT QUARANTINE AGENCY) Inventor/a LEE, Min Ja
The present invention can provide: a vaccine composition, which induces humoral immunity through the induction of a robust cellular immune response at an early stage of vaccination and, simultaneously, overcomes maternally-derived antibody (MDA) interference through the stimulation of B cell receptors if MDAs are present and enables active immunity; and a method for preventing or treating foot-and-mouth disease by using the composition.

35.20230150991SUBSTITUTED BENZYL-TRIAZOLE COMPOUNDS FOR CBL-B INHIBITION, AND FURTHER USES THEREOF
US - 18.05.2023
Clasificación Internacional C07D 413/14 Nº de solicitud 17853904 Solicitante Nurix Therapeutics, Inc. Inventor/a Arthur T. SANDS
Compounds, compositions, and methods for use in inhibiting the E3 enzyme Cbl-b in the ubiquitin proteasome pathway are disclosed. The compounds, compositions, and methods can be used to modulate the immune system, to treat diseases amenable to immune system modulation, and for treatment of cells in vivo, in vitro, or ex vivo. Also disclosed are pharmaceutical compositions comprising a Cbl-b inhibitor and a cancer vaccine, as well as methods for treating cancer using a Cbl-b inhibitor and a cancer vaccine; and pharmaceutical compositions comprising a Cbl-b inhibitor and an oncolytic virus, as well as methods for treating cancer using a Cbl-b inhibitor and an oncolytic virus.

36.20230149527Virus-like particles containing CST1 protein and toxoplasma vaccine using same
US - 18.05.2023
Clasificación Internacional A61K 39/12 Nº de solicitud 18054253 Solicitante University-Industry Cooperation Group of Kyung Hee University Inventor/a Fu-Shi Quan
Disclosed is a *Toxoplasma gondii* cyst wall protein cst1 (CST1)-containing influenza virus-like particle, which includes a core consisting of an influenza virus matrix protein 1 (M1); and the CST1 protein of *Toxoplasma gondii* displayed on a surface thereof; and a vaccine using the same.

37.20230157958LYOPHILIZATION OF RNA
US - 25.05.2023
Clasificación Internacional A61K 9/19 Nº de solicitud 17822511 Solicitante CureVac Manufacturing GmbH Inventor/a Thomas KETTERER
The present invention is directed to the field of RNA formulation, in particular to lyophilization of RNA. The invention provides a method for lyophilization of RNA. The present invention further concerns a

lyophilized composition obtainable by the inventive method, a pharmaceutical composition, a vaccine and a kit or kit of parts. Moreover, the present invention provides a novel use of a lyoprotectant for lyophilizing RNA, the use of the inventive method in the manufacture of a medicament as well as the first and second medical use of the composition obtainable by the inventive method, the pharmaceutical composition, the vaccine or the kit or kit of parts according to the invention.

38.20230149540VACCINE PLATFORM FOR THE INDUCTION OF SYSTEMIC IMMUNE RESPONSES
US - 18.05.2023
Clasificación Internacional A61K 39/39 Nº de solicitud 17916942 Solicitante The Board of Trustees of the Leland Stanford Junior University Inventor/a Thomas L. Cherpes
Compositions and methods are provided relating to vaccine formulations comprising (i) an agent that specifically binds to CD244; (ii) an effective dose of an antigen; and (iii) an adjuvant, which adjuvant can be, without limitation, an activator of innate-like T cells.

39.4178545IMMUNOGENE ZUSAMMENSETZUNG ZUR BILDUNG EINES IMPFSTOFFS UND VERFAHREN ZU DEREN HERSTELLUNG
EP - 17.05.2023
Clasificación Internacional A61K 9/127 Nº de solicitud 21838378 Solicitante ENGIMATA INC Inventor/a MOSHARRAF MITRA
An immunogenic composition forming a vaccine includes a nanoparticle adjuvant comprising at least a nanoparticle, wherein the at least a nanoparticle comprises a lipid layer exterior including a plurality of lipids, cholesterol, and a primary alkyl amine including a positively charged amino group head and at least a carbon tail and an antigen incorporated in the at least a nanoparticle, wherein the antigen comprises a spike protein from a coronavirus.

40.202321006081EPITOPE BASED VACCINE DESIGN AGAINST MONKEY POX VIRUS BY DEPLOYING LATEST IMMUNOINFORMATICS APPROACH.
IN - 19.05.2023
Clasificación Internacional A61K / Nº de solicitud 202321006081 Solicitante Dr. Amit Joshi Inventor/a Dr. Amit Joshi
ABSTRACTOut Invention “Epitope based Vaccine design against Monkey pox virus by deploying latest Immunoinformatics approach.” Is a arising monkey pox infection (MPXV) is a zoonotic orthopoxvirus that causes contaminations in people like smallpox. Since May 2022, instances of monkeypox (MPX) have been progressively detailed by the World Wellbeing Association (WHO) around the world. At present, there are no clinically approved medicines for MPX contaminations. In this review, an Immunoinformatics approach was utilized to distinguish potential immunization focuses against MPXV. A sum of 190 MPXV-2022 proteins were recovered from the Vi-PR data set and exposed to different investigations including antigenicity, allergen city, poisonousness, dissolvability, IFN-?, and harmfulness. Three external layer and extracellular proteins were chosen in view of their separate boundaries to anticipate B-cell and Immune system microorganism epitopes. The epitopes are moderated among various types of MPXV and the populace inclusion is 100 percent around the world, which will give more extensive assurance against different kinds of the infection universally. Nine covering MHC-I, MHC-II, and B-cell epitopes were chosen to plan multi-epitope antibody develops connected with reasonable linkers in mix with various adjuvants to upgrade the safe reactions of the immunization develops. Atomic demonstrating and underlying approval guaranteed excellent 3D designs of immunization develops. In light of different immunological and physiochemical properties and docking scores, MPXV-V2 was chosen for additional examination. In silico cloning uncovered an elevated degree of quality articulation for the MPXV-V2 immunization inside the bacterial articulation framework. Resistant and MD reproductions affirmed the sub-atomic strength of the MPXV-V2 build, with high safe reactions inside the host cell. These outcomes might support the

advancement of exploratory immunizations against MPXV with expanded intensity and further developed security.

