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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.

- Vacunas conjugadas: crecimiento, tendencias y pronóstico del mercado.
- 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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Vacunas conjugadas: crecimiento, tendencias y pronóstico del mercado

La vacunación pediátrica y geriátrica está desempeñando un papel fundamental en el impulso del mercado mundial de vacunas conjugadas. Las vacunas conjugadas, reconocidas por su eficacia en la prevención de infecciones bacterianas, se han convertido en herramientas indispensables para salvaguardar la salud tanto de los niños como de los ancianos. Este doble enfoque demográfico ha contribuido significativamente al crecimiento y relevancia del mercado.

El énfasis en vacunar a los niños está impulsado por el reconocimiento de que la inmunización temprana no sólo protege a los jóvenes sino que también ayuda a crear un efecto de inmunidad colectiva, disminuyendo la transmisión general de enfermedades infecciosas dentro de las comunidades. Este enfoque en la vacunación pediátrica ha resultado en una demanda constante de vacunas conjugadas.

Además, a medida que la población mundial sigue envejeciendo, existe una necesidad creciente de vacunación geriátrica. Los adultos mayores son más susceptibles a ciertas infecciones bacterianas, que pueden provocar complicaciones graves y mayores tasas de mortalidad. Las vacunas conjugadas, con su capacidad de proporcionar una inmunidad sólida, han sido fundamentales para reducir el riesgo de estas infecciones entre los ancianos. Este cambio demográfico hacia una población que envejece ha llevado a los sistemas de salud a ampliar los programas de vacunación para incluir a los adultos mayores, lo que ha impulsado una mayor demanda de vacunas conjugadas.

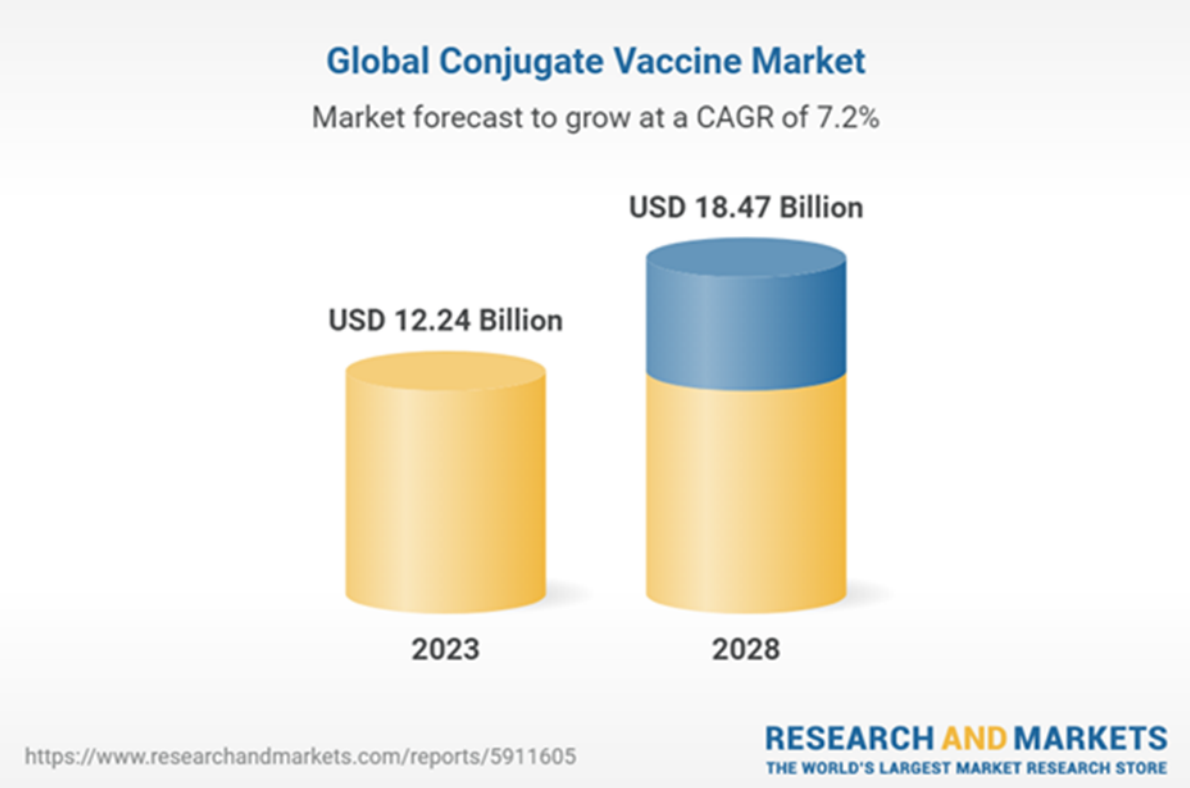
La convergencia de estas dos tendencias demográficas, la vacunación pediátrica y geriátrica, no sólo ha aumentado la demanda general de vacunas conjugadas, sino que también ha diversificado el mercado. Ejemplo de ello son las vacunas multivalentes, que están ganando importancia dentro del mercado de vacunas conjugadas.

Factores como la progresiva incidencia y prevalencia de enfermedades crónicas a nivel mundial, los avances tecnológicos en los procesos de desarrollo y fabricación de vacunas y la implementación cada vez mayor de los programas de inmunización pediátrica y geriátrica en todo el mundo, están aumentando la aceptación de las vacunas conjugadas. Es por ello que este mercado ha mostrado una rápida evolución dentro de los sectores farmacéutico y la industria de la salud.

Mercado mundial de vacunas conjugadas

Según un reporte de 360iResearch de 2022, se previó un crecimiento del mercado mundial de vacunas a 94.140 millones de dólares para 2030, creciendo a una tasa compuesta anual (CAGR, por sus siglas en inglés) del 7,77%. Se espera que a partir de la integración de adyuvantes en vacunas, el desarrollo de vacunas terapéuticas y el crecimiento en la fabricación por contrato de vacunas, surjan importantes oportunidades de crecimiento en el mercado. Y dentro del grupo general de vacunas, en este informe se prevé un creciente desarrollo de las vacunas conjugadas como alternativa viable.

Research & Market planteó que en su trayectoria de crecimiento, el mercado de vacunas conjugadas alcanzó un valor de 12,24 mil millones de dólares hasta 2023 y se prevé que proyecte un crecimiento sólido con una CAGR del 7,23 % en 2028.



En informe publicado por Market Data Forecast, este mercado fue valorado en 15,59 mil millones en 2022, creciendo a un CARG del 16,34%. Se prevé que el mercado estará valorado en 38,65 mil millones de dólares para 2028, desde 18,13 mil millones de dólares en 2023.

Según un informe de investigación de mercado de Data Bridge, se espera que el mercado de vacunas conjugadas experimente un crecimiento a una CAGR del 12,55 % en el período de pronóstico de 2021 a 2028.

En otro análisis publicado por EcoPressPeru, se proyecta que el tamaño del mercado global de vacunas conjugadas alcance una CAGR significativa de 5.2 % en el periodo 2022-2030.

Por su parte, en un reporte de Market Research Future, se estima que este mercado registrará un valor de 14,8 mil millones de dólares con una tasa compuesta anual del 9,9 % para el periodo 2023-2032.

Teniendo en cuenta el factor demográfico, se considera que el segmento de adultos acelerará el mercado, pero el segmento pediátrico será el que incida en la tasa compuesta anual de crecimiento CAGR.

