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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.

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Comienza en La Habana estudio clínico con vacuna antineumocócica Quimi-Vio

12 oct. El Instituto Finlay de Vacunas (IFV) anunció el inicio de un estudio clínico con Quimi-Vio, su candidato vacunal para la prevención de neumonías, meningitis, otitis y sepsis causadas por Streptococcus pneumoniae o neumococo, en población pediátrica con enfermedades crónicas de la capital.

Quimi-Vio es una vacuna conjugada heptavalente que protege contra los serotipos de mayor prevalencia mundial de la bacteria. Está basada en la plataforma de vacunas conjugadas, ampliamente utilizada y conocida por su seguridad y eficacia en población pediátrica.

Según declaró a Cubadebate la Dra. Meybi Rodríguez, directora de ensayos clínicos del IFV, Quimi-Vio ha transitado por todas las fases de evaluación clínica, demostrando que es una vacuna segura y eficaz en la prevención de la enfermedad neumocócica. Comenzó su fase de evaluación clínica en niños en el año 2013 y en estos momentos se encuentra en la fase final de desarrollo para la solicitud de registro ante la Autoridad Reguladora de Medicamentos, Equipos y Dispositivos Médicos de Cuba (CECMED).

La especialista apuntó que esta vacuna ha sido desarrollada en el IFV por los mismos investigadores que desarrollaron los inmunógenos SOBERANA 02 y SOBERANA Plus para la prevención de la covid-19. El desarrollo clínico de Quimi-Vio ha sido financiado por el Fondo Financiero de Ciencia e Innovación (FONCI) del Ministerio de Ciencia, Tecnología y Medio Ambiente (CITMA). El FONCI constituye un instrumento financiero para proyectos de ciencia, tecnología e innovación, creado en 2002.

Durante el pasado mes de septiembre, se desarrolló un estudio de intervención comunitaria en Cienfuegos, en el que se vacunó al 90% de la población entre 1-5 años de edad. Este estudio es continuidad de uno similar realizado en esta provincia entre 2017 y 2018, que alcanzó una 92% de cobertura, y permitió evaluar el impacto en la reducción en más de un 62% de las tasas de hospitalizaciones por enfermedad neumocócica invasiva en el territorio cienfueguero, refirió Rodríguez.

Esta semana, ha comenzado en La Habana otro estudio clínico para evaluar la eficacia del candidato vacunal Quimi-Vio en niños entre 2-18 años de edad, que padecen enfermedades crónicas de la infancia. Se aplicará una sola dosis en niños entre 2-18 años de edad.

El estudio fue aprobado por el CECMED y está liderado por el Centro Provincial de Higiene y Epidemiología de La Habana y el Programa de Vacunación; y conducido por el Centro Nacional Coordinador de Ensayos Clínicos (CENCEC).

A decir de la Dra. Mayra García Carmenate, subdirectora del Centro Provincial de Higiene, Epidemiología y Microbiología de La Habana y coordinadora del ensayo, esta es una oportunidad para que los niños que padecen enfermedades crónicas reciban el beneficio de una vacuna que ha demostrado ser segura y eficaz en niños sanos.

Fuente: Trabajadores. Disponible en https://acortar.link/YqYovC

Estudian una vacuna experimental para prevenir las infecciones por superbacterias en hospitales

12 oct. Cuando una persona es hospitalizada por una enfermedad o por un accidente enfrenta también el riesgo de adquirir infecciones asociadas al cuidado de la salud. Una manera de reducir ese riesgo consiste en que las instituciones cuenten con programas de prevención de infecciones.

Científicos de los Estados Unidos desarrollan un producto que podría dar protección contra las superbacterias a los pacientes cuando entran en los hospitales (Getty)

Científicos de los Estados Unidos están desarrollando una vacuna o estimulador para que los pacientes puedan llegar a estar protegidos contra las superbacterias que los puedan afectar durante las internaciones.

Se trata de una vacuna experimental. Los resultados preliminares fueron publicados en un estudio publicado por los científicos en la revista Science Translational Medicine. Pertenecen a la Universidad del Sur de California y ya la patentaron.

Los investigadores diseñaron la fórmula para prevenir infecciones graves provocadas por patógenos que son resistentes a los medicamentos.

En el estudio publicado demostraron que una sola dosis, que fue administrada en modelos de ratón, puso a las células inmunitarias en modo “Increíble Hulk”, según mencionaron los investigadores. Esto significa que brinda una rápida protección contra ocho especies diferentes de bacterias y hongos.

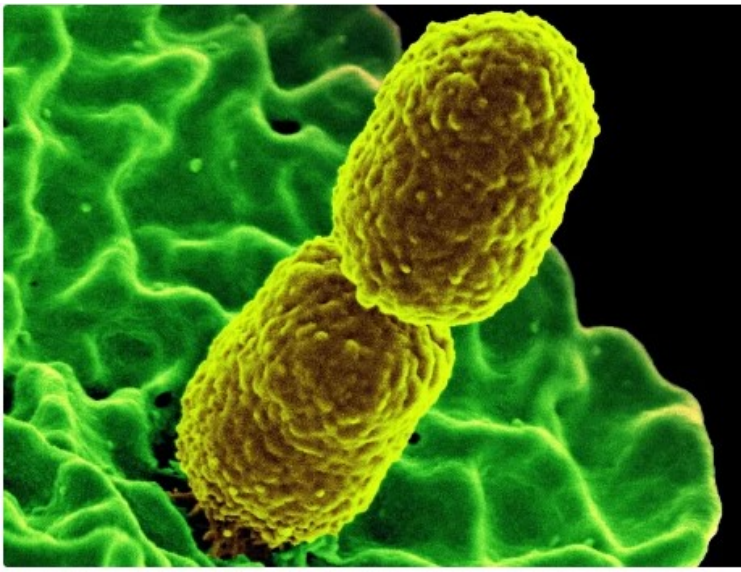
El desarrollo funciona como un “sistema de alerta temprana. Es como si Seguridad Nacional emitiera una alerta terrorista”, comparó Brad Spellberg, autor principal y director médico del Centro Médico General de Los Ángeles, afiliado a la universidad.

Consiste en una formulación de tres compuestos que dan hasta 28 días de protección frente a la bacteria

hospitalaria Pseudomonas aeruginosa, entre otras, y parece funcionar reforzando el sistema inmunitario innato, la respuesta generalizada de primera línea del organismo frente a los patógenos invasores.

Dos de los tres compuestos ya se utilizan en vacunas aprobadas por la autoridad regulatoria de medicamentos, la FDA. El tercer componente es una pequeña porción de la superficie de un hongo común en la piel humana.

La vacuna experimental estimula el suministro preexistente de células inmunitarias inhibidoras de patógenos llamadas macrófagos, que engullen y digieren bacterias, hongos y otros agentes nocivos. Estas células activadas, presentes en todos los tejidos, neutralizan rápidamente a los invasores entrantes, que de otro modo podrían multiplicarse con rapidez y desbordar las defensas del organismo.



La innovación ya está patentada. En un estudio demostró que estimula el suministro preexistente de células inmunitarias inhibidoras de patógenos llamadas macrófagos, que digieren a bacterias, virus y hongos que afectan a los pacientes / National Institute of Allergy and Infectious Diseases (NIAID)

“Esto es muy distinto de desarrollar nuevos antibióticos”, explicó Jun Yan, estudiante de doctorado de la Facultad de Medicina Keck de la Universidad del Sureste de California y primer autor del estudio. “Se trata de utilizar nuestro propio sistema inmunitario para luchar contra distintas superbacterias, lo cual es un enfoque distinto al de todos los demás”, puntualizó.

“Es un enfoque muy interesante”, comentó Jay Kolls, neumólogo e investigador de vacunas de la Universidad de Tulane, en los Estados Unidos, quien no participó en el estudio. “Es uno de los primeros trabajos que he visto en los que se intenta atacar las infecciones, utilizando múltiples componentes que activan el sistema inmunitario innato”, agregó.

Pero señaló que el nuevo producto utiliza ingredientes inespecíficos para proporcionar una protección a corto plazo contra diversas bacterias y hongos. Por eso, en lugar de llamarla “vacuna”, considera que sería mejor considerarla como “estimulante inmunitario” o “potenciador”

Cada año, las infecciones adquiridas durante la atención sanitaria matan a más de 90.000 personas en los Estados Unidos y acumulan un costo sanitario de entre 28.000 y 45.000 millones de dólares. Según los Centros para el Control y la Prevención de Enfermedades, uno de cada 31 pacientes hospitalizados sufre al menos una infección de este tipo.

“En América Latina, la tasa promedio de mortalidad en hospitales solo alcanza al 17% de los pacientes internados si no adquieren una infección hospitalaria”, según había contado a Infobae el médico argentino Víctor Rosenthal, fundador y presidente de la Comunidad Científica Internacional de Control de Infecciones Nosocomiales.

En cambio, cuando un paciente hospitalizado adquiere una infección, la tasa de mortalidad es del 30%. Cuando tienen dos infecciones, sube al 40%. Si el paciente adquiere tres infecciones, la mortalidad puede llegar al 63 %.

Para desarrollar la vacuna, Spellberg y colaboradores crearon la empresa ExBaq LLC, y ya han empezado a

hablar con posibles socios farmacéuticos que estarían interesados en seguir desarrollando la vacuna para ensayos clínicos en humanos. El siguiente paso es obtener orientación de la FDA sobre los requisitos para completar los estudios preclínicos y presentar una solicitud del producto en fase de investigación en 2024.

El primer ensayo de este tipo se realizaría en voluntarios sanos para encontrar la dosis adecuada de vacuna que sea segura y desencadene en las personas el mismo tipo de respuesta inmunitaria que la observada en los ratones.

Fuente: Infobae. Disponible en https://acortar.link/yEcTaX

A new meningitis vaccine arrives on the private network

15 oct. A new vaccine against pneumococcal disease (PD) arrived this month in clinics and private laboratories in the country. VPC15 (VaxNeuvance 15-valent), manufactured by MSD, provides protection against 15 serotypes of pneumococcal bacteria (*Streptococcus pneumoniae*) which causes diseases such as sinusitis, pneumonia, and meningitis.

The Brazilian Society for Immunizations (SBIm) recommends the vaccine for children between the ages of 2 and 15 months, one of the groups most at risk of bacterial infections.

They should take four doses of the vaccine, with a two-month interval between the first and third application (at 2, 4 and 6 months), plus a booster dose between 12 and 15 months of age. In private clinics, the cost of each dose is about 350 Brazilian reais.

In addition to children, SBIm also suggests vaccinating the elderly and people at higher risk of developing invasive pneumococcal disease (IPD). “The vaccine is intended for all groups at increased risk, including diabetics, people with weakened immunity and people with chronic heart disease,” explains SBIm President Monica Levy.

In Brazil, there are three options for pneumococcal conjugate vaccines: 10-valent (VPC10), 13-valent (VPC13), and 15-valent (VPC15). 10-VPC10 is available in the National Immunization Program (PNI), of the Unified Health System (SUS), for children under 5 years of age and protects against ten pneumococcal serotypes. VPC13 is available in SUS only for high-risk patients.

Is it worth taking?

Doctors recommend using VPC13 and VPC15 vaccines whenever possible. “There is no doubt that the availability of a more comprehensive vaccine in the immunization calendar could lead to a reduction in the number of serious cases and deaths from invasive pneumococcal disease in the country,” says the SBIm president.

The difference between 15 and 13 is the addition of serotypes 22F and 33F, both with a small proportion of

records in the country's epidemiology.