41.4178937IMPFSTOFFADJUVANTIEN UND VERFAHREN ZUR SYNTHESE UND VERWENDUNG DAVON
EP - 17.05.2023
Clasificación Internacional C07C 13/20 Nº de solicitud 21838584 Solicitante AMYRIS INC Inventor/a PADDON CHRISTOPHER JOHN
The disclosure provides compounds useful as adjuvants in vaccines, as well as methods of synthesizing such compounds and methods of using such compounds in the formulation of a vaccine. The disclosure also features methods of administering such vaccines to a subject (e.g., a mammalian subject, such as a human) in order to treat or prevent one or more diseases, such as a disease caused by a viral or bacterial infection.

42.WO/2023/090556NOVEL RECOMBINANT PORCINE CIRCOVIRUS TYPE 2 PROTEIN AND USE THEREOF
WO - 25.05.2023
Clasificación Internacional C07K 14/005 Nº de solicitud PCT/KR2022/008361 Solicitante INNOVAC CO. Inventor/a HAHN, Tae Wook
The present invention relates to a novel recombinant porcine circovirus type 2 protein and use thereof and, more specifically, to: a novel recombinant porcine circovirus type 2 protein; and a vaccine composition, an immunogenic composition, and a feed composition, comprising same. It was confirmed that the novel recombinant porcine circovirus type 2 protein according to the present invention showed excellent antibody titers against both PCV2b and type 2d. This means that when the recombinant porcine circovirus type 2 protein of the present invention is used as a vaccine, porcine circovirus-related diseases can be effectively prevented by cross-protecting both PCV2b and PCV2d genotypes, and thus the porcine circovirus type 2 protein of the present invention can be used in various ways in the pig farming field.

43.WO/2023/083315NCOVSIRNA DRUG FOR TARGETED DELIVERY OF SHRNA BY USING RBD, SYNTHESIS METHOD THEREFOR AND USE THEREOF
WO - 19.05.2023
Clasificación Internacional A61K 39/215 Nº de solicitud PCT/CN2022/131458 Solicitante WENG, Binghuan Inventor/a WENG, Binghuan
Provided are an nCOVsiRNA drug for the targeted delivery of shRNA by using RBD and a synthesis method therefor. In the drug, RBD derived from a receptor binding domain of a novel coronavirus is used as a targeted delivery carrier, shRNA is synthesized from siRNA with a common RNAi sequence of each strain of the novel coronavirus and mutant strains thereof, shRNA positive and antisense chains are connected to the N-terminus of RBD, and a compound that has dual functions of targeted gene drug and macromolecule vaccine that delivers shRNA by using RBD-targeted delivery is formed. The shRNA is a broad-spectrum antiviral drug and also an immunologic adjuvant that enhances RBD vaccines. The RBD is used as a targeted delivery vector to avoid side effects of non-targeted therapy. Meanwhile, RBD is also a protein vaccine. The anti-RBD produced by the immunity of the RBD may neutralize viruses and prevent viruses from being infected by means of ACE2.

44.WO/2023/085760NOVEL RECOMBINANT NEWCASTLE VIRUS VECTOR, AND VACCINE COMPOSITION COMPRISING SAME
WO - 19.05.2023
Clasificación Internacional C12N 15/86 Nº de solicitud PCT/KR2022/017533 Solicitante KONKUK UNIVERSITY INDUSTRIAL COOPERATION CORP Inventor/a SONG, Chang Seon

The present invention relates to a recombinant Newcastle virus vector comprising a hemagglutinin gene of low pathogenic avian influenza, and a vaccine composition using same. The present invention includes the HA gene of A/Korean native chicken/Korea/N20-132/2020 (H9N2) LPAIV in the existing Newcastle virus vector, thereby being capable of obtaining excellent preventive effects against the Newcastle disease virus and low pathogenic avian influenza.

45.WO/2023/086890SMALL MOLECULE IMMUNOPOTENTIATOR CONJUGATES OF NFKB ACTIVATORS AS ADJUVANTS WITH ENHANCED EFFICACY AND REDUCED TOXICITY
WO - 19.05.2023
Clasificación Internacional A61K 31/33 Nº de solicitud PCT/US2022/079647 Solicitante THE UNIVERSITY OF CHICAGO Inventor/a NIHESH, Naorem
The present disclosure concerns immunomodulatory compositions and methods of use for enhancing response to an antigen (e.g., in a vaccine), an immunotherapy (e.g., a cancer immunotherapy), or other immune stimulation. The disclosure describes immunomodulators having reduced toxicity and improved immune response compared with existing adjuvants. Further disclosed are methods for improving an immune response to a vaccine antigen, cancer immunotherapeutic, or other immune stimulating agent. The disclosure describes dimeric and polymeric immunomodulators comprising one or more pattern recognition receptor (PRR) agonist moieties and one or more NF-κB inhibitor moieties.