De manera general, se prevé un aumento de la demanda de estas vacunas y por lo tanto una expansión significativa del mercado de vacunas conjugadas en los próximos años.

Impacto de la pandemia de COVID-19 en el mercado mundial de vacunas conjugadas

Debido a la pandemia de COVID-19, las opciones de transporte limitadas y las restricciones de viaje crearon obstáculos para el comercio y el transporte internacionales, lo que interrumpió la cadena de suministro para el mercado de vacunas conjugadas, esto provocó una disminución en la demanda de la vacuna y a su vez ejerció presión sobre las capacidades de producción, la disponibilidad de suministro y la logística de los fabricantes a nivel mundial.

Esta pandemia puso de relieve la importancia de las vacunas para salvaguardar la salud pública. Esta crisis sanitaria mundial sin precedentes ha provocado mayores inversiones en investigación y desarrollo de

vacunas, lo que ha beneficiado indirectamente al mercado de vacunas conjugadas al fomentar la innovación y fortalecer la infraestructura general de vacunas.

Cabe mencionar que de las vacunas desarrolladas contra la COVID-19 a nivel mundial, sólo una se basó en la tecnología de vacuna conjugada y es la vacuna cubana SOBERANA® 02, creada por el Instituto Finlay de Vacunas. En este producto biológico se combinaron el antígeno del virus (RBD) y el toxoide tetánico (TT).

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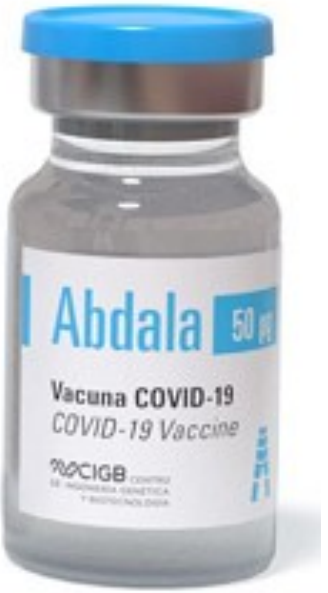
Noticias en la Web

Abdala ha demostrado seguridad, calidad y eficacia en varios países, aseguran expertos

21 dic. La vacuna cubana Abdala reduce a la mitad la capacidad de multiplicación del virus SARS-CoV-2, lo cual a escala internacional es aceptable como prueba de eficacia de cualquier biológico, como el inmunógeno contra influenza que, según la Organización Mundial de la Salud (OMS), otorga una protección de 40 a 60 por ciento.



Lo importante es que en caso de adquirir alguna o ambas infecciones, se previenen las complicaciones graves y la muerte, advirtieron especialistas. Señalaron que el bajo porcentaje de aplicación de Abdala reportado por la Secretaría de Salud (Ssa) se debe a la falta de información y la ausencia de campañas masivas de comunicación.

El subsecretario de Prevención y Promoción de la Salud, Ruy López Ridaura, informó el martes, durante la conferencia matutina en Palacio Nacional, que desde el pasado 16 de octubre, cuando comenzó la campaña de vacunación contra influenza y el coronavirus pandémico, se han aplicado 3.8 millones de dosis anticovid, equivalentes al avance de 18 por ciento.

Los expertos consultados por La Jornada comentaron que la falta de respuesta se debe, en parte, a la información insuficiente a la población y a los mensajes que, sin fundamento, buscan demeritar la calidad de la vacuna cubana.

El biológico ha demostrado su seguridad, calidad y eficacia en los distintos países donde se ha aplicado, incluida la isla, donde desde hace casi dos años no han ocurrido decesos por covid-19, y eso que tiene una de las poblaciones más envejecidas de América.

Recordaron que los adultos mayores son el grupo el más vulnerable frente al covid-19 y al riesgo de desarrollar cuadros críticos por la infección. Por eso la importancia de que reciban la vacuna, cualquiera que esté disponible. En las instituciones públicas de salud se aplican Abdala y la rusa Sputnik.

Respecto de Abdala, información del Centro de Ingeniería Genética y Biotecnología (CIGB) de Cuba, que efectuó la investigación y desarrolló el biológico, indica que su componente principal (98 por ciento) es una proteína recombinante que se produce mediante biotecnología en levadura Pichia pastoris. Éste es un microorganismo que se caracteriza por contener altos niveles de azúcares, que incrementan la capacidad de respuesta del sistema de defensas del organismo y la producción de anticuerpos.

Esta técnica se utiliza en la isla desde 1991 para fabricar la vacuna contra hepatitis B, la cual se ha exportado a más de 50 países.

Desde su lanzamiento, el CIGB ha realizado estudios periódicos para comprobar que la vacuna mantiene sus propiedades de protección frente al coronavirus y las diversas variantes que han surgido a partir de la original de Wuhan, China.

Fuente: La Jornada. Disponible en https://acortar.link/Srvmzj

FDA grants priority review for adult pneumococcal conjugate vaccine

Dec 21. Merck announced this week that the US Food and Drug Administration (FDA) has granted the company priority review of its application for approval of an investigational pneumococcal conjugate vaccine for adults.

Merck's 21-valent (21-strain) pneumococcal conjugate vaccine, V116, is designed to help prevent pneumococcal disease and pneumococcal pneumonia in adults, covering serotypes that are responsible for 83% of invasive pneumococcal disease in people 65 years of age and older. It includes eight unique Streptococcus pneumoniae serotypes not covered by currently licensed pneumococcal vaccines.

Targeting strains that target adults

"If approved, V116 would be the first pneumococcal conjugate vaccine specifically designed to address the serotypes that cause most adult invasive pneumococcal disease," said Eliav Barr, MD, senior vice president, chief medical officer, and head of global clinical development at Merck Research Laboratories, in a company press release. "We look forward to discussing the data that support our filing with the FDA and are working with urgency to bring this potential new preventative measure to adult patients."

The Biologics License Application is based on the results of multiple phase 3 trials that evaluated V116 in both vaccine-naïve and vaccine-experienced adults. In the STRIDE-3 trial, V116 elicited non-inferior immune responses to PCV20 (pneumococcal 20-valent conjugate vaccine) for all 10 serotypes covered by both vaccines, and superior immune responses for 10 of 11 serotypes included in V116 but not covered by PCV20.

The FDA has set a target action date of June 17, 2024.

"If approved, V116 would be the first pneumococcal conjugate vaccine specifically designed to address the serotypes that cause most adult invasive pneumococcal disease."

Fuente: CIDRAP News. Disponible en https://acortar.link/dS0abT

WHO prequalifies a second malaria vaccine, a significant milestone in prevention of the disease

Dec 21. WHO has added the R21/Matrix-M malaria vaccine to its list of prequalified vaccines. In October 2023, WHO recommended its use for the prevention of malaria in children following the advice of the WHO Strategic Advisory Group of Experts (SAGE) on Immunization and the Malaria Policy Advisory Group. The prequalification means larger access to vaccines as a key tool to prevent malaria in children with it being a prerequisite for vaccine procurement by UNICEF and funding support for deployment by Gavi, the Vaccine Alliance.

World Health Organization

The R21 vaccine is the second malaria vaccine prequalified by WHO, following the RTS,S/AS01 vaccine which obtained prequalification status in July 2022. Both vaccines are shown to be safe and effective in clinical trials, for preventing malaria in children. When implemented broadly, along with other recommended malaria control interventions, they are expected to have a high public health impact.