Parents of children who have already taken VPC13 need not worry and rush to the clinic. Both versions provide protection against the most dangerous serotypes, 19A and 3: together they are responsible for about 50% of the country's cases of invasive pneumococcal disease in children under 5 years of age. "In addition to being more aggressive, these serotypes are more resistant to antibiotic treatment," explains the infectious disease specialist.

Pneumococcal diseases

Pneumococcal diseases are caused by bacteria Streptococcus pneumoniaePneumococcus, which can affect different parts of the body.

Pneumococcus is the most common bacterial cause of pneumonia in children, especially in children under 5 years of age. "Childhood is a period of greatest vulnerability to all infectious diseases," says pediatrician Juarez Cunha, member of the Immunization Section of the Brazilian Pediatric Society (SBP).

These bacteria are transmitted primarily through respiratory droplets suspended in the air after a person coughs, sneezes, or while speaking. When infected, a patient can develop anything from mild inflammation to more serious conditions.

There are two main types of pneumococcal diseases: non-invasive, such as non-pneumococcal pneumonia and otitis media. and invasive diseases, including pneumonia, meningitis and septicemia.

Fuente: BOB FM. Disponible en https://acortar.link/O6jREP

EU delays approval of Novavax's revised COVID vaccine

Oct 15. European Union (EU) regulators have delayed a decision to give approval for Novavax's (NVAX.O) variant-tailored COVID-19 vaccine, the company said on Sunday.

The European Medicines Agency (EMA) has requested more information from Novavax on the shot, which targets the XBB variant, the company said.

"As part of the ongoing review process, EMA's human medicines committee (CHMP) has additional questions which we are answering expeditiously," Novavax said in an emailed statement to Reuters.

Syringes with needles are seen in front of a displayed Novavax logo in this illustration taken, November 27, 2021. REUTERS/Dado Ruvic/Illustration/File Photo Acquire Licensing Rights

The Financial Times, which first reported the news, said the EMA had questions on the potency of the vaccine's latest version, and that it is seeking to ensure its characteristics will be the same across different production sites.

Novavax said it was working closely with the EMA and is looking forward to the recommendations from the regulator. The EMA did not immediately respond to Reuters' requests for comment.

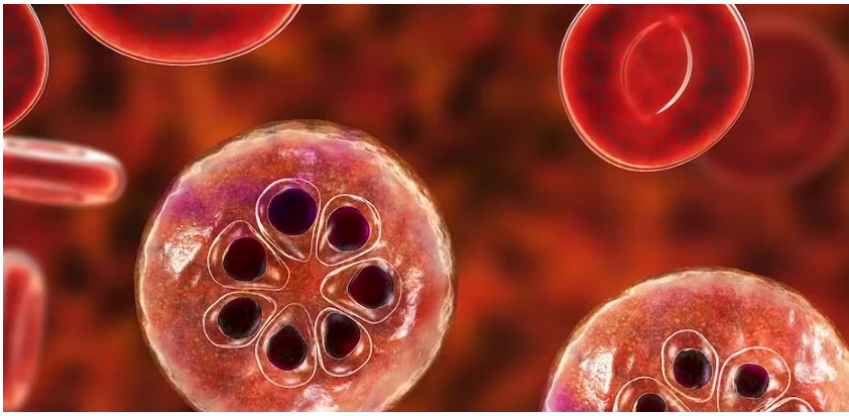
EMA director Emer Cooke said in September that it expected to decide on the use of the vaccine this month.

The agency is expected to give its approval within four weeks, according to the FT report.

Novavax said on Friday its updated COVID-19 vaccine was available at U.S. pharmacies such as CVS (CVS.N) and Rite Aid (RAD.N), a week after it received clearance from the U.S. Food and Drug Administration (FDA) for emergency use in individuals aged 12 years and older.

Fuente: Reuters. Disponible en https://acortar.link/G10crC

La OMS aprueba una prometedora vacuna que podría erradicar la malaria en 2040



GettyImages.

15 oct. La Organización Mundial de la Salud acaba de aprobar una nueva vacuna que, según la comunidad científica, constituirá un punto de inflexión en la lucha contra la malaria, que cada año se salda con la vida de medio millón de personas en África.

La vacuna R21/Matrix, desarrollada por la Universidad de Oxford en colaboración con el Serum Instute de la India tiene una alta eficacia, un coste de producción bajo y se puede fabricar a gran escala.

¿Por qué supone un punto de inflexión?

Según las investigaciones que estamos llevando a cabo, esta vacuna tiene cerca de un 75 % de eficacia en términos de reducción del número de episodios de malaria en el marco temporal de un año. La mejor vacuna hasta el momento contaba con un 50 % de eficacia en ese mismo transcurso de tiempo, y un porcentaje decreciente en los tres años siguientes.

Se trata de una mejora muy significativa, pero no es la única. La gran diferencia estriba en el hecho de que se puede fabricar a una escala que dé respuesta a la necesidad de proteger a la mayoría de los niños que requieren de la vacuna contra la enfermedad en África.

Cada año nacen cerca de 40 millones de niños en zonas azotadas por la malaria en el continente que podrían beneficiarse de la vacuna. La nuestra se administra en cuatro dosis en 14 meses, por lo que se necesitan 160 millones de las mismas. Es algo viable.

El Serum Institute de la India, nuestro socio fabricante y comercial, tiene la capacidad para producir cientos de millones de dosis de esta vacuna al año, mientras que en el caso de la vacuna anterior se podrían fabricar seis millones de dosis al año entre 2023 y 2026, según indica UNICEF en sus informes.

La tercera ventaja, sustancial, de esta vacuna, es el coste. Sabíamos perfectamente que no podíamos producir una vacuna que costara 100 dólares (95 euros). Para las agencias internacionales no sería rentable la compra y distribución de la vacuna en países de ingresos bajos. Ahora tenemos un precio que variará en función de la escala de producción; en un volumen elevado, cada dosis debería costar 5 dólares (4,75 euros).

¿Por qué ha sido tan difícil desarrollar una vacuna contra la malaria?

Durante más de 100 años, la comunidad científica ha tratado de desarrollar vacunas contra esta enfermedad.

Se han realizado ensayos clínicos con individuos con más de 100 vacunas. Casi ninguna ha surtido efecto.

La malaria no es un virus, ni tampoco una bacteria. Es un parásito protozoario, varios miles de veces más grande que un virus común. Una buena forma de dar cuenta de su naturaleza es contar cuántos genes tiene. El virus causante de la covid-19 tiene 13; el parásito de la malaria, cerca de 5 500. Ahí radica uno de los porqués de su extrema complejidad.

Los parásitos adquieren diferentes formas en su ciclo de vida. La primera de ellas la transmite el mosquito a través de la picadura en la dermis, y rápidamente se propaga al hígado. Allí, los parásitos proliferan durante una semana, para posteriormente entrar en el torrente sanguíneo. Estos microorganismos aumentan diez veces su tamaño cada 48 horas y se multiplican de manera exponencial.

En el momento en el que alcanzan una densidad parasitaria elevada, la persona infectada empieza a percibir los primeros síntomas graves. En el peor de los casos, el paciente puede llegar a fallecer, por lo general, como consecuencia de los daños causados en el cerebro, de un coma o de una anemia grave. Los parásitos son los responsables de la ruptura de los glóbulos rojos.

En otra fase, el parásito vuelve a adquirir la forma transmisible por el mosquito para continuar su ciclo vital infectando a otros individuos.

La malaria suele tener cuatro ciclos vitales, todos completamente diferentes. Si se obtiene una vacuna lo suficientemente buena como para atajar uno de esos ciclos, se puede detener la cadena de transmisión. Eso es, precisamente, lo que hemos intentado conseguir.

Hemos estado trabajando para atacar a los esporozoítos, es decir, la fase en la que el mosquito transmite la enfermedad a través de la piel. Lo que intentamos es poner freno a la transmisión antes de que lleguen al hígado para reproducirse y continuar su ciclo vital.

Por suerte, en esta fase no se manifiestan los síntomas típicos de la malaria. La infección es silenciosa hasta que llega a la sangre y los microorganismos se empiezan a multiplicar dentro de los glóbulos rojos.

Ya en su momento, los científicos trataron de utilizar el microorganismo de la misma manera que Edward Jenner, pionero en el ámbito de la vacunología, utilizó el virus de la viruela, en su forma completa, para desarrollar una vacuna. Más tarde, el microbiólogo francés Louis Pasteur desarrolló las vacunas bacterianas. En 1943, se realizó un ensayo con una posible vacuna a partir del parásito íntegro de la malaria en Nueva York, pero sin resultados. Estos intentos fallidos crearon cierto clima de desconfianza.

No fue hasta los años 80 del pasado siglo cuando pudimos empezar a secuenciar los genes del parásito y cuando empezaron a aflorar las primeras vacunas con potencial. En los 10 años siguientes, hubo 5 000 vacunas con visos de ser prometedoras, dado que todos los científicos esperaban que el gen que habían secuenciado sería la vacuna contra la enfermedad. Por supuesto, la mayoría no tuvo resultado.

¿Por qué las vacunas para parásitos íntegros no surten efecto contra la malaria?

Por la misma razón por la que infectarte una vez de malaria no te protege de la próxima infección.

En las zonas azotadas por la enfermedad en África en las que probamos nuestras vacunas, algunos de los niños sufren hasta ocho episodios en tres o cuatro meses. La inmunidad natural no funciona hasta que la persona contrae múltiples infecciones diferentes, y eso explica por qué, generalmente, los adultos están protegidos frente a la malaria y no suelen desarrollar síntomas muy graves.

En zonas endémicas son los niños pequeños los que mueren por culpa de la malaria como consecuencia de la primera infección o porque no han adquirido la inmunidad a pesar de haber padecido uno o dos episodios.

La malaria ha convivido con nosotros desde hace decenas de millones de años. No solo con los humanos, sino también con las especies que éramos antes de convertirnos en humanos.

Es un parásito muy astuto que ha desarrollado mecanismos de todo tipo para eludir la inmunidad.

Cuando uno trata de administrar una vacuna, se da cuenta de que el parásito siempre encuentra una forma de zafarse. Solo es posible luchar contra él cuando se desarrollan niveles extremadamente elevados de anticuerpos que el microorganismo no ha detectado y que no sabe cómo sortear.

¿Podremos erradicar por completo la malaria de la faz de la Tierra?

La malaria ocupa uno de los escalones más altos en la lista de las enfermedades que queremos erradicar. No creo que, en los próximos cinco o 10 años, lo logremos, pero sí dentro de 15, más o menos. Por tanto, 2040 parece una fecha razonable.

Nadie está diciendo que se dejen de utilizar las mosquiteras, ni los insecticidas, ni los medicamentos. Pero lo que tenemos ahora es una nueva herramienta que protegerá más a las personas que cualquiera de los mecanismos que utilizamos en la actualidad.

Fuente: The Conversation. Disponible en https://acortar.link/RV9yWD

Cofepris desautoriza la vacuna AstraZeneca hasta que demuestre su eficacia contra las variantes que circulan en México

17 oct. El Comité de Moléculas Nuevas de Cofepris, que estos días está evaluando las vacunas contra la covid en México, ha denegado la solicitud del laboratorio AztraZeneca, porque la farmacéutica no ha presentado, dicen, información actualizada sobre "su eficacia e inmugenicidad" respecto a las variantes del virus que hoy circulan en México. La comisión contra riesgos sanitarios también solicita "información más detallada sobre su farmacovigilancia" en este país, principalmente sobre "eventos específicos adversos". Consideran, además, que el laboratorio no ha dado una respuesta convincente "sobre el beneficio que esta vacuna puede tener en poblaciones vulnerables" por inmunodeficiencias.