46.4178612SARS-COV-2 UND INFLUENZA-KOMBINATIONSIMPFSTOFF
EP - 17.05.2023
Clasificación Internacional A61K 39/12 Nº de solicitud 21740222 Solicitante SPICONA INC Inventor/a FAZIO AGATA
The present invention relates to combination vaccines against both influenza and COVID-19. In particular, the invention relates to combination vaccines comprising one or more influenza virus antigen and one or more SARS-CoV-2(Coronavirus SARS-CoV-2) antigen, particularly one or more SARS-CoV-2 spike protein antigen, as well as vaccines comprising polynucleotides encoding said antigens, and such vaccines for the treatment or prevention of COVID-19 (SARS-CoV-2 infection) and influenza infection.

47.20230160806DEVICES AND METHODS FOR TWO-DIMENSION (2D)-BASED PROTEIN AND PARTICLE DETECTION
US - 25.05.2023
Clasificación Internacional G01N 15/14 Nº de solicitud 17921014 Solicitante The Regents of the University of California Inventor/a Weian ZHAO
Provided are processes, methods, kits, devices and software for testing and detecting proteins such as antigens, cytokines or antibodies, particles or cells in specimens of or samples from human or animals; and in alternative embodiments the protein are induced by or derived from viruses, bacteria, an immune system, a cancer cell or any cell which can cause a disease, infection or condition such as a COVID-19 infection. Provided are portable imaging systems comprising flat static surfaces or slides, wherein the flat static surfaces or slides can be fabricated as printed microarrays, or biochips that can support protein or bioparticle precipitates. Provided are portable imaging systems comprising imaging systems with light sheet illumination to image two dimensional (2D) planes in liquids to detect proteins, bioparticles, cells, and organisms. Portable imaging systems provided herein can be used for point-of-care diagnosis, immunity analysis, epidemiological surveillance, and therapeutics and vaccine development.

48.2023901345A Trichomoniasis Vaccine
AU - 18.05.2023
Clasificación Internacional Nº de solicitud 2023901345 Solicitante The University of Queensland Inventor/a Not Given

49.WO/2023/084094LENTIVIRAL VECTORS FOR EXPRESSION OF HUMAN PAPILLOMAVIRUS (HPV) ANTIGENS AND ITS IMPLEMENTATION IN THE TREATMENT OF HPV INDUCED CANCERS
WO - 19.05.2023
Clasificación Internacional A61K 39/12 Nº de solicitud PCT/EP2022/081839 Solicitante THERAVECTYS Inventor/a CHARNEAU, Pierre
The present invention relates to a lentiviral vector, in particular a non-integrative lentiviral vector, comprising at least four distinct nucleic acid sequences encoding HPV antigens, to a lentiviral vector particle comprising said vector, to an isolated cell comprising the same, and to a vaccine composition comprising the said lentiviral vector, lentiviral vector particle or cell. The present invention further relates to their implementation in the treatment or prevention of an HPV induced cancer.

50.20230158140ADJUVANT AND VACCINE COMPOSITIONS
US - 25.05.2023
Clasificación Internacional A61K 39/39 Nº de solicitud 18151323 Solicitante Advanced BioAdjuvants LLC Inventor/a Jay D. Gerber
Methods are provided for preparing and delivering an adjuvant for vaccines including lecithin, polymer and one or more additives. The polymer is preferably polyacrylic acid-based. The additive is preferably one or more of a glycoside and a sterol. The method of preparation includes hydrating lecithin and a polymer in saline or water and mixing the lecithin and polymer to form the adjuvant. Additives can be included prior to or after hydration of the lecithin and polymer.

51.20230151063MULTIVALENT OSPA POLYPEPTIDES AND METHODS AND USES RELATING THERETO
US - 18.05.2023
Clasificación Internacional C07K 14/20 Nº de solicitud 16497178 Solicitante Valneva Austria GmbH Inventor/a Urban Lundberg
The present invention relates to an immunogenic polypeptide, a nucleic acid encoding the same, a pharmaceutical composition comprising the same and the immunogenic polypeptide, nucleic acid or pharmaceutical composition for use as a medicament, particularly a vaccine, or for use in a method of treating or preventing a *Borrelia* infection.

52.20230151061T CELL EPITOPE CLUSTERS AND RELATED COMPOSITIONS USEFUL IN THE PREVENTION, DIAGNOSIS, AND TREATMENT OF COVID-19
US - 18.05.2023
Clasificación Internacional C07K 14/005 Nº de solicitud 17795282 Solicitante EPIVAX, INC. Inventor/a Anne De Groot
The present disclosure relates to novel epitope-based compositions, including vaccines, against severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and diseases caused by SARS-CoV-2, including the highly contagious coronavirus disease 2019. The disclosure relates to immunogenic polypeptides (including concatemeric polypeptides, hybrid Ii-key constructs, and chimeric or fusion polypeptides as disclosed herein) and the uses thereof, particularly in vaccine compositions. The disclosure also relates to nucleic acids, vectors, and cells which express the polypeptides and the uses thereof. The polypeptides of the invention more specifically comprise an agretope predicted to be a ligand of HLA class I and/or HLA class II MHC molecules, as well as an epitope that is predicted to be recognized by T-cells in the context of MHC class I and/or class II molecules. The compositions are particularly suited to produce vaccines, particularly for vaccinating against SARS-CoV-2 infection and related diseases caused by SARS-CoV-2, including COVID-19.