Malaria, a mosquito-borne disease, places a particularly high burden on children in the African Region, where nearly half a million children die from the disease each year. Globally, in 2022, there were an estimated 249 million malaria cases and 608 000 malaria deaths across 85 countries.

The prequalification of the world's second malaria vaccine, developed by Oxford University and manufactured by Serum Institute of India, is poised to expand access to malaria prevention through vaccination. Demand for malaria vaccines is high but the supply has thus far been limited. The availability of two WHO recommended and prequalified malaria vaccines is expected to increase supply to meet the high demand from African countries and result in sufficient vaccine doses to benefit all children living in areas where malaria is a significant public health risk.

Dr Rogério Gaspar, Director of the Department of Regulation and Prequalification at WHO said: "Achieving WHO vaccine prequalification ensures that vaccines used in global immunization programmes are safe and effective within their conditions of use in the targeted health systems. WHO evaluates multiple products for prequalification each year and core to this work is ensuring greater access to safe, effective and quality health products".

Dr Kate O'Brien, Director of WHO's Department of Immunization, Vaccines and Biologicals, said: "Today marks a huge stride in global health as we welcome the prequalification of R21/Matrix-M, the second malaria vaccine recommended for children in malaria endemic areas. This achievement underscores our relentless commitment to wiping out malaria which remains a formidable foe causing child suffering and death. This is another step toward ensuring a healthier, more resilient future for those who have lived for too long in fear of what malaria could do to their children. Together with our partners we are united in the pursuit of a malaria-free future, where every life is shielded from the threat of this disease."

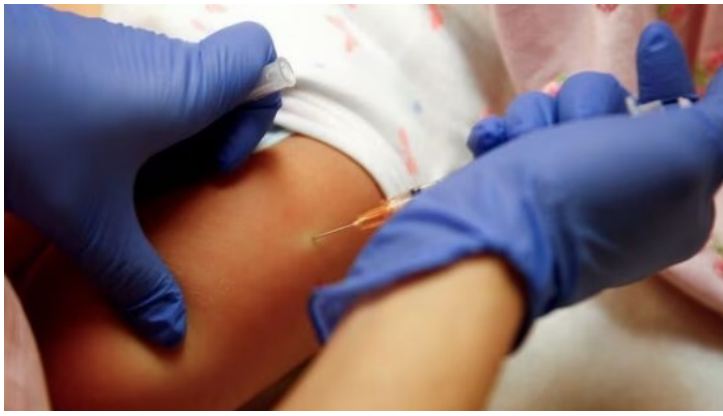
As part of the prequalification process, WHO applies international standards to comprehensively evaluate and determine whether vaccines are safe, effective and manufactured to international standards. WHO also ensures the continued safety and efficacy of prequalified vaccines through, for example, regular re-evaluation, site inspection and targeted testing. Prequalification supports the specific needs of national immunization programmes with regards to vaccine characteristics such as potency, thermostability, presentation, labelling and shipping conditions.

WHO / Fanjan Combrink

Fuente: World Health Organization News. Disponible en https://acortar.link/DR7LGS

Serum Institute of India applies for license for JN.1 Covid variant vaccine: Report

Dec 22. With the entry of the new Covid variant JN.1 in the country, Pune-based Serum Institute of India may soon be selling vaccines to prevent another surge of the pandemic. The world's largest vaccine-making company, Serum Institute is reportedly applying for license of the vaccine against the JN.1 Covid variant.



India has so far confirmed 21 cases of the JN.1 Covid variant (REUTERS)

A report by Moneycontrol mentioned that the Serum Institute of India (SII) currently offers a vaccine against the XBB1 variant of Covid-19, which is "similar" to the JN.1 variant. The spokesperson told the business website that SII would share the documents with the public once they are submitted to the regulators.

Serum Institute of India produced Covishield vaccines in partnership with AstraZeneca and Oxford University in 2020 during the pandemic.

Covishield was among the two made-in-India vaccines against coronavirus. Bharat Biotech's Covaxin was the second vaccine that was approved by India's drug regulatory body during the Covid pandemic in 2021 January. The companies remarkably scaled up production and helped other nations too by exporting millions of vaccines. India dispatched Serum-made Covishield vaccines to Bangladesh, Myanmar, Nepal, Maldives, Mauritius, Afghanistan, Egypt, Ukraine, New Zealand, and 92 other countries.

JN.1 Covid variant in India:

India has so far confirmed 21 cases of the JN.1 Covid variant. The World Health Organization (WHO) recently classified JN.1 as a variant of interest. However, the global health body emphasised that the overall risk posed by JN.1 remains low based on current evidence.

India registered 2,669 new Covid cases on Friday. According to the health ministry's data, Kerala accounts for 2,606 active cases, the highest in India, as of 9 am data by Union Ministry of Health.

Kerala, Karnataka, Maharashtra, Delhi, Goa, and Rajasthan have found COVID cases of the new sub-variant so far.

Fuente: Mint News. Disponible en https://acortar.link/ZuGhOh

Major vaccine developments put new shots on market in 2023

Dec 22. Major vaccine developments in 2023 included the approvals of the first two vaccines against respiratory syncytial virus, the first chikungunya vaccine, a new vaccine against malaria, and a move to new monovalent COVID-19 vaccines.

Below are some of the vaccine-related stories you may have missed this year.

FDA approves first vaccine against RSV

In May, the FDA approved the world's first RSV vaccine following years of failed attempts by scientists to develop one. The vaccine, GSK's Arexvy, is approved in the United States to prevent lower respiratory tract disease caused by RSV in adults aged 60 years or older.

CDC advisors recommend older adults consider RSV vaccination

The CDC recommended that use of the two RSV vaccines be based on "shared clinical decision-making," rather than made routine for all older adults.

Older adults first in line for RSV vaccines, but will they roll up their sleeves?

The two approvals meant that, for the first time ever, older adults had an opportunity to get vaccinated against RSV. We checked in with experts about the two vaccine approvals, the reasons for the CDC's muted recommendation and what it all means for older patients in the U.S.

A CDC committee recommended that COVID-19 vaccines for the 2023-2024 respiratory season be monovalent, rescinding their previous recommendation for bivalent shots the year before. Image: Adobe Stock

'Now we have two': WHO recommends second malaria vaccine

In October, WHO recommended the widespread use of a second vaccine for the prevention of malaria in children.

Malaria vaccines: A first for parasitic diseases

After 50 years of research, there are two malaria vaccines have been recommended for use against the mosquito-borne disease. We checked in with some experts to get their feedback on the vaccines and where the world stands in its fight against malaria.

FDA approves world's first chikungunya vaccine

Valneva's Ixchiq is the first vaccine for chikungunya, which is spread by bites from infected Aedes mosquitoes. A CDC committee is expected to vote on its recommendation for use in February 2024.

CDC recommends new pentavalent meningococcal vaccine

A new pentavalent meningococcal vaccine covers the five most common meningococcal serogroups — A, B, C, W-135 and Y — and reduces the number of doses needed for full vaccination to two shots given 6 months apart.

TB vaccine candidate gets up to $550 million in funding for phase 3 trial

Wellcome and the Bill & Melinda Gates announced in June that they would provide $550 million for a phase 3 trial of the investigational tuberculosis vaccine M72/AS01E, which has been in development since the early 2000s.