Una enfermera sostiene una dosis de la vacuna de AstraZeneca contra la COVID-19, en San Cristobal de las Casas (México), el 31 de enero de 2022.NURPHOTO (VIA GETTY IMAGES)

Cofepris no duda en ningún momento de la seguridad de la vacuna de AstraZeneca, con la que en pasadas ediciones se vacunaron millones de personas, y recalca que la farmacéutica podrá, aportando la información solicitada, presentar de nuevo su registro sanitario para entrar al mercado de vacunas, ahora que México está inmersa en una nueva ronda de inmunizaciones. La vacuna de AstraZeneca conserva, eso sí, su autorización como uso de emergencia.

Cofepris ha recibido cuatro solicitudes para salir al mercado, dos de Moderna, una de Pfizer y la de AstraZeneca, la única que ha recibido un examen no favorable. Las vacunaciones de refuerzo han comenzado este lunes en México, pero no se pueden comprar los inmunológicos, el proceso corre a cargo exclusivamente del gobierno. Moderna ha presentado una dosis contra la variante ómicron XBB.1.5, con la que han resultado contagiados 5 de cada 10 mexicanos. Ese es el principal reclamo de la Cofepris, que se tengan en cuenta estas nuevas cepas, sin embargo, la nueva campaña de vacunaciones empieza en México con los biológicos proporcionados por una farmacéutica rusa y una cubana, Sputnik y Abdala, ambas aprobadas en México, pero que no cuentan con los parabienes de la Organización Mundial de la Salud (OMS), precisamente porque no son eficaces contra las nuevas cepas de covid 19, según el organismo internacional. La Secretaría de Seguridad sostiene que ambas presentan "seguridad y eficacia" para la población mexicana y recibieron el visto bueno de la Cofepris.

Con la llegada del invierno, que estos días se dejan notar en numerosos Estados, México comienza su campaña de vacunación, que no solo es para la covid, sino para las cepas de la influenza. La Secretaría de Salud ha comunicado su intención de suministrar más de 54 millones de dosis, 35.2 contra la influenza y 19.4 millones para el virus de la covid, con la prioridad de inmunizar cuanto antes a las personas en situación de vulnerabilidad, mayores de 60 años, embarazadas y personal sanitario, así como quienes presenten otras enfermedades cuyas complicaciones pudieran ser fatales. El resto de la población no incluida en estos parámetros solo recibirá, por ahora, su dosis contra la gripe común.

Las recomendaciones clásicas han vuelto con la época del frío y los contagios, tales como el uso de cubrebocas, el gel antibacterial y la ventilación en espacios cerrados, costumbres que se han ido perdiendo con facilidad en los últimos meses cuando el mundo dio por conjurada la pandemia que arrasó con millones de vidas. Los expertos recomiendan vacunarse, tanto de la covid como de la influenza, no ven en la simultaneidad de ambas dosis riesgo alguno.

Fuente: El País. Disponible en https://acortar.link/6uMdTb

Vaxcyte, Lonza Partner on Manufacture of Pneumococcal Vax

17 oct. Vaxcyte, a clinical-stage vaccine innovation company, and Lonza, a global manufacturing partner to the pharmaceutical, biotech and nutraceutical markets, entered into a new commercial manufacturing agreement to support the potential global commercialization of Vaxcyte's PCV candidates, VAX-24 and VAX-31. This agreement complements Vaxcyte's plans to utilize existing Lonza infrastructure to advance clinical development and the anticipated initial U.S. launch of VAX-24.

Lonza will provide Vaxcyte with a custom-built manufacturing suite as part of Lonza's Ibex Dedicate Biopark at its Visp (CH) site to manufacture key components, including drug substances, for Vaxcyte's PCV franchise. Beginning with VAX-24, which is moving into late-stage clinical development, Vaxcyte's dedicated manufacturing suite is expected to meet the potential long-term market demand. The design of the dedicated manufacturing suite is nearly complete, with equipment installation expected to begin in 2024. Lonza is anticipated to create up to 300 new jobs upon reaching peak capacity.

VAX-24 was designed to address the serotypes that are responsible for a significant portion of invasive pneumococcal disease (IPD) in both infants and adults.

"Following the successful completion of our VAX-24 Phase 2 adult studies, and as we prepare for Phase 3

clinical studies, we are excited to expand our relationship with Lonza, a preeminent contract development and manufacturing organization, and put into motion the key steps required to establish large-scale and long-term commercial manufacturing capacity for our PCV candidates," said Grant Pickering, CEO and Co-founder of Vaxcyte. "This outcome is consistent with our strategic objectives and financial plan. We expect this dedicated manufacturing suite within Lonza's Ibex facility will enable us to scale up effectively to meet the potential supply demands for VAX-24, followed by VAX-31, our 31-valent PCV, across all populations and on a global scale."

"Our expanded relationship with Vaxcyte highlights the value of our services on the path towards commercialization," said Jean-Christophe Hyvert, president, biologics division at Lonza. "Having supported the early-stage clinical development of Vaxcyte's PCV programs, we are pleased to continue our long-standing collaboration by supporting the late-stage clinical manufacturing utilizing our unique Ibex Dedicate offering, with the capability to provide commercial supply of their products."

Fuente: Contract Pharma. Disponible en https://acortar.link/GiqoD6

Vacuna a base de virus completo inactivado induce altos niveles de anticuerpos para dos proteínas estructurales del SARS-CoV-2

17 oct. Las vacunas que usan el virus completo para inducir una respuesta inmune son muy similares al virus mismo en términos de composición. Por ende, es más difícil distinguir los anticuerpos que genera el inmunizante de aquellos producidos por el agente patógeno luego de una infección.

En el caso del SARS-CoV-2, el coronavirus que genera covid-19, ello sucede con vacunas a base de virus completo inactivados. Este tipo de inmunizante fue el más empleado en la campaña de vacunación implementado en Chile durante la pandemia y fue ampliamente utilizado a nivel mundial, con aproximadamente la mitad del total de las dosis administradas en el mundo siendo de este tipo. En Chile, se han administrado más de 60 millones de dosis de vacuna basada en virus completo inactivado a la fecha, proporcionando un esquema de inoculación completo a cerca de 18 millones de habitantes.

Dado eso, un grupo de científicos liderado por investigadores del Instituto Milenio en Inmunología e Inmunoterapia (IMII) se propuso estudiar antígenos potenciales para diferenciar entre las respuestas humorales provocadas tras la vacunación con una vacuna a base de virus completo inactivado, la infección natural y la infección por incidencia, es decir, la que ocurre en personas que han sido vacunadas.

"Este es el dilema que buscamos resolver: si hay una respuesta inmune particular ante la vacunación y una tras la infección, que permita distinguirlas para identificar si la persona estuvo o no expuesta al virus de covid -19, independiente de síntomas", explica Pablo González, investigador del IMII y profesor de la Facultad de Ciencias Biológicas de la Pontificia Universidad Católica de Chile (UC).

PARTICIPANTES Y FINANCIAMIENTO

El también doctor en Genética Molecular y Microbiología lideró el artículo en el que fueron comunicados los resultados del estudio, en el que también participaron el doctor Alexis Kalergis, director del IMII y la doctora Susan Bueno, investigadora también del instituto, así como estudiantes de postgrado de la UC y Jessica White, doctora en Patología Comparativa y miembro de PATH, organización sin fines de lucro con sede en Estados Unidos y que trabaja por la equidad sanitaria en el mundo.

El trabajo fue financiado por la Fundación Bill & Melinda Gates y llevado a cabo por investigadores del Instituto Milenio en Inmunología e Inmunoterapia.

El artículo, en tanto, fue publicado por Journal of Infectious Diseases (ver https://academic.oup.com/jid/article/228/7/857/7241760), revista de la Sociedad Estadounidense de Enfermedades Infecciosas y existente desde 1904. “Es una revista de primer nivel internacional, muy prestigiosa, y además el estudio tuvo el aval de la Fundación Gates, lo que habla de su excelencia”, comenta el doctor Kalergis, quien también destaca que se haya sumado PATH a través de la doctora White. El estudio, además, fue destacado en la portada de la revista del pasado 1 de octubre (ver https://academic.oup.com/jid/issue/228/7), espacio reservado para un solo artículo por volumen de la revista, lo cual resalta su relevancia científica.

LA DIFICULTAD DE DISTINGUIR

“La gran problemática que abordamos en el estudio es que, cuando se usan vacunas basadas en el virus completo inactivado, estas se parecen mucho en composición al virus que infecta. Pueden, por ende, provocar respuestas inmunitarias que se relacionan en cierta medida antigénicamente con la infección natural por SARS-CoV-2. Esto, a diferencia de las vacunas que emplean ARN mensajero (ARNm) también aplicadas en Chile. Estas codifican una sola proteína del virus, en particular la espiga (spike, S), entonces, si en una muestra se detecta anticuerpos contra las otras proteínas, se tiene la garantía absoluta de que la persona sí fue expuesta al agente patógeno, pues tiene anticuerpos contra antígenos del virus que no están incluidos en la vacuna. Pero el genoma del SARS-CoV-2 codifica cuatro proteínas estructurales del SARS-CoV-2 y la vacunas completas inactivadas tienen esas cuatro proteínas. Entonces, ¿cómo se puede distinguir los anticuerpos generados por la vacuna si son los mismos del virus que infecta?”, expone Pablo González.

“Teniendo eso en cuenta, planteamos la hipótesis de que la infección natural, la vacunación con virus inactivado y la infección de personas previamente vacunadas generan respuestas basadas en anticuerpos diferenciadas contra las proteínas del SARS-CoV-2”, dice Susan Bueno.

El doctor Alexis Kalergis afirma que “es importante establecer dicha distinción, porque permite conocer la efectividad de la vacuna, sobre todo en personas infectadas que no tuvieron síntomas”. Las diferencias “podrían eventualmente ser utilizadas como biomarcadores precisamente para el diagnóstico diferenciado”, complementa González.

Para llevar a cabo el estudio, fueron analizadas muestras de suero obtenidas de voluntarios inmunizados con vacuna a base de virus completo inactivado y que registraran hasta una segunda y una tercera dosis; también se incluyeron muestras de pacientes llamados “incidentes”, es decir, que fueron vacunados, pero luego se infectaron; y de personas convalecientes, que no fueron vacunadas y se contagiaron.

Ello, para determinar las respuestas de inmunoglobulina (Ig) G frente a tres antígenos estructurales y ocho antígenos no estructurales del SARS-CoV-2. “La inmunoglobulina G es el anticuerpo más medido, porque es fácil hacerlo, está en altas concentraciones en la sangre y es el que se espera inducir en el organismo tras vacunar”, explica la doctora Susan Bueno.

Pablo González detalla que el genoma del SARS-CoV-2 “codifica cuatro proteínas estructurales, que son la espiga (S), la nucleocápside (N), la membrana (M) y la envoltura (E); así como 16 proteínas no-estructurales. Estas últimas sólo se expresan cuando hay infección”.

"Nuestro estudio, en tal sentido, es único en su tipo, porque analizamos la respuesta del sistema humoral -uno de los dos que compone el sistema inmune y que está conformado por los anticuerpos- tanto respecto de proteínas estructurales como de otras no estructurales", apunta el doctor Kalergis.