53.4183411ZUSAMMENSETZUNGEN UND VERFAHREN FÜR CHIMÄRE DENGUE-VIRUS-KONSTRUKTE IN IMPFSTOFFEN

EP - 24.05.2023
Clasificación Internacional A61K 39/12 Nº de solicitud 22204593 Solicitante TAKEDA VACCINES INC Inventor/a STINCHCOMB DAN T
Embodiments herein report compositions, uses and manufacturing of dengue virus constructs and live attenuated dengue viruses. Some embodiments concern a composition that includes, but is not limited to, a tetravalent dengue virus composition. In certain embodiments, compositions can include constructs of one or more serotypes of dengue virus, such as dengue-1 (DEN-1) virus, dengue-2 (DEN-2) virus, dengue-3 (DEN-3) or dengue-4 (DEN-4) virus constructs. In other embodiments, constructs disclosed herein can be combined in a composition to generate a vaccine against more one or more dengue virus constructs that may or may not be subsequently passaged in mammalian cells.

54.202217045654COMPOSITIONS AND METHODS FOR PREVENTING AND TREATING CORONAVIRUS INFECTION-SARS-COV-2 VACCINES
IN - 19.05.2023
Clasificación Internacional C07K 14/005 Nº de solicitud 202217045654 Solicitante BETH ISRAEL DEACONESS MEDICAL CENTER, INC. Inventor/a BAROUCH, Dan, H.
The invention relates to immunogenic compositions and vaccines containing a coronavirus (e.g., Wuhan coronavirus (2019-nCoV; also referred to as SARS-CoV-2)) protein or a polynucleotide encoding a coronavirus (e.g., Wuhan coronavirus (2019-nCoV; SARS-CoV-2)) protein and uses thereof. The invention also provides methods of treating and/or preventing a coronavirus (e.g., Wuhan coronavirus (2019-nCoV; SARS-CoV-2)) infection by administering an immunogenic composition or vaccine to a subject (e.g., a human). The invention also provides methods of detecting and/or monitoring a protective anti-coronavirus (e.g., Wuhan coronavirus (2019-nCoV; SARS-CoV-2)) antibody response (e.g., anti-coronavirus antibody response, e.g., anti-2019- nCoV antibody response, e.g., anti-Spike antibody response, e.g., anti-Spike neutralizing antibody response). The present invention relates to isolated nucleic and/or recombinant nucleic acid encoding a coronavirus S protein, in particular a SARS-CoV-2 S protein, and to the coronavirus S proteins, as well as to the use of the nucleic acids and/or proteins thereof in vaccines.

55.WO/2023/092028METHODS OF PREVENTING, TREATING, OR REDUCING THE SEVERITY OF COVID-19 IN IMMUNOCOMPROMISED BLOOD CANCER PATIENTS
WO - 25.05.2023
Clasificación Internacional A61K 39/215 Nº de solicitud PCT/US2022/080073 Solicitante CITY OF HOPE Inventor/a DIAMOND, Don J.
Disclosed are methods of preventing or treating a coronavirus infection in a blood cancer patient having received a cellular therapy by administration of a synthetic MVA-based vaccine.

56.4178973TUMORASSOZIIERTE PEPTIDE UND VERWENDUNGEN DAVON
EP - 17.05.2023
Clasificación Internacional C07K 14/47 Nº de solicitud 21742373 Solicitante HUMANITAS MIRASOLE SPA Inventor/a RESCIGNO MARIA
The present invention provides antigen presenting cells (APC) carrying human tumor- associated peptides on the cell surface as well as immunogenic compositions comprising the tumor-associated peptides and/or the antigen presenting cells according to the invention. The immunogenic composition of the invention is useful as a vaccine in the prevention and/or treatment of a tumor disease, particularly melanoma and melanoma residual disease.

57.20230159936CPG ODN HAVING IMMUNOREGULARTORY FUNCTION AND USE THEREOF
US - 25.05.2023

Clasificación Internacional C12N 15/117 Nº de solicitud 17915805 Solicitante PARR BIOTECHNOLOGY (HEBEI) CO., LTD. Inventor/a Ligong WANG
Provided are an immunomodulatory CpG ODN chemically modified by means of a structure as shown by general formula I and the use thereof. The CpG ODN has an immunostimulatory activity, can stimulate the proliferation of B cells, and produce specific cytokines. The above-mentioned CpG ODN can be used as a vaccine adjuvant alone or in combination with other adjuvants to exert a synergistic effect, and can also be used in the preparation of drugs for preventing or treating tumors, infections, and allergies.

58.4180450PEPTIDE UND KOMBINATION AUS PEPTIDEN ZUR VERWENDUNG IN DER IMMUNTHERAPIE GEGEN NICHTKLEINZELLIGEN LUNGENKREBS UND ANDERE KREBSARTEN
EP - 17.05.2023
Clasificación Internacional C07K 14/47 Nº de solicitud 22201204 Solicitante IMMATICS BIOTECHNOLOGIES GMBH Inventor/a MAHR ANDREA
The present invention relates to peptides, proteins, nucleic acids and cells for use in immunotherapeutic methods. In particular, the present invention relates to the immunotherapy of cancer. The present invention furthermore relates to tumor-associated T-cell peptide epitopes, alone or in combination with other tumor-associated peptides that can for example serve as active pharmaceutical ingredients of vaccine compositions that stimulate anti-tumor immune responses, or to stimulate T cells ex vivo and transfer into patients. Peptides bound to molecules of the major histocompatibility complex (MHC), or peptides as such, can also be targets of antibodies, soluble T-cell receptors, and other binding molecules (Fig. 1)

59.4178972VERBESSERTER MASERNVIRUS-IMPFSTOFFVEKTOR AUF BASIS MEHRERER ZUSÄTZLICHER TANDEMTRANSKRIPTIONSEINHEITEN (ATUS)
EP - 17.05.2023
Clasificación Internacional C07K 14/005 Nº de solicitud 21740517 Solicitante PASTEUR INSTITUT Inventor/a NAMPRACHAN-FRANTZ PHANRAMPHOEI
The application generally relates to enhanced recombinant nucleic acid constructs comprising a cDNA molecule encoding a full length antigenomic (+) RNA strand of a non-segmented negative-sense single-stranded RNA virus for expressing at least one heterologous polypeptide, protein, antigen, or antigenic fragment thereof. The application more particularly relates to constructs with multiple ATUs localized within a single intergenic region of a virus. The application also relates to the association between a construct with multiple ATUs and BAG plasmid to facilitate the introduction and expression of large inserts.