Gonorrhea vaccine trial nears full enrollment

At IDWeek, Jodie A. Dionne, MD, MSPH, associate professor of medicine at the University of Alabama at Birmingham, told us that an NIH-funded trial testing a meningococcal B vaccine against gonorrhea had nearly reached it enrollment goal.

Researchers infect women with Zika virus to help find vaccine

Researchers infected women with the Zika virus to determine viral strains that allow for safe human challenge trials for a vaccine in the absence of an ongoing outbreak.

FDA will review self-administered flu vaccine for approval

AstraZeneca's FluMist is already approved for administration by a health care professional, but the company announced in October that the FDA accepted a supplemental biologics license application for the vaccine based on data from a usability study.

CDC recommends updated monovalent COVID-19 vaccines

The CDC recommended that COVID-19 vaccines for the 2023-2024 respiratory season be monovalent and target only omicron XBB subvariants of SARS-CoV-2.

Fuente: Healio. Disponible en https://acortar.link/FLJHx4

Registran rápida propagación de subvariante de COVID-19 en EE.UU.

Dec 25. Los Centros para la Prevención y Control de Enfermedades (CDC, por su sigla en inglés) de Estados Unidos (EE.UU.) informaron que la nueva subvariante JN.1 del coronavirus se propaga rápidamente por el país.

De acuerdo con los CDC, esta es la subvariante de mayor crecimiento y la más rápida en cuanto a propagación en la nación norteamericana, representando cerca de la mitad de los nuevos casos de la COVID-19.

Los CDC han registrado que la JN.1 presenta mayor fuerza en zonas del noreste del país, entre ellas Nueva Jersey y Nueva York. | Foto: EFE (referencial)

El ente precisó que más del 44 por ciento de los nuevos contagios en todo el país son por JN.1, lo que significa "un aumento respecto del 21,4 por ciento reportado previamente", reseñó la agencia de noticias Xinhua.

Los CDC han registrado que la JN.1 presenta mayor fuerza en zonas del noreste del país, entre ellas Nueva Jersey y Nueva York, siendo casi el 57 por ciento de los contagios.

Los CDC también advirtieron que esta variante cuenta con más probabilidad de transmisibilidad, ya que es mejor al momento de eludir el sistema inmunológico que otras variantes.

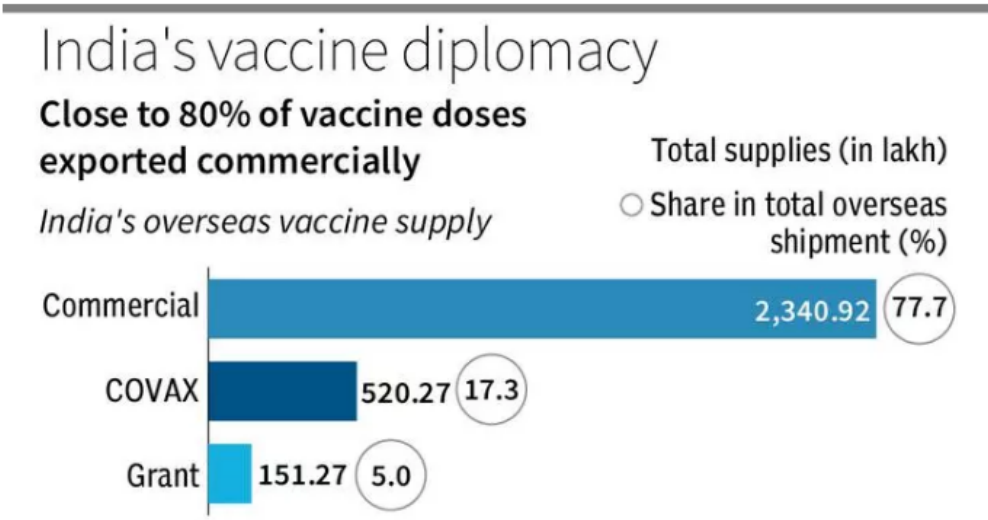
Fuente: teleSURtv.net. Disponible en https://acortar.link/UYY3qD

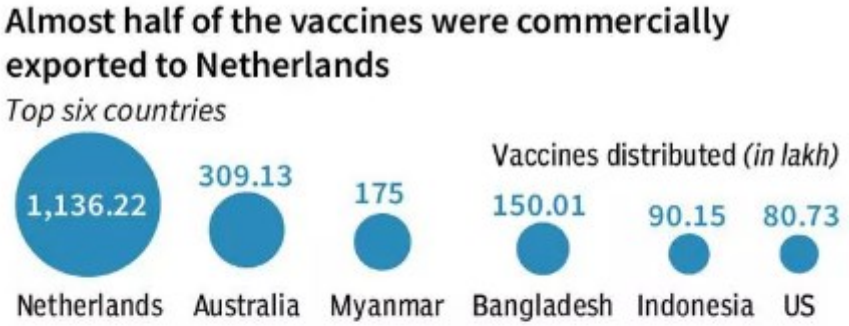
India exported 30.1 crore Covid vaccine doses, majority were commercial exports

Dec 25. Currently, India stands as the world's third largest commercial exporter of Covid vaccines after China and Russia, having exported 23.4 crore Covid vaccine doses for commercial purposes.

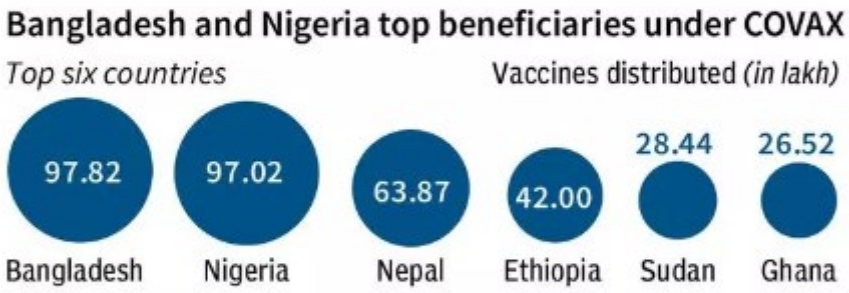
Between January 2021 and June 2023, India exported 30.1 crore Covid vaccine doses, show data from the Ministry of External Affairs (MEA). While a majority of these doses, 77 per cent were commercial exports, 17.3 per cent were was directed to low-income developing nations through COVAX. The rest were provided as grants.

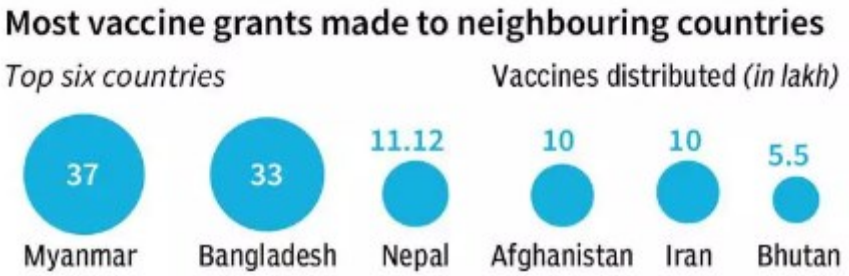
Currently, India stands as the world's third largest commercial exporter of Covid vaccines after China and Russia, having exported 23.4 crore Covid vaccine doses for commercial purposes. The Netherlands received almost half of these doses (48 per cent). The other major recipients are Australia and Myanmar.