RESULTADOS

Al dar cuenta de los resultados del estudio, Pablo González indica: "Descubrimos que la vacuna a base de virus completo inactivado analizada induce una respuesta inmunitaria humoral que incluye altos niveles de anticuerpos específicos para las proteínas estructurales N y M del SARS-CoV-2 en un porcentaje importante de individuos vacunados. Dicha reacción fue potenciada tras la infección natural en los pacientes incidentes, es decir, aquellos que se contagiaron aun habiendo sido inoculados".

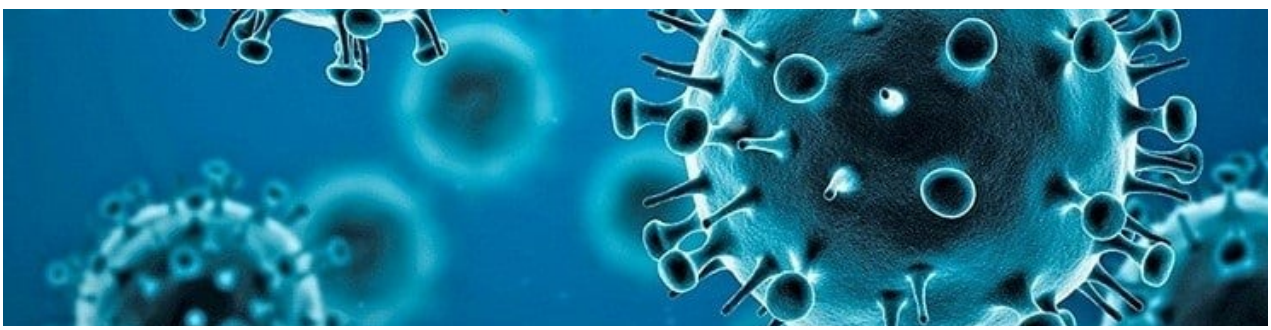
La inmunización con vacuna a base de virus completo inactivado -precisa el estudio- indujo niveles más elevados de anticuerpos contra la proteína de la membrana vírica (M) en comparación con los sujetos convalecientes (no vacunados que se contagiaron), tanto tras la vacunación primaria como luego de una dosis de refuerzo. "Las personas que recibieron una dosis de refuerzo mostraron niveles equivalentes de anticuerpos IgG contra la proteína de la nucleocápside (N), similares a los de los sujetos convalecientes. Los pacientes de casos avanzados presentaron los niveles más altos de anticuerpos contra las proteínas N y M. Los anticuerpos contra las proteínas víricas no estructurales estaban presentes en más de la mitad de los individuos convalecientes", precisa la doctora Bueno.

"Además, nuestros resultados -complementa Kalergis- sugieren que la combinación de los niveles de anticuerpos inmunoglobulina G específicos de N y M podría ser un biomarcador fiable para diferenciar a los individuos vacunados con vacunas a base de virus completo inactivado e infectados, de aquellos individuos no vacunados e infectados, y de quienes fueron inoculados con este tipo de vacuna y no se contagiaron".

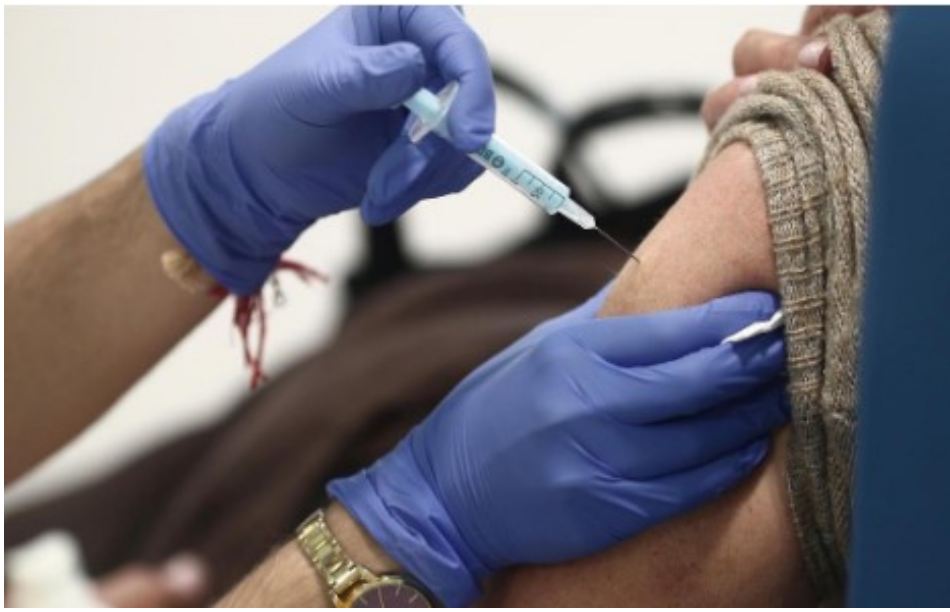
Al concluir sobre los datos obtenidos por el estudio, Pablo González afirma que "los vacunados tuvieron claramente una respuesta humoral diferente si la comparamos con la de los convalecientes. El análisis de antígenos particulares del SARS-CoV-2 podría utilizarse como biomarcador para determinar la infección en personas previamente inoculadas con vacunas a base de virus completo inactivado".

El científico del Instituto Milenio en Inmunología e Inmunoterapia plantea que "estos resultados son importantes para efectos de hacer un seguimiento epidemiológico. Si bien es más difícil establecer las diferencias entre la protección inmune provocada por vacunas a base de virus completo inactivado y la protección suscitada por la infección con el SARS-CoV-2, el estudio podría permitir advertir en muestras de personas que no tuvieron síntomas si es que hay generación de anticuerpos específicos que indiquen que esos individuos estuvieron expuestos al agente viral. Podríamos entonces darnos cuenta de la exposición al virus aun en ausencia de sintomatología". (Periodista Claudio Lobos, Agencia Inés Llambías Comunicaciones).

Fuente: Portal Red Salud. Disponible en https://acortar.link/qKoSE7



La OMS aprueba el uso de la vacuna española contra la COVID-19



18 oct. La vacuna española contra la COVID-19, Bimervax, de la farmacéutica Hipra, se ha convertido en la primera de este tipo que recibe la precalificación de la Organización Mundial de la Salud (OMS), que es su sello de aprobación.

Según informa el laboratorio con sede en Amer (Girona), este certificado le permitirá llegar a países más allá de Europa, por lo que valoran positivamente el hito.

También aseguran que la precalificación encaja perfectamente con la vocación de servicio internacional con el que ha sido concebida Bimervax.

En este sentido, destacan que, "al ser una vacuna de proteína recombinante que se conserva a una temperatura refrigerada de entre 2 y 8 grados centígrados, su logística y distribución a nivel mundial es más sencilla".

Además añaden que se trata de una vacuna "lista para utilizar", ya que no es necesario reconstituirla antes, lo que facilita la tarea del personal sanitario".

Para la aprobación de una vacuna, conocida como precalificación, la OMS aplica los estándares internacionales para evaluar y determinar de forma exhaustiva si es segura y efectiva.

También lleva a cabo reevaluaciones, inspecciones, pruebas específicas e investigaciones periódicas a estas vacunas registradas dentro del Programa de Precalificación de Medicamentos (PQP).

Además de la aprobación de la OMS, la vacuna contra la COVID-19 de HIPRA cuenta con la de otras autoridades como la Agencia Europea del Medicamento (EMA), la Comisión Europea (CE) y la Agencia Reguladora de Medicinas y Productos Sanitarios del Reino Unido (MHRA).

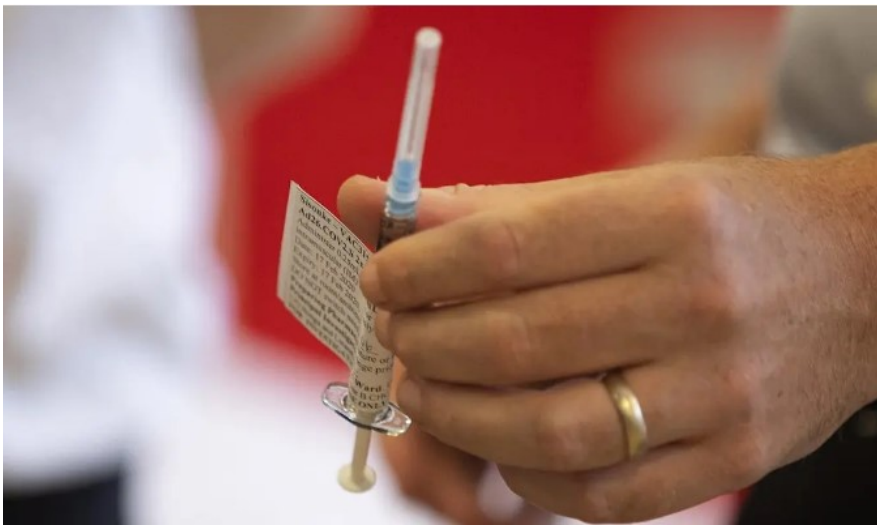
Hipra es una empresa farmacéutica biotecnológica enfocada a la prevención para salud animal y humana, con una amplia gama de vacunas innovadoras y un avanzado servicio de diagnóstico.

La compañía tiene una sólida presencia internacional con cuarenta filiales propias, tres centros de investigación y desarrollo y seis plantas de producción en Europa (España) y América (Brasil).

Fuente: Diario de Mallorca. Disponible en https://acortar.link/VLz7pj

Argentina presenta vacuna de fabricación nacional contra todas las variantes de COVID-19

18 oct. La tecnología utilizada se basa en una proteína recombinante "segura y conocida" que se ha utilizado hace tres décadas para fabricar la inmunización contra la hepatitis B.



Un sanitario prepara una dosis de la vacuna de Johnson and Johnson en el hospital de Khayelitsha, en Ciudad del Cabo.
EFE/EPA/NIC BOTHMA/Archivo

Argentina presentó este miércoles la vacuna contra la COVID-19 “Arvac Cecilia Grierson”, de fabricación nacional, que servirá de refuerzo contra las variantes actuales, podrá adaptarse a otras cepas del coronavirus y ayudará a la sustitución de importaciones, además de que podría exportarse.

“Es un día histórico para la ciencia y la tecnología argentina. Es la primera vez que Argentina tiene un desarrollo íntegramente propio en vacunas que no sólo va a abastecer al mercado local, sino que se va a exportar”, afirmó en una rueda de prensa el ministro argentino de Ciencia, Tecnología e Innovación, Daniel Filmus.

La Administración Nacional de Medicamentos, Alimentos y Tecnología Médica (ANMAT) de Argentina aprobó el registro de la Arvac, junto a su versión bivalente, para ser usada como refuerzo entre los 18 y los 60 años, aunque también fue probada en mayores de 60 con y sin comorbilidades.

La líder del proyecto e investigadora de la Universidad Nacional de San Martín (Unsam), Juliana Cassataro, aseguró que los ensayos fueron probados en 2.094 voluntarios y con leves efectos secundarios.

Más de 600 personas, que comprenden personal científico y técnico de 24 instituciones públicas y privadas -como la UNSAM y el Consejo Nacional de Investigaciones Científicas y Técnicas (Conicet)-, trabajaron desde 2020 para el desarrollo de esta vacuna y el Laboratorio Pablo Cassará.

Por su parte, Filmus afirmó que esta tecnología dejará una plataforma que permitirá ser transferida al desarrollo de otras inoculaciones.

“Argentina importa vacunas por 500 millones de dólares al año y este desarrollo va a significar un gran paso para sustituir importaciones”, agregó el ministro.

A su turno, la ministra de Salud argentina, Carla Vizzotti, indicó que “el virus (de la COVID-19) no va a desaparecer. Llegó para quedarse, la inmunidad se termina con el tiempo y por eso es necesario un refuerzo”.