60.4181953IMPFUNG NACH EXPOSITION GEGEN VIRALE ATEMWEGSINFEKTIONEN
EP - 24.05.2023
Clasificación Internacional A61K 39/12 Nº de solicitud 21743492 Solicitante RIBOXX GMBH Inventor/a ROHAYEM JACQUES
The present invention relates to pharmaceutical compositions, in particular vaccine compositions, for preventing or at least reducing the severity of, respectively, viral respiratory infections through application of said composition to a human subject post-exposure or at least presumed post-exposure of said subject to a virus causing said viral respiratory infections or pre-exposure of said subject to said virus. More particularly, in specific embodiments, the invention provides pharmaceutical compositions as such comprising at least one antigenic component of the infectious virus and a TLR-3 agonist. The invention also relates to methods of treatment and/or prevention of said viral respiratory infections through administration of the composition to the human subject post exposure or at least presumed post-exposure of said subject to the infectious virus or pre-exposure of said subject to said virus.

61.20230160875Controlled Exposure to Pathogens for Generating Immunity

US - 25.05.2023
Clasificación Internacional G01N 33/49 Nº de solicitud 18068572 Solicitante Satish Mahna Inventor/a Satish Mahna
A method generates a natural immunity to a pathogen in the absence of a vaccine. The process draws a blood sample, exposes the blood sample to a pathogen outside of a living organism, and measures the antibody type, level, and a pathogen level in the exposed blood sample. The method injects the blood sample exposed to the pathogen into the source of the blood sample when one or more antibody types are detected at a predetermined level and the pathogen level is below a predetermined level.

62.4178544NUKLEOSIDMODIFIZIERTE RNA ZUR INDUKTION EINER IMMUNREAKTION GEGEN SARS-COV-2
EP - 17.05.2023
Clasificación Internacional A61K 9/127 Nº de solicitud 21837517 Solicitante UNIV PENNSYLVANIA Inventor/a PARDI NORBERT
The present invention relates to compositions and methods for inducing an adaptive immune response against severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in a subject. In certain embodiments, the present invention provides a composition comprising a nucleoside-modified nucleic acid molecule encoding a SARS-CoV-2 antigen, adjuvant, or a combination thereof. For example, in certain embodiments, the composition comprises a vaccine comprising a nucleoside-modified nucleic acid molecule encoding a SARS-CoV-2 antigen, adjuvant, or a combination thereof.

63.4180521VERFAHREN ZUR HERSTELLUNG VON VARICELLA ZOSTER VIRUS OBERFLÄCHENPROTEINANTIGEN
EP - 17.05.2023
Clasificación Internacional C12N 7/00 Nº de solicitud 21838132 Solicitante GREEN CROSS CORP Inventor/a LEE KWANG BAE
The present invention relates to a method for production of a Varicella Zoster Virus surface protein antigen. The method for production of a Varicella Zoster Virus surface protein antigen according to the present invention is an effective production method capable of obtaining the Varicella Zoster Virus surface protein antigen in high yield and high purity. Therefore, the method is useful for production of the Varicella Zoster Virus surface protein antigen for use as a vaccine composition for preventing or treating varicella or herpes zoster.

64.20230149531Suprastructure Comprising Modified Influenza Hemagglutinin With Reduced Interaction With Sialic Acid
US - 18.05.2023
Clasificación Internacional A61K 39/145 Nº de solicitud 17920625 Solicitante Hilary E. Hendin Inventor/a Pierre-Olivier Lavoie
A suprastructure comprising a modified influenza hemagglutinin (HA) is provided. The modified HA may comprise one or more than one alteration that reduces non-cognate binding of the modified HA to sialic acid (SA) on the surface of a cell, while maintaining cognate interaction with the cell, such as a B cell. A composition comprising the suprastructure and modified HA and a pharmaceutically acceptable carrier is also described. A method of increasing an immunological response or inducing immunity in response to a vaccine comprising the suprastructure and modified HA is also provided.

65.20230160892RECOMBINANT VIRUSES, INSECT CELLS AND THEIR USES IN VIRAL DETECTION AND VACCINATION
US - 25.05.2023
Clasificación Internacional G01N 33/569 Nº de solicitud 17913986 Solicitante Ming-Che SHIH Inventor/a Yu-Chan CHAO

Disclosed herein are recombinant viruses and/or insect cells suitable for detecting the infection of a pathogen in a biological sample of a test subject. The information derived from the detection may also be used to render a diagnosis on whether the test subject is infected with the pathogen or not, so that proper course of treatment may be assigned to the subject. Also disclosed herein is a vaccine for the prophylaxis and/or treatment of infection caused by said pathogen.