Under COVAX, the multilateral mechanism for global access to Covid-19 vaccines, India distributed 5.2 crore vaccine doses. As the mission is set to wind up by December 31, the major recipients of India's vaccine are Bangladesh, Nigeria, and Nepal.





Fuente: The Hindu Business Line. Disponible en https://acortar.link/R9cywZ

COVID-19: Minsa confirma en el país caso de la nueva variante JN.1 y recomienda aplicación de vacuna bivalente

26 dic. La jefa de Inmunización del Ministerio de Salud, María Elena Martínez, dijo en Las cosas como son de RPP que "hay un caso del JN.1 en la región de San Martín" y que la vacuna bivalente "protege sobre este sublinaje" proveniente de la variante Pirola.

María Elena Martínez, jefa de Inmunizaciones del Ministerio de Salud (Minsa), confirmó la presencia en el país de la cepa de coronavirus JN.1, por lo que recomendó a la población no "bajar la guardia" y completar el esquema de vacunación contra la COVID-19.

La jefa de Inmunizaciones del Minsa reiteró que actualmente el virus que viene circulando es el sublinaje de Pirola, es decir, el JN.1 y que uno se puede proteger de él gracias a la vacuna bivalente. | Fotógrafo: Andina

"Hay un caso del JN.1 en la región de San Martín. Estamos ante el Fenómeno del Niño y los cambios climatológicos son muy inciertos, hay días de muy fríos, otros con mucho calor, hay lluvias y esto podría desencadenar en problemas respiratorios, ya sea influenza o COVID", señaló la especialista en el programa Las cosas como son de RPP.

En ese sentido, precisó que la vacuna bivalente "protege sobre este sublinaje que está naciendo de Pirola, que hoy es el JN.1, que está predominando en el mundo y que en nuestro país también está circulando".

"Es importante recibir dos dosis de la vacuna bivalente"

Por ello, hizo un llamado en especial a las personas mayores de 60 años y a las que presentan comorbilidad a que reciban "dos dosis de la vacuna bivalente".

"Después que han pasado cuatro, cinco o seis meses (de la última vacunación) ya estamos de alguna manera desprotegidos y por eso necesitamos reforzarnos con la vacuna bivalente. La vacuna sigue siendo una de las estrategias más importantes en la salud pública", agregó.

"Nosotros ya tenemos casos de Pirola, pero el linaje que ha estado y sigue circulando y que es la más predominante en el 2023 es ómicron y dentro de él se han subdividido varios sublinajes, pero todos son descendientes de ómicron", manifestó.

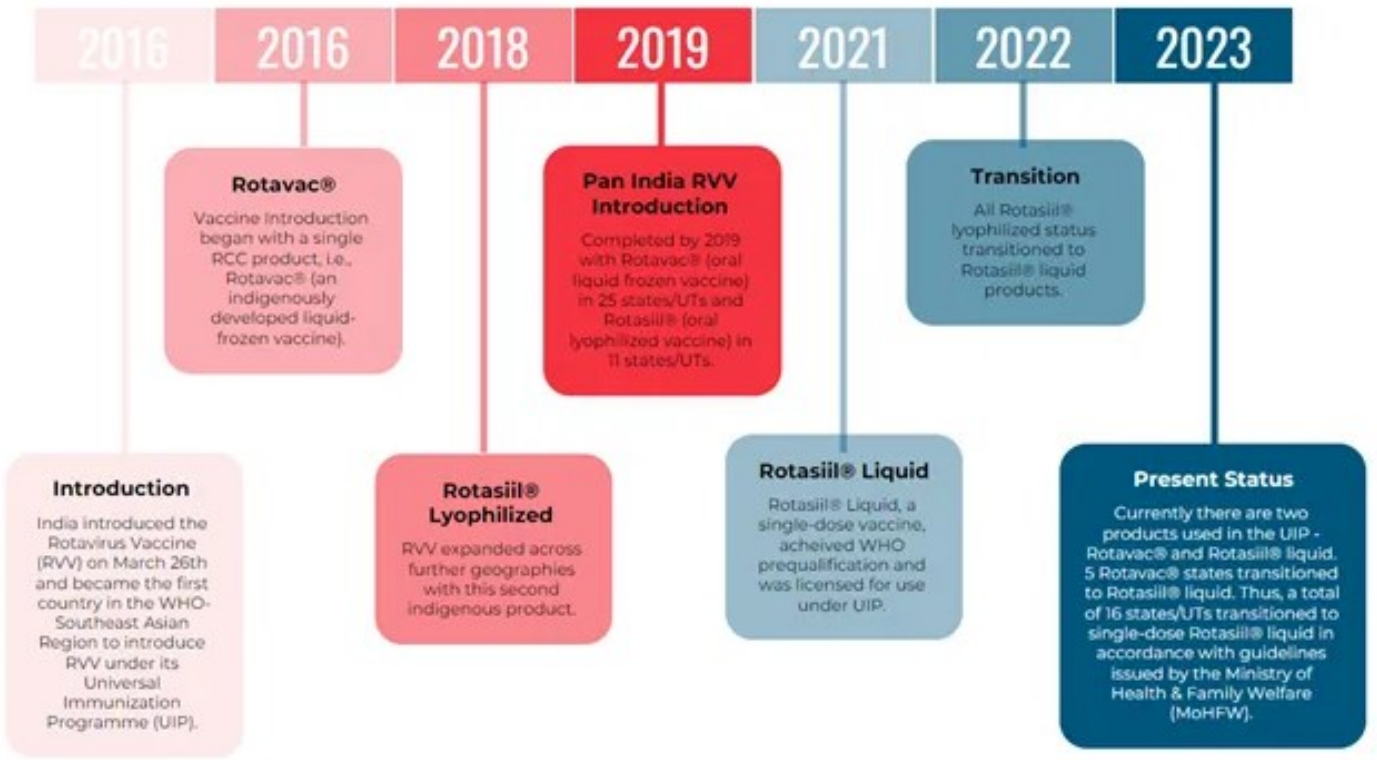
Por último, la jefa de Inmunizaciones del Minsa reiteró que actualmente el virus que estaría circulando es el sublinaje de Pirola, es decir, el JN.1 y que las personas se pueden proteger de él gracias a la vacuna bivalente.

"Hay vacuna suficiente en todo el territorio peruano, hoy es importante acudir a los puntos de vacunación", afirmó.

Fuente: RPP. Disponible en https://acortar.link/9Pzfoq

Combatting Rotavirus in India: Rotavirus Vaccine Product Switch—Experiences Under the Universal Immunization Program in India

Dec 26. The rotavirus vaccine (RVV) was one of the first vaccine that underwent a product switch, under the Universal Immunization Programme of India, where two different products were used and a single-dose vaccine presentation was introduced in the routine immunization schedule. The timeline below details the introduction of RVV and the series of switches that were made between 2016–2023.



JSI has been providing technical assistance to the rotavirus vaccine (RVV) introduction in India since 2015. As the New Vaccine Introduction Team reflects on the journey of the RVV product switch, several key takeaways were apparent that enabled the successful RVV product switch.