La tecnología utilizada se basa en una proteína recombinante “segura y conocida” que se ha utilizado hace tres décadas para fabricar la inmunización contra la hepatitis B, usada en neonatos, o contra el HPV aplicada a adolescentes, aunque todavía no se han efectuado ensayos clínicos de la vacuna en menores de 18 años.

A nivel logístico, la Arvac puede ser almacenada y transportada de forma refrigerada bajo temperaturas de entre 2 y 8 grados centígrados, lo que representa una ventaja ante opciones alternativas que requieren ser

conservadas por debajo de -70 °C.

De momento, no se ha estipulado una fecha clara para su distribución y aplicación a la población argentina.

La inversión pública para fabricar la vacuna fue de 1.700 millones de pesos (4,8 millones de dólares al tipo de cambio oficial actual), algo que la ministra de Salud se encargó de remarcar en reiteradas oportunidades.

“Donde el mercado nunca hubiera estado, el Estado está presente. Esta es la importancia del Conicet y la educación. Si no hay un Estado presente, no sería posible”, expresó Vizzotti en medio del debate presidencial, en el que varios candidatos, entre ellos el libertario Javier Milei, apuestan por el recorte del gasto público.

Fuente: Forbes. Disponible en https://acortar.link/Km1qaA

31-valent Pneumococcal Conjugate Vaccine Cleared to Launch Clinical Trial

Oct 20. Vaxcyte, Inc. today announced that the U.S. Food and Drug Administration (FDA) has cleared the Company's adult Investigational New Drug application for VAX-31, a 31-valent pneumococcal conjugate vaccine (PCV) candidate designed to prevent invasive pneumococcal disease (IPD).

Vaxcyte expects to initiate the VAX-31 Phase 1/2 clinical study in 2023 and announce topline results in the second half of 2024.

"The FDA clearance of the VAX-31 IND application represents an important step toward our goal of building a best-in-class PCV franchise, including VAX-31 and VAX-24, the 24-valent PCV for which we achieved positive results in two adult Phase 2 clinical studies," said Grant Pickering, Chief Executive Officer and Co-founder of Vaxcyte, in a press release on October 19, 2023.

"Given that VAX-31, which will be the broadest-spectrum PCV to enter the clinic, leverages the foundation already established with VAX-24, we are very excited about the promise of this vaccine candidate."

The VAX-31 Phase 1/2 clinical study is a randomized, observer-blind, active-controlled, dose-finding clinical study designed to evaluate the safety, tolerability, and immunogenicity of VAX-31 compared to Prevnar 20® (PCV20) in approximately 1,000 healthy adults aged 50 and above.

Fuente: Precision Vaccinations. Disponible en https://acortar.link/IRJjeL

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:

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Estrategia de búqueda: *Vaccine in the title or abstract AND 20231012:20231021 as the publication date 59 records*

1.20230330205NOROVIRUS VACCINE
US - 19.10.2023
Clasificación Internacional A61K 39/12Nº de solicitud 18163855Solicitante RESILIENCE GOVERNMENT SERVICES, INC.Inventor/a Ron COBB
A dry powder *Norovirus* vaccine is provided, which comprises at least two *Norovirus* antigens representing different genogroups. The vaccine may be produced by formulation with a mixture of different antigens or combination of monovalent powders with each containing one antigen. The formulated vaccine is suitable for mucosal administration and soluble in aqueous solutions for parenteral administration. A method of immunization is also provided, which comprises at least one administration of the vaccine via mucosal and/or parental route. The immunization may have multiple administrations of the vaccine, i.e., one or more immunizations via a mucosal route followed by one or more immunizations via a parenteral route or vice versa, to maximize both mucosal and systemic immune responses and protection against *Norovirus* infections.

2.WO/2023/194699VACCINE COMPOSITION
WO - 12.10.2023
Clasificación Internacional A61K 39/12Nº de solicitud PCT/GB2023/000019Solicitante VACCPOWER LIMITEDInventor/a SCOTT, Lionel
Respiratory virus vaccine compositions for nasal administration to a mammal comprising an hygroscopic gel-forming material, at least one isolated bioactive respiratory virus immunogen, and an adjuvant, kits, receptacles, uses therefor, and methods of manufacture thereof.

3.4259113CANNABIDIOL ZUR ERHÖHUNG DER IMPFSTOFFVERMITTELTEN IMMUNITÄT UND PROPHYLAXE VON COVID-19
EP - 18.10.2023

Clasificación Internacional A61K 31/05Nº de solicitud 22729014Solicitante AKSEERA PHARMA CORPInventor/a MERCHANT SHREEMA
The present invention relates to a pharmaceutical composition comprising therapeutically effective amount of Cannabidiol for administration with a Covid-19 vaccine to a mammal / human to sustain and / or enhance effect of vaccine. Further the invention relates to methods to sustain and / or enhance effect of a Covid-19 vaccine in a mammal / human by administering to such a mammal / human a pharmaceutical composition comprising a therapeutically effective amount of Cannabidiol with a Covid-19 vaccine. Administration of Cannabidiol with vaccine can be of following types: i) before administering Covid-19 vaccine; or ii) along with Covid-19 vaccine; or iii) after administering Covid-19 vaccine; or iv) any combination of i, ii and iii including before, along with and after administering Covid-19 vaccine.

4.4259284IMPFSTOFF GEGEN HUNDEKREBS
EP - 18.10.2023
Clasificación Internacional A61P 35/00Nº de solicitud 21904430Solicitante UNIV ARIZONA STATEInventor/a JOHNSTON STEPHEN ALBERT
Provided herein are vaccine compositions for use in immunotherapy for canine cancers, and methods of canine cancer immunotherapy using said compositions. The compositions and methods provided herein include DNA vaccines having two plasmids that encode thirty-one peptide antigens, plus a plasmid that encodes canine GMCSF

5.WO/2023/200764NANOEMULSION UNIVERSAL INFLUENZA VACCINE
WO - 19.10.2023
Clasificación Internacional A61K 39/145Nº de solicitud PCT/US2023/018130Solicitante BLUEWILLOW BIOLOGICS, INC.Inventor/a GANESAN, Shyamala
The present invention relates to methods for inducing a broadly reactive immune response to multiple strains of influenza in a subject comprising intranasally administering a nanoemulsion vaccine composition comprising a computationally optimized influenza immunogen or protein.

6.20230321229VACCINE COMPRISING AN ANTIGEN AND A TLR2 AGONIST
US - 12.10.2023
Clasificación Internacional A61K 39/39Nº de solicitud 18024213Solicitante ISR IMMUNE SYSTEM REGULATION HOLDING AB (PUBL)Inventor/a Ola WINQVIST
The present invention provides vaccine kits and a method for vaccination using such vaccination kits.

7.20230321227FILAMENTOUS NANOPARTICLES HAVING VACCINE ADJUVANT EFFECT
US - 12.10.2023
Clasificación Internacional A61K 9/107Nº de solicitud 17312796Solicitante Croda International PlcInventor/a Kefei HU
The present invention relates to filamentous, i.e. thread-like nanoparticles comprising sterol and a component derived from *Quillaja saponaria* Molina selected from *quillaja* acid and *quillaja* saponin. More particularly, the invention relates to the use of said thread-like nanoparticles in vaccines and drug delivery or adsorption systems systems, methods for their production and uses thereof, such as for use as a vaccine adjuvant and in cancer therapy.

8.WO/2023/195566RNA VACCINE FOR SEVERE ACUTE RESPIRATORY SYNDROME CORONAVIRUS 2 (SARS-COV-2) INFECTION
WO - 12.10.2023
Clasificación Internacional C07H 19/067Nº de solicitud PCT/KR2022/005290Solicitante MCUREX THERAPEUTICS, INC.Inventor/a HONG, Sun Woo
The present application relates to a RNA vaccine for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection, and a polynucleotide prepared therefor, and provides a polynucleotide for inducing

an adaptive immune response to SARS-CoV-2, and an immunogenic composition comprising the polynucleotide.

9.20230321228VACCINE ADJUVANTS AND METHODS OF SYNTHESIZING AND USING THE SAME
US - 12.10.2023
Clasificación Internacional A61K 39/39Nº de solicitud 18014881Solicitante Amyris, Inc.Inventor/a Christopher John PADDON
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.

10.20230321241CANCER PEPTIDE VACCINE AND METHOD OF PREPARING THE SAME
US - 12.10.2023
Clasificación Internacional A61K 39/00Nº de solicitud 18018380Solicitante BrightPath Biotherapeutics Co., Ltd.Inventor/a Kazuhiko ODAKA
The present disclosure comprises a cancer peptide vaccine comprising a peptide of Asn-Val-Leu-His-Phe-Phe-Asn-Ala-Pro-Leu (SEQ ID NO: 1), a peptide of Ala-Ser-Leu-Asp-Ser-Asp-Pro-Trp-Val (SEQ ID NO: 2), a peptide of Lys-Leu-Lys-His-Tyr-Gly-Pro-Gly-Trp-Val (SEQ ID NO: 3), and a peptide of Leu-Leu-Gln-Ala-Glu-Ala-Pro-Arg-Leu (SEQ ID NO: 4), and a method of preparing the same.

11.20230321220AAV5-BASED VACCINE AGAINST SARS-COV-2
US - 12.10.2023
Clasificación Internacional A61K 39/215Nº de solicitud 18043354Solicitante JOINT STOCK COMPANY "BIOCAD"Inventor/a Alexander Vladimirovich PROKOFYEV
The present application relates to the fields of biotechnology, immunology, virology, genetics, and molecular biology. More specifically, the present invention relates to an isolated recombinant receptor-binding domain of the S glycoprotein (RBD-S) of SARS-CoV-2 (severe acute respiratory syndrome-related coronavirus 2), to a nucleic acid that encodes RBD-S of SARS-CoV-2, to an expression cassette and a vector based thereon, as well as to a recombinant AAV5 (adeno-associated vims serotype 5)-based virus for the induction of specific immunity to SARS-CoV-2 and/or prevention of the SARS-CoV-2-related coronavirus infection, to an AAV5-based vaccine for the induction of specific immunity to SARS-CoV-2 and/or prevention of the SARS-CoV-2-related coronavirus infection, and to their use for the induction of specific immunity to SARS-CoV-2 and/or prevention of the SARS-CoV-2-related coronavirus infection.

12.20230331782COMPOSITIONS AND METHODS FOR REDUCING RISK OF VACCINE-ENHANCED DISEASE
US - 19.10.2023
Clasificación Internacional C07K 14/005Nº de solicitud 18024872Solicitante The Trustees of the University of PennsylvaniaInventor/a Hansell Stedman
In one aspect, the present disclosure relates to a mutated SARS-CoV-2 S glycoprotein (mutated S glycoprotein) comprising a SARS-CoV-2 S glycoprotein amino acid sequence having one or more mutations compared to a wildtype S glycoprotein, wherein the mutated S glycoprotein minimizes (i) antibody-dependent enhancement (ADE) and/or (ii) vaccine-associated enhanced respiratory disease (VAERD) when administered to or expressed in a subject. In another aspect, the present disclosure relates to a method of using the mutated S glycoprotein of the present disclosure to induce at least partial immunity to a coronavirus in a subject.