66.WO/2023/082213NOVEL CORONAVIRUS PROTEIN ANTIGEN NANOVACCINE, PREPARATION METHOD THEREFOR AND APPLICATION THEREOF.
WO - 19.05.2023
Clasificación Internacional A61K 39/215 Nº de solicitud PCT/CN2021/130486 Solicitante JINAN UNIVERSITY Inventor/a CHEN, Tianfeng
Disclosed are a novel coronavirus protein antigen nanovaccine, a preparation method therefor and an application thereof. The preparation method comprises: respectively dissolving lentinan, sodium selenite and vitamin C in high pressure sterilized water to respectively prepare a lentinan stock solution, a sodium selenite stock solution and a vitamin C stock solution; adding RBD into the sodium selenite stock solution and stirring, adding the mixture into the lentinan stock solution and continuing to stir, then adding the resulting mixture into high-pressure sterilized water and stirring to enable the polymer to be fully and uniformly mixed with the RBD and the sodium selenite, so as to form a mixed solution; and dropwise adding the vitamin C stock solution into the mixed solution, stirring at low temperature after dropwise adding, and finally putting the solution obtained after reaction into a dialysis bag to obtain a novel coronavirus protein antigen nanovaccine. According to the present invention, by utilizing the advantages of a nano-selenium carrier to load RBD for effective presentation, the immunogenicity of the RBD vaccine is improved, and the body is induced to produce a potent immune response.

67.20230159588CDCA1-DERIVED PEPTIDE AND VACCINE CONTAINING SAME
US - 25.05.2023
Clasificación Internacional C07K 7/06 Nº de solicitud 18094167 Solicitante ONCOTHERAPY SCIENCE, INC. Inventor/a SACHIKO YAMASHITA
The present invention provides CDCA1-derived epitope peptides having the ability to induce cytotoxic T cells. The present invention further provides polynucleotides encoding the peptides, antigen-presenting cells presenting the peptides, and cytotoxic T cells targeting the peptides, as well as methods of inducing the antigen-presenting cells or CTLs. The present invention also provides compositions and pharmaceutical compositions containing them as an active ingredient. Further, the present invention provides methods of treating and/or preventing cancer, and/or preventing postoperative recurrence thereof, using the peptides, polynucleotides, antigen-presenting cells, cytotoxic T cells or pharmaceutical compositions of the present invention. Methods of inducing an immune response against cancer are also provided.

68.WO/2023/091988EXPRESSION OF THE SPIKE S GLYCOPROTEIN OF SARS-COV-2 FROM AVIAN PARAMYXOVIRUS TYPE 3 (APMV3)
WO - 25.05.2023
Clasificación Internacional A61K 39/12 Nº de solicitud PCT/US2022/080015 Solicitante THE UNITED STATES OF AMERICA, AS REPRESENTED BY THE SECRETARY, DEPARTMENT OF HEALTH AND HUMAN SERVICES Inventor/a BUCHHOLZ, Ursula
Coronavirus spike protein, for example, SARS-CoV-2 spike (S) protein, expressed by an avian paramyxovirus type 3 (APMV3) as a vaccine vector for prevention and treatment against infection, such as SARS-CoV-2.

69.WO/2023/092153METHODS AND COMPOSITIONS TARGETING NUCLEUS ACCUMBENS-ASSOCIATED PROTEIN-1 FOR TREATMENT OF AUTOIMMUNE DISORDERS AND CANCERS

WO - 25.05.2023
Clasificación Internacional A61K 41/00 Nº de solicitud PCT/US2022/080367 Solicitante THE TEXAS A&M UNIVERSITY SYSTEM Inventor/a SONG, Jianxun
Provided herein are methods of for enhancing or inducing an anti-tumor response or treating an autoimmune disorder by administering a therapeutically effective amount of an inhibitor of NAC 1. Also, provided herein are methods of enhancing effectiveness of a vaccine in a subject by administering to the subject a therapeutically effective amount of an inhibitor of NAC 1. Inhibitors of NAC1 can include a chemical agent, such as a composition containing NIC3, or a biological agent that inhibit the function of NAC1 protein, such as an isolated antibody or its binding fragment thereof that binds to NAC1. Inhibitors of NAC 1 can include a biological agent that reduces the expression of NAC1 gene, such as a NAC 1 - targeted siRNA administered as a nanoliposome or a CRISPR/Cas-based genome editing composition targeting the NAC1 Gene.

70.WO/2023/091358AMPOULE FOR ORAL VACCINE ADMINISTRATION AND METHODS OF USE
WO - 25.05.2023
Clasificación Internacional A61J 1/06 Nº de solicitud PCT/US2022/049640 Solicitante MERCK SHARP & DOHME LLC Inventor/a HALTHORE, Ramprasad
An ampoule includes a body having a cavity for storing a medicament, a neck coupled to the body and defining a nozzle in communication with the cavity of the body, a removable cap coupled to the nozzle, and an anti-choking miter coupled to the removable cap, the anti-chocking miter being wider than the removable cap.

71.20230151098Compositions and Methods for Vaccination and the Treatment of Infectious Diseases
US - 18.05.2023
Clasificación Internacional C07K 16/28 Nº de solicitud 17917433 Solicitante Jounce Therapeutics, Inc. Inventor/a Christopher Harvey
Methods of treating infectious diseases, such as a viral diseases, and methods of enhancing the effectiveness of a vaccine against an infectious disease, such as a viral disease, with an ICOS agonist, such as an anti-ICOS agonist antibody, are provided.

72.20230149413HISTONE DEACETYLASE INHIBITORS FOR USE IN IMMUNOTHERAPY
US - 18.05.2023
Clasificación Internacional A61K 31/522 Nº de solicitud 18057161 Solicitante Viracta Subsidiary, Inc. Inventor/a James N. WOODY
Provided are methods and compositions for the treatment of cancer. The methods comprise administering to a subject an HDAC inhibitor and an immunotherapeutic. In certain instances the immunotherapeutic is a chimeric antigen receptor T cell, an antibody or polypeptide that binds a checkpoint inhibitor, or a vaccine.