Strong leadership and systematic planning and guidelines from the Ministry of Health & Family Welfare (MoHFW), Government of India (GOI). On June 2, 2021 the MoHFW released guidance that all 11 states who were currently using Rotasiil® lyophilized will be switched to Rotasiil® liquid. On September 15, 2021 they issued additional guidance to the 5 states where Rotavac® was being used, and directed a switch to Rotasiil® liquid. Prior to these declarations, the GoI issued guidance to ease and sensitize all stakeholders. These guidelines mandated that new products were only used when old RVV products were exhausted (Early Expiry First Out — EEFO), ensured that all session sites had at least one type of RVV available at all times, instructed that no session site had both the new and old product at the same time, and that no PHC was given a new product if >21 days' supply of the old product was available.

Indigenous vaccine produced in India. Rotavac®, Rotasiil® lyophilized, and Rotasiil® liquid vaccine were all indigenously manufactured in India, which allowed for the vaccines to effectively address the high burden of rotavirus diarrhea in India at an affordable price.

Robust planning, guidelines, and job aids developed and deployed. Careful planning at all levels, with clearly

defined responsibilities, activities, and timelines, was imperative to the RVV product switch. New Job Aids were developed for health workers and Cold Chain Handlers to discuss key facts about the switch, interchangeability of vaccine products, product schedule, route, placement at the session sites, transportation, contraindications, recording and monitoring, and reporting of AEFI.

Leveraged virtual platform for hybrid/ refresher training during the pandemic. One of the crucial components of a new vaccine introduction or product switch is training of program managers and frontline health workers. However, in-person training for the RVV product switch was not possible in many places/states because of the restrictions on gatherings due to COVID-19 pandemic. A hybrid (online and in-person) training model was adopted in both synchronous and asynchronous modes to allow flexibility for facilitators and participants to join during/ post-working hours. The use of digital media was pivotal for the successful product switch.

Intensive monitoring of the supply chain through an electronic vaccine intelligence network (eVIN). A well-defined cold chain network was crucial in the product switch, as it ensured that the Rotasiil® liquid vaccine reached the states/UTs well in advance of the planned state readiness, even during COVID-19. The performance and efficiency of the cold chain system at different levels were continuously monitored, through supervisory visits and review meetings at state/UTs.

JSI in collaboration with MoHFW, GoI, was able to contribute in the successful implementation of new guidelines and guidance of the 5.57 million healthcare workers in India. Every country's context is unique, requiring localized and meticulous planning before implementing a product switch; however, experiences from India's RVV product switch can be adapted and learned from.

Fuente: JSI Health . Disponible en https://acortar.link/hHoVjz

Scientists hope to bank on local vaccine as leptospirosis cases hit 5-year high in Philippines

Dec 27. The Philippines' top state university is calling on research and development partners and co-investors to fund further clinical trials for a local leptospirosis vaccine, as cases hit a five-year high in the country.

Microbial immunology expert Dr Nina Gloriani and microbiologist Dr Sharon Villanueva, the country's two leading experts on leptospirosis, are developing the first locally-produced vaccine that targets specific strains.

Through years of study, they identified the types of Leptospira bacteria that exist in the Philippines and the animals that carry them.

Dr Gloriani said tests showed that imported vaccines could not neutralise the types of Leptospira bacteria found in the Philippines.

"Leptospirosis is geographic. What you have in the United States may be different from what we have here, and it has a bearing especially to the development of vaccines," she told CNA.

She added that developing localised vaccines could benefit other Southeast Asian nations which may have similar bacteria types to those found in the Philippines.

In 2010, Dr Gloriani secured a five-year grant from Japan to set up a laboratory at the University of the Philippines' (UP) College of Public Health, where initial testing proved the vaccine was safe and efficacious on a hamster control group.

The next phase of trials will be more challenging, where the vaccine will be tested on dogs. The plan is for the vaccine to be used on other animals, before being developed for humans.

RISE IN CASES

The scientists have mapped the risk factors that contribute to the circulation of the disease, showing the probability of contracting leptospirosis is much higher in dense and underdeveloped areas.

The zoonotic disease is transmitted to humans from the tissue or urine of animals infected with the Leptospira bacteria. They seep into water and soil, making residents staying in flood-prone areas particularly susceptible.

Rodents are one of the most common carriers of leptospirosis. Underprivileged groups are more vulnerable, as they are more likely to live in unsanitary conditions where such pests thrive.

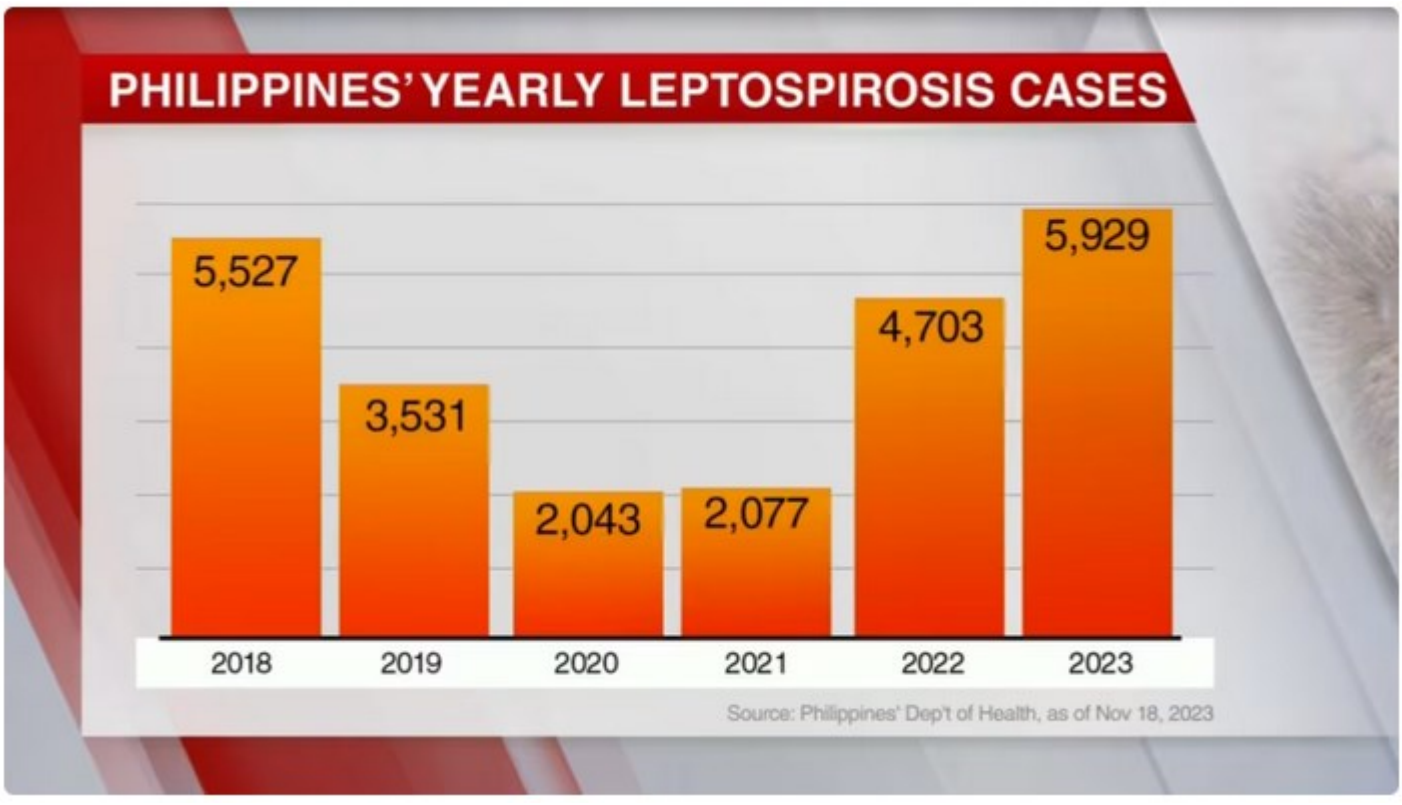
Other animals such as dogs and livestock including carabao, cows and goats can also spread the disease.