13.20230330222SELECTIVE TARGETING OF THE TREML1/MD2 INTERACTION BY SMALL PEPTIDE OR PROTEIN AND ITS USE FOR VACCINE ADJUVANTS

US - 19.10.2023
Clasificación Internacional A61K 39/39Nº de solicitud 17998733Solicitante Ascendo Biotechnology, Inc.Inventor/a Yen-Ta Lu
A pharmaceutical composition for boosting an immune response contains TREM-like transcript-1 (TREML1) extracellular domain (ECD) or stalk polypeptide. The TREML1 ECD or stalk polypeptide is derived from human or mouse TREML1. The pharmaceutical composition further contains an antigen as a vaccine, wherein the TREML1 ECD or stalk polypeptide functions as an adjuvant or immune booster.

14.4259191NUKLEOTIDSEQUENZ, DIE EIN EXTRAZELLULÄRES VESIKELVERANKERUNGSPROTEIN EXPRIMIERT, DAS MIT SARS-COV-2-ANTIGENEN FUSIONIERT IST, UND ZUGEHÖRIGES FUSIONSPROTEIN ZUR VERWENDUNG ALS IMPFSTOFF
EP - 18.10.2023
Clasificación Internacional A61K 39/00Nº de solicitud 21830524Solicitante ST SUPERIORE DI SANITAInventor/a FEDERICO MAURIZIO PAOLO MARIA
The present invention concerns a nucleotide sequence expressing an extracellular vesicle-anchoring protein fused with SARS-CoV-2 antigens and related fusion protein for use as vaccine, wherein said extracellular vesicle-anchoring protein is Nef^{mut} or a truncated form of Nef^{mut}.

15.20230330355SINGLE-USE ADAPTER ATTACHED TO DRUG/VACCINE VIALS COMPATIBLE WITH HYPODERMIC NEEDLES TO ENABLE INJECTION
US - 19.10.2023
Clasificación Internacional A61M 5/34Nº de solicitud 18035116Solicitante Becton Dickinson Holdings Pte. Ltd.Inventor/a Guan Bin Lee
An adapter for attaching a needle to a pump actuated vial for injection of a vaccine or drug using a syringe-type injection motion while eliminating the time-consuming preparation of the injection device. The adapter includes a spray pump device having a first end defining a luer tip and a second end configured for accessing a media reservoir to receive a metered dose of flowable media. The luer tip is configured to be secured to a needle cannula to deliver the metered dose of the flowable media received from the spray pump device.

16.20230332088METHODS, APPARATUS AND PRODUCTS OF CELL, TISSUE ENGINEERING AND VACCINE/ANTIBODY PRODUCTION SYSTEMS
US - 19.10.2023
Clasificación Internacional C12M 1/12Nº de solicitud 18211264Solicitante Futrfab Inc.Inventor/a Frederick A. Flitsch
The present invention provides apparatus and methods for production of tissue structures, organs, vaccines, and antibody products. In some examples, a cleanspace facility may be equipped with fluid interconnections and controls. The fluid interconnections may be located in a primary cleanspace or peripheral to a primary cleanspace. Sterilization may be performed within the primary cleanspace and within the fluid interconnections. In some examples, the facility may include modelling hardware and software, nanotechnology and microelectronic apparatus, and additive manufacturing equipment to print cells and support matrix to allow cells to grow into tissue structures and organs. Novel structures combining various cell types and electronics may be formed with the fabricator. In some examples, advanced vaccine products may be produced entirely within the scalable, sterile, and automated fabricator.

17.2023237056HUMAN IMMUNODEFICIENCY VIRUS (HIV)-NEUTRALIZING ANTIBODIES
AU - 12.10.2023
Clasificación Internacional C07K 16/00Nº de solicitud 2023237056Solicitante International AIDS Vaccine InitiativeInventor/a BURTON, Dennis R.

18.20230330221ADJUVANT BASED ON PEPTIDE NUCLEIC ACID

US - 19.10.2023
Clasificación Internacional A61K 39/39Nº de solicitud 17616490Solicitante DENKA COMPANY LIMITEDInventor/a Ryotaro MITSUMATA
Provided are an adjuvant useful for preparing a vaccine having high efficacy and high safety, and a vaccine composition comprising the adjuvant.

The adjuvant comprises a peptide nucleic acid to which a cell penetrating peptide is bound.

19.20230322871EXPRESSION OF PNEUMOCOCCAL SURFACE PROTEIN A (PSPA)
US - 12.10.2023
Clasificación Internacional C07K 14/315Nº de solicitud 18338584Solicitante Biological E LimitedInventor/a Rajan Sriraman
The present invention relates to expression of Pneumococcal Surface Protein A (PspA). The invention represents an advancement in the field of genetic engineering and vaccine technology. The invention discloses expression vectors and recombinant host cells for expression of truncated PspA peptide. The invention also discloses vaccine compositions comprising the truncated peptides as carrier protein.

20.20230321213OUTER MEMBRANE VESICLES
US - 12.10.2023
Clasificación Internacional A61K 39/095Nº de solicitud 18025273Solicitante GLAXOSMITHKLINE BIOLOGICALS SAInventor/a Isabel DELANY
The present invention relates to the field of neisserial vaccine compositions (particularly gonococcal vaccine compositions) and the use of such compositions in medicine. More particularly, the present invention relates to genetically modified gonococci of strain FA1090 and outer membrane vesicles obtained therefrom. The invention also provides a process for preparing the genetically modified gonococci of the invention as well as immunogenic compositions and vaccines comprising the outer membrane vesicles of the invention.

21.20230330213COMPOSITIONS OF SARS-COV-2 VACCINES BASED ON THE RECEPTOR BINDING DOMAIN, EXPRESSED AS A DIMER, AND THE OUTER MEMBRANE VESICLE OF MENINGOCOCCAL GROUP B BACTERIA
US - 19.10.2023
Clasificación Internacional A61K 39/215Nº de solicitud 18021731Solicitante Instituto Finaly de VacunasInventor/a Yury Valdés Balbín
This invention is related to biotechnology; in particular, to the field of human health. The described vaccine compositions induce a neutralizing immune response against the SARS-CoV-2 virus. These compositions include a portion of the receptor binding protein of the SARS-Cov-2 virus, as antigen, outer-membrane vesicles of the Neisseria meningitides group B bacteria, as immunopotentiating component, and an adjuvant. The vaccine compositions that are described in this invention are useful in the prevention of infection with the SARS-CoV-2 virus.

22.WO/2023/201199TUBERCULOSIS VACCINES
WO - 19.10.2023
Clasificación Internacional A61K 39/04Nº de solicitud PCT/US2023/065584Solicitante THE JOHNS HOPKINS UNIVERSITYInventor/a MARKHAM, Richard
Provided herein are nucleic acid vaccine constructs comprising synthetic polynucleotides encoding a *Mycobacterium tuberculosis (Mtb)* RelA-SpoT homolog (RSH) protein, Rel_{Mtb}, or a functional portion, fragment, or variant thereof, conjugated to a macrophage inflammatory protein-3 alpha (MIP-3α) or other chemokine that binds to a chemokine receptor 6 (CCR6), or a functional portion, fragment, or variant

thereof, or to an antibody, or antigen binding portion thereof, that binds to a CCR6. Methods for making the vaccine constructs and their use in prophylaxis and treatment of *Mtb* infections are also provided.

23.20230330216CORONAVIRUS VACCINE FORMULATIONS
US - 19.10.2023
Clasificación Internacional A61K 39/215Nº de solicitud 18061831Solicitante Novavax, Inc.Inventor/a Gale SMITH
Disclosed herein are coronavirus Spike (S) proteins and nanoparticles comprising the same, which are suitable for use in vaccines. The nanoparticles present antigens from pathogens surrounded to and associated with a detergent core resulting in enhanced stability and good immunogenicity. Dosages, formulations, and methods for preparing the vaccines and nanoparticles are also disclosed.

24.WO/2023/196966ANTIGEN PREDICTIONS FOR INFECTIOUS DISEASE-DERIVED EPITOPES
WO - 12.10.2023
Clasificación Internacional A61K 39/12Nº de solicitud PCT/US2023/065518Solicitante GRITSTONE BIO, INC.Inventor/a KLEIN, Joshua
Disclosed herein is a system and methods for determining the alleles, antigens, and infectious disease-based vaccine composition as determined on the basis of a patient's expressed HLA alleles. Additionally described herein are unique infectious disease-derived vaccines.

25.4259198TOLL-LIKE-REZEPTORAGONIST
EP - 18.10.2023
Clasificación Internacional A61K 39/39Nº de solicitud 21904407Solicitante UNIV OF MONTANAInventor/a BAZIN-LEE HELENE
The present disclosure provides compounds of formula (I), (Ia), and (Ib), squaryl group- containing toll-like receptor ligands. Also provided are pharmaceutical compositions and vaccine composition thereof and methods of treating a disease of disorder with the compounds and composition described herein.

26.20230330215SARS-COV-2 VACCINES
US - 19.10.2023
Clasificación Internacional A61K 39/215Nº de solicitud 18057171Solicitante Gritstone bio, Inc.Inventor/a Roman Yelensky
Disclosed herein are vaccine compositions that include SARS-CoV-2 MHC epitope-encoding cassettes and/or full-length SARS-CoV-2 proteins. Also disclosed are nucleotides, cells, and methods associated with the compositions including their use as vaccines.

27.WO/2023/196185IMMUNE ENHANCEMENT AND INFECTIOUS DISEASE TREATMENT
WO - 12.10.2023
Clasificación Internacional A61K 31/713Nº de solicitud PCT/US2023/017097Solicitante SPARK THERAPEUTICS, INC.Inventor/a ANGUELA, Xavier
The present invention features methods utilizing nanoparticles for double- stranded DNA (dsDNA). The nanoparticles are able to deliver the dsDNA intracellularly where the dsDNA can stimulate the innate immune response. Uses of the described methods include enhancing an immune response to a vaccine and infectious disease treatment.

28.WO/2023/200704PROTEIN-SACCHARIDE CONJUGATION WITH SODIUM CYANOBOROHYDRIDE
WO - 19.10.2023
Clasificación Internacional A61K 47/64Nº de solicitud PCT/US2023/018016Solicitante SANOFI PASTEUR INC.Inventor/a GINLEY, Maryalice
Methods and uses of conjugating saccharides to protein carriers are disclosed herein. Exemplary conjugates prepared according to those methods and uses are also disclosed. Additionally, methods for

quantifying the amount of sodium borohydride in a sodium cyanoborohydride reagent are disclosed herein. Vaccine compositions as well as related methods and uses are also disclosed herein.

29.20230330209TREATMENT OF INFLAMMATORY CONDITIONS
US - 19.10.2023
Clasificación Internacional A61K 39/145Nº de solicitud 18301542Solicitante CYN-K, LLCInventor/a Ryuji Ueno
The present disclosure provides a method for treating an inflammatory condition, especially an age related inflammatory condition in a mammalian subject in need thereof, which comprises an effective amount of a virus like particle comprising a viral structural protein and a galectin-3 antigen, a composition or vaccine comprising for the purpose thereof.

30.20230322910ANTI-MALARIA PARASITE ANTIBODY
US - 12.10.2023
Clasificación Internacional C07K 16/20Nº de solicitud 18022692Solicitante National University Corporation Ehime UniversityInventor/a Takafumi Tsuboi
The present disclosure includes a monoclonal antibody or antibody fragment that binds to an epitope consisting of 5 to 20 consecutive amino acids in the amino acid sequence of SEQ ID NO: 1, and a method of detecting or quantifying an Ripr-derived malaria vaccine antigen comprising contacting a sample with the monoclonal antibody or antibody fragment.