73.20230149311PHARMACEUTICAL COMPOSITION OF LIPID NANOPARTICLE FOR DELIVERING NUCLEIC ACID DRUG CONTAINING TREHALOSE DERIVATIVE AND NOVEL STRUCTURE-MAINTAINING LIPID COMPOUND
US - 18.05.2023
Clasificación Internacional A61K 9/16 Nº de solicitud 17676822 Solicitante SML BIOPHARM CO., LTD. Inventor/a Eun Kyoung BANG
Disclosed is a novel composition of lipid nanoparticles for stabilizing a nucleic acid drug and enhancing delivery in vivo. Lipid nanoparticles include a nucleic acid drug and a lipid, and the nucleic acid includes all of mRNA-based vaccines, RNA for immune boosters, miRNA, siRNA, pDNA, antisense ODN, and pDNA. The lipid of nanoparticles includes a trehalose-based lipid, an ionizable lipid, a phospholipid, a PEG-lipid, and a structure-maintaining lipid. The structure-maintaining lipid provides a composition that

can replace commonly used cholesterol with a lithocholic acid derivative, a glycyrrhetinic acid derivative, or a diosgenin derivative. The lipid nanoparticles can be used as a vaccine or therapeutic agent, depending on the type of nucleic acid drug that is used.

74.WO/2023/085522PHARMACEUTICAL COMPOSITION OF LIPID NANOPARTICLES FOR DELIVERING NUCLEIC ACID MEDICINES CONTAINING TREHALOSE DERIVATIVE AND NOVEL STRUCTURE-MAINTAINING COMPOUND
WO - 19.05.2023
Clasificación Internacional A61K 9/51 Nº de solicitud PCT/KR2022/002372 Solicitante KOREA INSTITUTE OF SCIENCE AND TECHNOLOGY Inventor/a BANG, Eun Kyoung
The present invention relates to a novel composition of lipid nanoparticles for stabilizing nucleic acid drugs and enhancing in vivo deliverability. The lipid nanoparticles are composed of nucleic acid medicines and lipids, wherein the nucleic acid includes all of mRNA-based vaccines, immunoenhancer RNA, miRNA, siRNA, pDNA, antisense ODN, pDNA, and the like. The lipids of the lipid nanoparticles include trehalose-based lipids, ionization lipids, phospholipids, PEG-lipids, and structural lipids. Among these, the structural lipids provide a composition capable of replacing commonly used cholesterol with a lithocholic acid derivative, a glycyrrhetinic acid derivative, or a diosgenin derivative compound. The lipid nanoparticles according to the present invention may be used as a vaccine or a therapeutic agent according to the type of nucleic acid medicine used.

75.20230158137CORONAVIRUS VACCINE
US - 25.05.2023
Clasificación Internacional A61K 39/215 Nº de solicitud 17995299 Solicitante PepTC Vaccines Limited Inventor/a Zsolt Csiszovszki
The disclosure relates to polypeptides, vaccines and pharmaceutical compositions that find use in the prevention or treatment of Coronaviridae or SARS-CoV-2 infection. The disclosure also relates to methods of treating or preventing Coronaviridae or SARS-CoV-2 infection in a subject. The polypeptides and vaccines comprise B cell epitopes and cytotoxic and helper T cell epitopes that are immunogenic in a high percentage of subjects in the human population.

76.WO/2023/092080RETARGETED RETROVIRAL VECTORS RESISTANT TO VACCINE-INDUCED NEUTRALIZATION AND COMPOSITIONS OR METHODS OF USE THEREOF
WO - 25.05.2023
Clasificación Internacional C12N 15/86 Nº de solicitud PCT/US2022/080156 Solicitante THE BROAD INSTITUTE, INC. Inventor/a MEARS, Kepler
The invention features pseudotyped viral particles (e.g., lentiviral or gammaretroviral particles) and compositions and methods of use thereof, where the viral particles comprise a VHH domain.

77.20230151387COVID-19 VACCINE BASED ON THE MYXOMA VIRUS PLATFORM
US - 18.05.2023
Clasificación Internacional C12N 15/86 Nº de solicitud 17916788 Solicitante ARIZONA BOARD OF REGENTS ON BEHALF OF ARIZONA STATE UNIVERSITY Inventor/a Grant MCFADDEN
The present invention provides myxoma viral vectors that encode severe acute respiratory syndrome coronavirus 2 antigens and that can facilitate expression and secretion of virus-like particles (VLPs). Also provided are methods of making said VLPs in mammalian cells and using said VLPs and myxoma viral vectors to induce an immune response in a subject.

78.20230158133WT1 TARGETING DNA VACCINE FOR COMBINATION THERAPY
US - 25.05.2023
Clasificación Internacional A61K 39/00 Nº de solicitud 16347551 Solicitante VAXIMM AG Inventor/a Heinz Lubenau

The present invention relates to an attenuated strain of *Salmonella* comprising at least one copy of a DNA molecule comprising an expression cassette encoding Wilms' Tumor Protein (WT1), for use in the treatment of cancer, wherein the treatment further comprises the administration of at least one checkpoint inhibitor, particularly selected from at least one antibody against PD-1, PD-L1, CTLA-4, IDO, OX-40, GITR, TIM-3, and LAG-3. The present invention further relates to a pharmaceutical composition comprising an attenuated strain of *Salmonella* comprising at least one copy of a DNA molecule comprising an expression cassette encoding WT1 for use in the treatment of cancer, wherein the treatment further comprises the administration of at least one checkpoint inhibitor, particularly selected from at least one antibody against PD-1, PD-L1, CTLA-4, IDO, OX-40, GITR, TIM-3, and LAG-3.