“A majority of those affected by leptospirosis belong to the low- and middle-income class. Most of them do not receive enough support for them to be taken care of, especially in hospitals,” said Dr Villanueva.

“(We) want to alleviate them from those problems, that is the number one motivation that we have as Filipino researchers."

This year, as of Nov 18, nearly 6,000 people have been infected and 639 have died from leptospirosis in the nation, the highest in five years.

Cases are even higher than in 2018, when an outbreak of the disease rampaged through multiple parts of Metro Manila.



From 2018 to 2023, the disease registered an above 10 per cent average fatality rate, with more than 420 deaths per year.

NEGLECTED DISEASE

Floodwaters increase the risk of transmission, as contaminated water could come into contact with an open wound, especially when people wade through without protective gear.

The illness is endemic in tropical Philippines, where about 24 million people have limited or no access to toilets.

Dr Villanueva added that labourers who serve as primary breadwinners in Filipino households are especially at risk, as they are often outdoors. For them, getting infected could mean losing their primary income source while they recover from the disease.

“It’s not just a health problem but also an economic burden to those affected families,” she said.

Scientists like her are lobbying for leptospirosis to be included in the World Health Organization’s list of neglected tropical diseases to raise awareness and funding in combatting the disease.

Dr Gloriani said that if the disease was prevalent among privileged groups, sourcing funding for vaccine development would be much easier.

Japan was able to bring down leptospirosis fatalities through vaccination targeting at-risk populations, Dr Villanueva added.

DEALING WITH THE DISEASE

Leptospirosis can cause a wide range of symptoms like fever, headache, chills and muscle pains, which are similar to those of regular colds and flu, making detection difficult.

However, if left untreated, it is potentially life-threatening and can lead to kidney damage, liver failure, and even death.

Among those suffering from the disease is grade-12 student Cyrus Lescano, who was diagnosed with severe leptospirosis two months ago. He later faced complications in his lungs and kidneys.

Medical services in the public hospital where he was initially confined at in his home province of Laguna are considered inadequate to deal with his health complications. His family packed up and took him to a hospital in Metro Manila for treatment.

Since then, they have all been living with Cyrus in his admission room at the medical facility, and their bill has ballooned beyond what they can afford.

“We lost our source of income, which was cooking and selling food, because we had to care for him here in the hospital. If you are poor, it is difficult,” said his father Claro Lescano.

The UP Manila lab opened 13 years ago, but there is more work to be done as funding remains scarce, the scientists said.

As the nation awaits the availability of such a vaccine, the burden of leptospirosis continues to weigh heaviest on underprivileged groups such as Cyrus and his family.

Fuente: Channel News Asia. Disponible en https://acortar.link/g6VHgV

Pandemic Alert: Why Is India Facing a Severe Deficit In Adult Vaccination?

Dec 28. A study conducted in India among adults aged 45 and above found less than 2% uptake for influenza, pneumococcal, hepatitis B, and typhoid vaccines. High costs of adult vaccines in India deter many patients, leading to preventable hospitalizations and deaths. India requires a comprehensive government policy emphasizing adult vaccination, contributing to the low uptake. To understand more about this hidden pandemic, and the reasons why there is an immunity gap in the country, we have Dr. Muhammed Niyas, Department of Infectious Diseases, KIMSHEALTH Trivandrum, with us.

In an exclusive interaction with TheHealthSite.com, Dr Niyas shared insightful data on where is India lacking when it comes to 'immunization for all', and why there is a huge gap in understanding the importance of immunization in the countrymen.

The importance of immunization; India facing a severe deficit in adult vaccination

Vaccination is often perceived as something exclusive to children. When recommending influenza or pneumococcal vaccines to adult patients, there is often suspicion and hesitation, with responses like, "It's okay, we'll take it later." The COVID-19 pandemic has brought about some changes in this attitude, but hesitancy among adults remains a significant challenge. While the pandemic has prompted a shift in thinking, the uptake of adult vaccines, especially in our country, remains disappointingly low. In contrast to childhood immunization, there is no comprehensive government policy that emphasizes adult vaccination. Even in countries where vaccines are nationally recommended, the uptake remains suboptimal. For instance, in the United States, the influenza vaccine's uptake hovers just above 50%. A study conducted in India among adults aged 45 and above found that the uptake of influenza, pneumococcal, hepatitis B, and typhoid vaccines was less than 2%.

Vaccine Hesitancy Among Adults: What Causes It?

Several factors contribute to vaccine hesitancy, with ignorance and misinformation playing a significant role. Many adults are unaware of the potential benefits of vaccines, and there are still individuals who view vaccination as part of nefarious plans, based on misinformation circulated through social media, filled with anti -vaccination conspiracy theories. These messages often exaggerate vaccine side effects, creating an atmosphere of misinformation that even makes some doctors hesitant to recommend vaccines to eligible patients. Additionally, the high cost of certain adult vaccines deters many Indian patients from getting vaccinated, resulting in an increased number of preventable hospital admissions and deaths.

Important Vaccines for Adults

Some adult vaccines are recommended for all adults, regardless of their age or underlying medical conditions. Examples include the influenza vaccine and the hepatitis B vaccine. Others are recommended for specific age groups or individuals with particular comorbidities, such as the pneumococcal vaccine and the shingles

(herpes zoster) vaccine.

Influenza Vaccine

Influenza is a viral disease often perceived as mild and self-limiting. While this may be true for many healthy individuals, some are at risk of severe influenza, which can lead to respiratory failure, the need for ventilation, and even death. Annual influenza vaccination is a crucial measure to prevent influenza infection, given the frequent genetic changes in influenza viruses. Therefore, it is essential to receive an updated influenza vaccine every year before the peak influenza season. In Kerala, the ideal timing for vaccination is in the months preceding the monsoon (April-May) since influenza peaks during the monsoon, and updated vaccines are available during this period. Priority should be given to elderly individuals and those with chronic medical conditions such as diabetes, heart disease, lung disease, kidney disease, and liver disease.

Pneumococcal Vaccine

Pneumococcus is a bacterium responsible for many cases of pneumonia and a common cause of meningitis. Effective vaccines are available for pneumococcus and are recommended for the elderly (aged 65 and above), individuals with compromised immunity, and those with chronic medical conditions.

Hepatitis B Vaccine

Hepatitis B virus infects the liver and can lead to cirrhosis and liver cancer. This can be prevented with a highly effective, widely available, and cost-effective vaccine. Hepatitis B vaccination is recommended for all individuals. It usually involves three doses. Remember, it's a vaccine that can prevent cancer!

Shingles (Herpes Zoster) Vaccine

Shingles (herpes zoster) result from the reactivation of the chickenpox virus and manifest as painful, blister-like lesions in a localized area of the body. Even after the lesions heal, pain may persist. The herpes zoster vaccine is highly effective and recommended for individuals aged 50 and above, with the risk of shingles increasing with age.