31.WO/2023/201233SARS-COV-2 VACCINE COMPOSITIONS
WO - 19.10.2023
Clasificación Internacional A61K 39/215Nº de solicitud PCT/US2023/065636Solicitante MERCIA PHARMA, INC.Inventor/a BLACKBURN, Peter
The present disclosure provides compositions of adjuvanted SARS-CoV-2 vaccines and their use to prevent and manage Covid-19 infection, including host hyperinflammatory responses to infection, including long term symptoms associated with Covid infection.

32.4261279NEUARTIGES FRAGMENTIERTES CRS-PEPTID MIT IMMUNVERSTÄRKENDER WIRKUNG UND VERWENDUNG DAVON
EP - 18.10.2023
Clasificación Internacional C12N 9/00Nº de solicitud 21903894Solicitante ZYMEDI CO LTDInventor/a KIM SUNG HOON
The present invention relates to a novel fragmented CRS peptide exhibiting immune enhancement activity, and a use thereof, and, more specifically, to a novel peptide consisting of an amino acid sequence of SEQ ID NO: 2, and a use thereof as a vaccine adjuvant and a cancer therapeutic agent. A peptide disclosed in the present invention is a CRS fragment disclosed for the first time in the present specification and exhibits an anti-cancer activity and immune enhancement activity.

33.20230322867IMMUNOGENS DERIVED FROM SARS-COV2 SPIKE PROTEIN
US - 12.10.2023
Clasificación Internacional C07K 14/165Nº de solicitud 18006689Solicitante AMGEN INC.Inventor/a Fernando GARCES
The present invention relates to severe acute respiratory syndrome coronavirus 2 (“SARS-CoV2”) immunogens useful for the generation of therapeutic antibodies and vaccine development. Such therapeutic antibodies include human antibodies and antigen-binding portions thereof that specifically bind to human SARS-CoV2 S protein, and that function to neutralize SARS-CoV2. The present invention also relates to methods of generating antibodies and antigen-binding portions thereof that specifically bind to human SARS-CoV2 S protein.

34.20230331797HLA-A24 AGONIST EPITOPES OF MUC1-C ONCOPROTEIN AND COMPOSITIONS AND METHODS OF USE
US - 19.10.2023
Clasificación Internacional C07K 14/47Nº de solicitud 18344242Solicitante The USA, as represented by the Secretary, Dept. of Health and Human ServicesInventor/a Jeffrey Schlom
The invention provides a human cytotoxic T lymphocyte (CTL) agonist epitope from the C-terminal subunit of mucin 1 (MUC1-C), which can be used as a peptide, polypeptide (protein), and/or in vaccine or other composition for the prevention or therapy of cancer. The invention further provides a nucleic acid encoding the peptide, protein, or polypeptide, a vector comprising the nucleic acid, a cell comprising the peptide, polypeptide, nucleic acid, or vector, and compositions thereof.

35.WO/2023/194222INHIBITORS OF CHYMASE FOR USE IN THE SELECTIVE RESOLUTION OF THROMBI IN THROMBOTIC OR THROMBOEMBOLIC DISORDERS
WO - 12.10.2023
Clasificación Internacional A61K 31/513Nº de solicitud PCT/EP2023/058464Solicitante SOCPRA SCIENCES SANTÉ HUMAINES S.E.C.Inventor/a D'ORLÉANS-JUSTE, Pedro
The present invention covers the use of chymase inhibitors in general and more in particular substituted bicyclically substituted uracils of general formula (I) as described and defined herein, and 3-methylbenzo-[b]thiophene)-2-sulfonamido derivatives of general formula (II) for manufacturing pharmaceutical compositions for the treatment or prophylaxis of stroke, pulmonary embolism, deep or superficial vein thrombosis, thrombotic microangiopathy, thrombotic microangiopathy in hypercoagulable states after infection, inflammation, transplantation, disseminated intravascular coagulation, vaccine-induced immune thrombotic thrombocytopenia, vascular access site thrombosis or occlusion.

36.WO/2023/196374LIVE MYCOPLASMA GALLISEPTICUM VACCINES
WO - 12.10.2023
Clasificación Internacional C12N 1/20Nº de solicitud PCT/US2023/017527Solicitante UNIVERSITY OF GEORGIA RESEARCH FOUNDATION, INC.Inventor/a FERGUSON-NOEL, Naola M.
The present invention provides *Mycoplasma gallisepticum* strain K6067 as deposited at the ATCC under Patent Designation PTA-127168, *Mycoplasma gallisepticum* strain K4110 as deposited at the ATCC under Patent Designation PTA-127282, and progeny and derivatives thereof, for use as a vaccine for the prevention of virulent *Mycoplasma gallisepticum* infections in the birds of the order *Galliformes*. Also provided are compositions and methods for administration to birds of the order *Galliformes*.

37.20230323389SYNTHETIC MODIFIED VACCINIA ANKARA (SMVA) BASED CORONAVIRUS VACCINES
US - 12.10.2023
Clasificación Internacional C12N 15/86Nº de solicitud 17999170Solicitante CITY OF HOPEInventor/a Don J. DIAMOND
Disclosed are synthetic modified vaccinia ankara (MVA)-based vaccines for preventing or treating coronavirus infections and methods of producing the vaccines. Specifically, the disclosure provides a vaccine composition comprising: (i) a single synthetic DNA fragment or two or more synthetic DNA fragments comprising the entire genome of an MVA, and (ii) one or more DNA sequences encoding one or more coronavirus antigens, subunits, or fragments thereof, inserted in one or more insertion sites of the MVA for preventing or treating coronavirus infections.

38.4259172VERFAHREN ZUR HERSTELLUNG VON ADENOVIRUS
EP - 18.10.2023
Clasificación Internacional A61K 35/76Nº de solicitud 21836450Solicitante ASTRAZENECA UK LTDInventor/a JIANG JINLIN

Methods for the production of adenoviruses which are suitable for use in a vaccine, and methods for increasing the yield of adenoviruses during production. These methods include adding an adenovirus to a cell population in culture; culturing the cell population under conditions which are permissive for infection of the cell population with the adenovirus to provide a cell population comprising adenovirus-infected cells; culturing the cell population comprising adenovirus-infected cells under conditions which are permissive for replication of the adenovirus; and harvesting the adenovirus from the culture.

39.WO/2023/193244SUPRAMOLECULAR SELF-ASSEMBLY SYSTEM
WO - 12.10.2023
Clasificación Internacional A61K 31/56Nº de solicitud PCT/CN2022/085860Solicitante BEIJING CREATRON INSTITUTE OF PHARMACEUTICAL RESEARCH CO., LTD.Inventor/a JIA, Huijuan
A supramolecular self-assembly system, comprising the following components: (1) one or more carriers which are water-soluble or are soluble at least at a pH of ≤8, wherein at least one of the carriers is amphiphilic and has a hydrophobic group and a hydrophilic group; and (2) one or more targets, the targets being preferably an active ingredient, such as a drug, a diagnostic agent, a biomarker, a vaccine, a nutritional ingredient, or a cosmetic active ingredient, preferably in the form of a free state, a salt, a hydrate, or a solvate.

40.3156604PORTABLE CHAIR WITH COVERING
CA - 13.10.2023
Clasificación Internacional A47C 7/62Nº de solicitud 3156604Solicitante CUFF, ANDREWInventor/a CUFF, ANDREW
A portable chair with covering includes a foldable chair and a cover. Particularly, the foldable chair includes a seat portion, a back rest portion, a pair of arm rest portions and four leg portions; and the covering includes a pair of fasteners, a main body and a set of support rods to hold the main body over the foldable chair. The portable chair with covering is useful for situations in which long hours of sitting are required such as soccer practice, outdoor concerts, vaccine lines, indoor hockey rinks, etc.

41.20230329442PORTABLE CHAIR WITH COVERING
US - 19.10.2023
Clasificación Internacional A47C 7/66Nº de solicitud 17720233Solicitante Andrew CuffInventor/a Andrew Cuff
A portable chair with covering includes a foldable chair and a cover. Particularly, the foldable chair includes a seat portion, a back rest portion, a pair of arm rest portions and four leg portions; and the covering includes a pair of fasteners, a main body and a set of support rods to hold the main body over the foldable chair. The portable chair with covering is useful for situations in which long hours of sitting are required such as soccer practice, outdoor concerts, vaccine lines, indoor hockey rinks, etc.

42.20230330203MICROPARTICLES FROM STREPTOCOCCUS PNEUMONIAE AS VACCINE ANTIGENS
US - 19.10.2023
Clasificación Internacional A61K 39/09Nº de solicitud 18212857Solicitante ZalVac ABInventor/a Birgitta Henriques Normark
An isolated *Streptococcus pneumoniae* membrane vesicle microparticle (MP), wherein said MP comprises: the protein Ply at the level of ≥0.070 μg/μg total protein in the MP; and/or the protein LytA at the level of ≥0.070 μg/μg total protein in the MP; and/or the protein PspC at the level of ≥0.130 μg/μg total protein in the MP; and/or the protein RrgB at the level of ≥0.020 μg/μg total protein in the MP. Compositions comprising such MPs. Uses thereof in particular in immunization, as well as methods of manufacture thereof.

43.20230330214IMPROVED DNA VACCINE FOR SARS-COV-2

US - 19.10.2023
Clasificación Internacional A61K 39/215Nº de solicitud 18028613Solicitante OSAKA UNIVERSITYInventor/a Hironori NAKAGAMI
Provided is DNA that: encodes a coronavirus (SARS CoV-2) spike protein or a fragment thereof; and has been optimized to partially or fully exhibit a codon included in a DNA sequence.

44.20230331807IMMUNOTHERAPY WITH B*07 RESTRICTED PEPTIDES AND COMBINATION OF PEPTIDES AGAINST CANCERS AND RELATED METHODS
US - 19.10.2023
Clasificación Internacional G01N 33/574Nº de solicitud 18314727Solicitante Immatics Biotechnologies GmbHInventor/a Heiko SCHUSTER
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.

45.20230322865PEPTIDES AND COMBINATIONS OF PEPTIDES FOR USE IN IMMUNOTHERAPY AGAINST AN INFECTION BY SARS-COV-2 (COVID-19)
US - 12.10.2023
Clasificación Internacional C07K 14/005Nº de solicitud 18164313Solicitante Eberhard Karls Universität Tübingen Medizinische FakultätInventor/a Juliane Walz
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 an infection by SARS-CoV-2 (COVID-19). The present invention furthermore relates to SARS-CoV-2-associated T-cell peptide epitopes that can for example serve as active pharmaceutical ingredients of vaccine compositions that stimulate anti-SARS-CoV-2 immune responses, or to stimulate T-cells ex vivo and transfer them 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.

46.2023237223THERMOSTABLE VACCINE COMPOSITIONS AND METHODS OF PREPARING SAME
AU - 19.10.2023
Clasificación Internacional Nº de solicitud 2023237223Solicitante SOLIGENIX, INC.Inventor/a BREY, Robert

47.20230324404METHOD FOR DETECTION OF ZIKA VIRUS SPECIFIC ANTIBODIES
US - 12.10.2023
Clasificación Internacional G01N 33/68Nº de solicitud 17999192Solicitante Takeda Vaccines, Inc.Inventor/a Erick PEREZ-GUZMAN
The present invention is directed to a method, i.e. an immunoassay, for determining the presence and/or the amount of anti-zika Anti-ZIKV #1 virus antibodies, i.e. zika virus-specific antibodies in a sample. Therefore, the present invention is directed to a microsphere complex comprising a microsphere coupled to a zika virus like particle, as well as to a kit comprising said microsphere complex and an amount of reporter antibody that binds to the zika virus like particle. The present invention further relates to a method for determining an antibody correlate of protection against zika virus infection for a zika virus vaccine. Moreover, the present invention is directed to a method for diagnosing the protection of a human or non-human subject against a zika virus infection.