79.WO/2023/082865SINGLE-PRIMER DUAL-FLUORESCENCE DETECTION KIT FOR IDENTIFYING GOATPOX VIRUS AND LUMPY SKIN DISEASE VIRUS, AND SPECIAL PRIMER AND PROBES THEREOF
WO - 19.05.2023
Clasificación Internacional C12Q 1/70 Nº de solicitud PCT/CN2022/121193 Solicitante THE SPIRIT JINYU BIOLOGICAL PHARMACEUTICAL CO., LTD Inventor/a WANG, Peng
Disclosed are a single-primer dual-fluorescence detection kit for identifying goatpox virus and lumpy skin disease virus, and special primer and probes thereof, belonging to the field of biotechnology. The kit provided by the present invention comprises a universal PCR amplification primer for detecting capripoxvirus, a probe for detecting goatpox virus and a probe for detecting lumpy skin disease virus. Said kit can be used for direct qualitative identification and detection of goat pox virus and lumpy skin disease virus among capripoxviruses, has the advantages of high sensitivity, strong specificity and good repeatability, and can also achieve the purpose of accurate quantification. The present invention can provide technical support and assistance for identification and differentiation of viruses among capripoxviruses, epidemiological investigation, virus prevention and control, and purification and screening of vaccine raw materials, etc.

80.20230152256IN SITU, REAL-TIME IN-LINE DETECTION OF FILLING ERRORS IN PHARMACEUTICAL PRODUCT MANUFACTURING USING WATER PROTON NMR
US - 18.05.2023
Clasificación Internacional G01N 24/08 Nº de solicitud 18149233 Solicitante UNIVERSITY OF MARYLAND, BALTIMORE Inventor/a Yihua (Bruce) YU
A method of using the transverse relaxation rate ($R_2$) of solvent NMR signal to detect filling errors of an alum-containing product in real-time in-line during manufacturing, for example during a fill-finish unit operation. This technique can be used for quality control in vaccine manufacturing to ensure the delivery of the correct concentration of alum-containing product to the product container such as a vial or pre-filled syringe.

81.WO/2023/086515BFS INJECTION AND CONNECTION ASSEMBLIES
WO - 19.05.2023
Clasificación Internacional A61M 5/24 Nº de solicitud PCT/US2022/049608 Solicitante KOSKA FAMILY LIMITED Inventor/a PRICE, Jeff
A pre-filled medical delivery system assembled and configured to allow delivery of a single dose of a therapeutic agent (e.g., vaccine, drug, medicament, etc.) from a Blow-Fill-Seal (BFS) bottle to a patient utilizing one or more BFS injection or connection assemblies.

82.20230149529FOOT-AND-MOUTH DISEASE VIRUS-LIKE PARTICLE ANTIGEN, VACCINE COMPOSITION, PREPARATION METHOD, AND USE THEREOF
US - 18.05.2023

Clasificación Internacional A61K 39/135 Nº de solicitud 17996879 Solicitante PULIKE BIOLOGICAL ENGINEERING, INC. Inventor/a Kegong Tian
The present disclosure provides a type A foot-and-mouth disease virus-like particle antigen assembled by VP2, VP3 and VP1 antigen proteins of an epidemic strain of type A foot-and-mouth disease virus. The type A foot-and-mouth disease virus VP2 antigen protein is encoded by a nucleotide sequence shown in SEQ ID No. 1 or its degenerate sequence, the type A foot-and-mouth disease virus VP3 antigen protein is encoded by a nucleotide sequence shown in SEQ ID No. 2 or its degenerate sequence, and the type A foot-and-mouth disease virus VP1 antigen protein is encoded by a nucleotide sequence shown in SEQ ID No. 3 or its degenerate sequence.

83.4178609IMMUNSTIMULIERENDE ADJUVANTIEN
EP - 17.05.2023
Clasificación Internacional A61K 39/00 Nº de solicitud 21838936 Solicitante ORIONIS BIOSCIENCES INC Inventor/a KLEY NIKOLAI
The present invention relates, in part, to vaccine compositions, adjuvants, chimeric proteins, or chimeric protein complexes and their use as vaccines or therapeutic agents. The present invention further relates to methods of vaccination or treatment of various diseases.

84.20230151439A NOVEL ORTHOBUNYAVIRUS IN HUMAN ENCEPHALITIS AND ITS DIAGNOSTIC AND THERAPEUTIC APPLICATONS
US - 18.05.2023
Clasificación Internacional C12Q 1/70 Nº de solicitud 17606554 Solicitante INSTITUT PASTEUR Inventor/a Marc ELOIT
The invention relates to methods of diagnosis or detection of Moissiacense virus, a novel orthobunyavirus causing human encephalitis, comprising determining the presence of at least one nucleic acid or protein of said virus or antibodies thereto, in a biological sample. The invention also relates to the various diagnostic agents derived from the viral nucleic acids or proteins, in articular nucleic acid primers and probes, antigens and antibodies, and their use for the diagnosis of Moissiacense virus infection and associated disease, in particular encephalitis. The invention further relates to antigens derived from the viral proteins as vaccine for the prevention of Moissiacense virus infection and associated disease, in particular encephalitis.

*Edición: Annia Ramos Rodríguez* aramos@finlay.edu.cu
*Ma. Victoria Guzmán Sánchez* mguzman@finlay.edu.cu
*Randelys Molina Castro* rmolina@finlay.edu.cu
*Irina Crespo Molina* icrespo@finlay.edu.cu
*Yamira Puig Fernández* yamipuig@finlay.edu.cu
*Rolando Ochoa Azze* ochoa@finlay.edu.cu

FINLAY EDICIONES