48.WO/2023/196935POLYNUCLEOTIDE VACCINE FORMULATIONS AND METHODS OF USING THE SAME
WO - 12.10.2023
Clasificación Internacional A61K 39/12Nº de solicitud PCT/US2023/065481Solicitante IMUNON, INC.Inventor/a IAVARONE, Carlo
Disclosed herein are immune stimulatory compositions, pharmaceutical compositions, and vaccines comprising a polynucleotide comprising at least one antigen nucleic acid which encodes at least one pathogen protein or an antigenic fragment thereof, wherein the antigen nucleic acid is operably linked to a first promoter; a delivery component selected from the group consisting of a cationic polymer, a poly-inosinic-polycytidylic acid, a poloxamer, or derivative thereof; and an adjuvant comprising an aluminum or aluminum-salt based adjuvant, a stimulator of interferon genes (STING) agonist, or a combination thereof. Methods of production and therapeutic use of the same are also disclosed herein.

49.20230322876MULTI-EPITOPE VACCINE FOR THE TREATMENT OF ALZHEIMER'S DISEASE
US - 12.10.2023
Clasificación Internacional C07K 14/47Nº de solicitud 18328528Solicitante OTHAIR PROTHENA LIMITEDInventor/a Robin Barbour
The disclosure provides peptide compositions and immunotherapy compositions comprising an amyloid-beta (Aβ) peptide and a tau peptide. The disclosure also provides methods of treating or effecting prophylaxis of Alzheimer's disease or other diseases with beta-amyloid deposition in a subject, including methods of clearing deposits, inhibiting or reducing aggregation of Aβ and/or tau, blocking the uptake by neurons, clearing amyloid, and inhibiting propagation of tau seeds in a subject having or at risk of developing Alzheimer's disease or other diseases containing tau and/or amyloid-beta accumulations. The methods include administering to such patients the compositions comprising an amyloid-beta (Aβ) peptide and a tau peptide.

50.WO/2023/194712MEDICINAL PATCH
WO - 12.10.2023
Clasificación Internacional A61K 9/00Nº de solicitud PCT/GB2023/050886Solicitante SMITH, Michael BrettInventor/a SMITH, Michael Brett
A medicinal patch comprises a base (4) on which microneedles (1) are mounted, the microneedles (1) being formed from frozen medicine, such as a vaccine. The medicine may be safely preserved in a frozen state until it thaws on implantation into the skin. The base (4) of the patch may be formed from a biodegradable bio-polymer strengthened with graphene. Each microneedle (1) may be mounted on a pedestal (3) on the base and may be bonded to graphene oxide flakes (2) protruding from the pedestal (3). The patch may be manufactured by applying the liquid medicine into evacuations (6) in the surface of a cooled roller (5) to form frozen cones (8), then marrying the roller with the base (4) of the patch, whereby the pedestals (3) contact the frozen cones of medicine and become attached, via the base of each cone (8) freezing onto a respective pedestal (3).

51.20230326544COMPUTERIZED TOOL FOR PREDICTION OF PROTEASOMAL CLEAVAGE
US - 12.10.2023
Clasificación Internacional G16B 15/30Nº de solicitud 18023190Solicitante IMMUNITYBIO, INC.Inventor/a Jeremi SUDOL
A method of preparing a vaccine includes providing an immune epitope database; providing a neural network; receiving data corresponding to at least one protein into the neural network; receiving data corresponding to one or more candidate peptides corresponding to potential cleavage products of the at least one protein, or determining, using the neural network, data corresponding to one or more candidate peptides corresponding to potential cleavage products of the at least one protein; calculating, using the

neural network, a probability of cleavage of the protein to result in each of the one or more candidate peptides; and outputting a signal corresponding to the calculated probability. An architecture having two channel output, i.e., output of a C-terminal cleavage and an N-terminal cleavage, is described. Related devices, apparatuses, systems, techniques, articles and non-transitory computer-readable storage medium are also described.

52.2617671A NON-ANIMAL HUMAN RELEVANT WORKSTATION SYSTEM AND METHOD FOR TESTING NEUROVIRULENCE AND NEUROTOXICITY IN VACCINES
GB - 18.10.2023
Clasificación Internacional G01N 33/50Nº de solicitud 202301920Solicitante TRANSCELL ONCOLOGICS PRIVATE LTDInventor/a SUBHADRA DRAVIDA
A system and method for test predicting human neurovirulence and neurotoxicity risks is disclosed, comprising a real-time platform or TRANS-MSC (Configured Human induced Pluripotent Stem Cells) unit and a trained digital platform embedded with artificial intelligence (AI) and machine learning (ML) modules, augmented with a robotic process automation framework which can predict human neurovirulence, human neurotoxicity patterns along with any adventitious microbial contaminants in the process. The TRANS-MSC incubates the vaccine/biologic, drug/API, cosmetic/ingredient, anti-venom aliquots collected from the produced batches in a manufacturing system. The AI and ML modules can be trained with a plurality of TRANS-MSC acquired phenotype micrographs and a plurality of neurotoxic genes involved in viral, bacterial, fungal infections. Further, the test is customized to a genetically distinct population, user's library of research grade, ingredients, intermittents, final products, etc. that are at the risk of causing neurovirulence or neurotoxicity in the clinics.

53.WO/2023/196936POLYNUCLEOTIDE CANCER VACCINE COMPOSITIONS AND METHODS OF USING THE SAME
WO - 12.10.2023
Clasificación Internacional A61K 39/00Nº de solicitud PCT/US2023/065482Solicitante IMUNON, INC.Inventor/a IAVARONE, Carlo
Disclosed herein are immune stimulatory compositions, pharmaceutical compositions, and cancer vaccines comprising (a) a polynucleotide comprising (i) at least one antigen nucleic acid which encodes at least one tumor-associated antigen or an antigenic fragment thereof, wherein the antigen nucleic acid is operably linked to a promoter and, optionally, (ii) at least one nucleic acid which encodes an immune modifier (e.g., a cytokine); and (b) a delivery component selected from the group consisting of a cationic polymer, a poly-inosinic-polycytidylic acid, a poloxamer, or derivative thereof. The composition can futher comprises an adjuvant comprising an aluminum or aluminum-salt based adjuvant, and/or a stimulator of interferon genes (STING) agonist, or a combination thereof. Methods of production and therapeutic use of the same are also disclosed herein.

54.2023237105INTRANASAL VACCINE COMPOSITION AND METHOD FOR BOOSTING USING THE SAME
AU - 12.10.2023
Clasificación Internacional Nº de solicitud 2023237105Solicitante ADVAGENE BIOPHARMA CO., LTD.Inventor/a CHANG, Mingi

55.20230321208TRANSFECTED T-CELLS AND T-CELL RECEPTORS FOR USE IN IMMUNOTHERAPY AGAINST CANCERS
US - 12.10.2023
Clasificación Internacional A61K 39/00Nº de solicitud 18343502Solicitante Immatics Biotechnologies GmbHInventor/a Dominik MAURER

The present description relates to T-cell receptors (TCRs) binding to tumor-associated antigens (TAAs) for targeting cancer cells, T-cells expressing same, methods for producing same, and methods for treating cancers using same. In particular, the present description relates to TCRs and their variants that bind to HLA class I or II molecules with a peptide, such as IGF2BP3-001 have the amino acid sequence of KIQEILTQV (SEQ ID NO: 1). The present description further relates to peptides, proteins, nucleic acids and cells for use in immunotherapeutic methods. In particular, the present description relates to the immunotherapy of cancer. The present description 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.

56.20230330199TARGETING DELIVERY SYSTEM LOADED WITH WHOLE-CELL COMPONENTS AND USE THEREOF
US - 19.10.2023
Clasificación Internacional A61K 39/00Nº de solicitud 18028084Solicitante SUZHOU ERSHENG BIOPHARMACEUTICAL CO., LTDInventor/a Mi LIU
A targeting delivery system loaded with whole-cell components, which relates to the technical field of immunotherapy. The targeting delivery system is a nano-sized or micron-sized particle with a target head on the surface, and the particle is loaded with whole-cell components of cancer cells or cancer tissues; the whole-cell components are water-soluble ingredients and water-insoluble ingredients of whole cells in cells or tissues, and the water-insoluble ingredients are dissolved by a solubilizer; and the target head binds to a molecule on the surface of a specific cell or tissue, so as to help the particle to enter the cell or tissue. According to the targeting delivery system, a specific solubilizer is used to solubilize the water-insoluble part, which allows same to be dissolved in an aqueous solution, so that the whole-cell antigens of the water-soluble ingredients and the water-insoluble ingredients in cancer cells or tissues can be combined to prepare a cancer vaccine. In addition, the target head capable of targeting antigen-presenting cells is added to improve the phagocytosis efficiency of the antigen-presenting cells in an active targeting manner, thereby improving the effect of preventing or treating cancer.

57.WO/2023/201224STABILIZED SPIKE PROTEIN AND METHOD OF USE THEREOF AS A CORONAVIRUS DISEASE 2019 (COVID-19) VACCINE
WO - 19.10.2023
Clasificación Internacional C07K 14/165Nº de solicitud PCT/US2023/065623Solicitante THE WISTAR INSTITUTE OF ANATOMY AND BIOLOGYInventor/a WU, Yuanhan
Disclosed herein is a new method referred to as Conformational Shifting by Distance and Volume Analysis (CS-DVA) which can be employed to change the dynamics of multi-state glycoproteins for altered immune responses. Also disclosed are stabilized spike antigens and methods of use thereof for SARS-CoV-2 vaccines.

58.20230321219SEVERE ACUTE RESPIRATORY SYNDROME CORONAVIRUS [SARS-COV-2]-VIRUS-LIKE PARTICLE [VLP] VACCINE: COMPOSITIONS, DELIVERY STRATEGIES, METHODS AND USES
US - 12.10.2023
Clasificación Internacional A61K 39/215Nº de solicitud 18041883Solicitante TECHNOVAX, INC.Inventor/a Jose M. GALARZA
The present application relates to SARS-CoV-2 virus-like particles (VLP) and related plasmids, compositions, and methods. The VLP can comprise a modified spike glycoprotein, a matrix protein, a

nucleoprotein N and an envelope protein of SARS-CoV-2, where the modified spike glycoprotein comprises an S1 domain and an S2 domain, and includes one or more modifications. These modifications can include: linking the S1 and S2 domains via generation of disulfides bonds between the S1 and S2 domains; linking intra-polypeptide and inter-polypeptide S2 helices of the S2 domain; and substitution of one or more non-cysteine residues with a cysteine residue to generate one or more disulfide bonds. The modifications can stabilize a prefusion conformation of the spike glycoprotein and prohibit a transition to a post-fusion structure.

59.4258902NEUE FASTENIMITIERENDE KETOGENE DIÄT ZUR VERBESSERUNG DER IMMUNFUNKTION UND DER IMPFSTOFFREAKTION UND ZUR RISIKOMINIMIERUNG BEI ERWACHSENEN UND ÄLTEREN MENSCHEN
EP - 18.10.2023
Clasificación Internacional A23L 33/00Nº de solicitud 21904383Solicitante UNIV SOUTHERN CALIFORNIAInventor/a LONGO VALTER D
A method for improving immune profile and function in adults and elderly is provided. The method includes a step of providing or administering a ketogenic fasting mimicking diet to a normal subject or a subject in need of immune profile and function improvement.

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