These are just a few examples of the commonly administered vaccinations. There are many other vaccines that adults may be eligible for, depending on their comorbid conditions. Efforts to enhance adult vaccination rates in India are essential. Awareness campaigns should focus on the safety and effectiveness of adult vaccines. The government should establish a national policy for adult vaccination. Doctors should be encouraged to discuss adult vaccines with their patients and prescribe recommended vaccines. Moreover, the cost of essential adult vaccines should be made affordable for the general population. Only through a coordinated effort can we improve the status of adult vaccination in India.

Fuente: The Health Site. Disponible en https://acortar.link/O1mzFs

Cuba, The West, And An 'Elusive' Vaccine

Dec 29. Until very recently, meningitis B was a leading cause of death in babies and young children in Europe and North America.

In these countries it sickened tens of thousands, and killed hundreds, sometimes thousands of children every year.

Those who survived were more often than not left with a permanent disability, such as brain damage, epilepsy, hearing loss, or the loss of limbs after undergoing amputation to stem the infection.

There are twelve different groups of meningococcal disease. Six - A, B, C, W, X and Y - are responsible for most cases of meningitis. Group B is particularly dangerous to adolescents, and different groups dominate in different countries. In Europe, 90% of cases are caused by group B, which makes total child deaths from meningitis in Europe higher than in the US and Canada.

So deadly, in fact, that the UK's NHS reported a few years ago that meningitis B was the leading infectious killer of babies and young children in Europe.

In the UK alone this translated to around 60 dead babies and children a year, with 600 infected and left with devastating life-changing and lifelong illness. In the US, where group B is far less prevalent, the toll in 2015 was also 60.

Much changed in 2015 when a vaccine heralded as a breakthrough against group B was approved.

Known as Bexsero and developed by the Swiss pharma company Novartis (the vaccine rights have since been bought by GlaxoSmithKline), it was lauded as a significant achievement against a disease for which governments and researchers claimed had been difficult to manufacture a vaccine.

Within months, Pfizer followed Novartis with its own group B vaccine. The Pfizer vaccine, Trumenba, was rolled out the same year in the US.

The UK's health secretary at the time, Jeremy Hunt, said the UK would be "the first country in the world to have a nationwide meningitis B vaccination programme."

The results were great. By 2020, Britain's NHS reported that the vaccine had reduced cases of meningitis by two-thirds.

(It is worth noting that the British government at first rejected the inclusion of the vaccine in the UK's childhood immunisation programme on the basis of cost effectiveness, before overwhelming pressure from the families of meningitis B victims forced them into it).

These two companies then, appeared to have done the world a great service, saving many children from life changing illness and death.

Mainstream media extolled big pharma innovation. CNN hailed the vaccines as 'a turning point,' recounting the story of a 17 year-old who had died of meningitis B a few years earlier. A 2016 article in Scientific American said a vaccine for group B had "remained elusive" until Bexsero.

The only problem with these stories?

They were lies.

Cuba had made the meningitis B vaccine breakthrough more than twenty-five years earlier.

In the late 1970s and early 1980s Cuba faced a devastating outbreak of meningitis, with groups B and C the main culprits. The Cuban government struck a deal with France to buy its group C vaccine, but no vaccine existed against group B. So in 1982, the government's state biotech agency, the Finlay Institute, assembled a team, led by female biochemist Concepción Campa, to invent the world's first meningitis B vaccine.

And that's exactly what Campa and her team did.

A meningitis B vaccine was being administered by 1988 and by 1990 more than 3 million Cubans had been vaccinated. Meningitis B incidence and deaths on the island plummeted, and the epidemic was declared over.

UN immunologists sent to the island to rate the vaccine said it had a 95% efficacy rate, rising to 97% in the high-risk three months to six years age group. In 1989, the UN awarded Campa's team the UN gold medal for global innovation, recognising that year's most outstanding scientific achievement. The vaccine has been included in Cuba's childhood immunisation schedule ever since.

So no, the UK was not the first to do it. Not by decades. No, the Pfizer and Novartis vaccines weren't turning points. No, a vaccine against meningitis B had not remained elusive.

Did western media fail to investigate? Or did they just omit the information in service of capitalist empire?

Cuba's vaccine was not just for Cubans. In the 90s Cuba licensed the vaccine to 15 other Latin American and Caribbean countries, slashing rates of meningitis B in those countries too.

Babies and children in the US, the UK and other European countries could have been similar beneficiaries.

Our governments chose otherwise.

In the 90s the British pharmaceutical company GlaxoSmithKline, struggling to make its own meningitis B vaccine, applied for permission to test Cuba's vaccine in Belgium. But because its labs in the country were owned by the US subsidiary of GSK, US sanctions against Cuba made it illegal. The deal ultimately went nowhere. The BBC reported the story in 1999.

This was the extent of the mainstream news coverage of Cuba's incredible meningitis B success story.

As a result, for more than twenty-five years, babies and children Europe and the US continued to die at higher rates than children in Cuba and Latin America because of the ideological fixation on punishing a country for defying the US order.

For refusing, basically, to do capitalism.

Despite independent assessments and UN medals, some researchers over the years have tried to cast doubt on the Cuban vaccine, as a way to defend its non-use in the west. Cuban scientists in response have had to publish papers defending the vaccine. Of course the vaccine doesn't prevent every meningitis B death. But even studies from GlaxoSmithKline, when they were finally able to test it, showed its incredibly high efficacy. Certainly higher than the zero efficacy induced by not having a vaccine for so many years.

The numbers don't lie. Cuba and the 15 other Caribbean and Latin American countries that use the Cuban vaccine have for years had lower incidence of meningitis B than countries like the UK, New Zealand and Ireland.

One truth is undeniable.

Babies and children in the west were left unprotected against meningitis B for more than 25 years whilst a vaccine that could have saved lives and prevented devastating future health problems existed.

Cuba achieved, and still achieves (as demonstrated by its homemade covid vaccine), incredible biotech success despite punishing western sanctions.

The US stance on Cuba of course has never been about freedom and democracy. The US and its allies had, and still have, no trouble supporting dictatorships when it is in their geo-political interests. As I've written about before.

Nowadays, most of the world, including European countries, see the folly of the US stance on Cuba. Most vote at the UN to end the US embargo. But the US always uses its veto power to override global democracy. At the last vote just a few weeks ago, only two countries voted against the embargo: the US and Israel.

From the Cuban embargo preventing child saving vaccines, to these vaccines being rejected due to cost effectiveness, we see how our lives and the lives of children are so often at the whim of capitalist logic and ideology.

This, disgracefully, is not unusual.

From Gaza, to Gateshead to Galveston, babies and children were, and are, routinely killed because of an ideology that places capitalist interests above all else.

How clearly we see this in Palestine.

How clearly we see this with covid.

How clearly we see this with climate breakdown.

In the service of enforcing capitalists interests and US empire, the lives of babies and children are so often acceptable collateral damage.

But Cuba shows us it doesn't have to be like this.

Cuba shows us a currently existing, different way to do things.

Can we really argue it's not a better way?

Fuente: ¡Do Not Panic!. Disponible en https://acortar.link/He1cXd

COVAX. Working for global equitable access to COVID-19 vaccines

Dec 31. No one is safe, until everyone is safe

COVAX was the vaccines pillar of the Access to COVID-19 Tools (ACT) Accelerator. The ACT Accelerator is a ground-breaking global collaboration to accelerate the development, production, and equitable access to COVID-19 tests, treatments, and vaccines.

COVAX was co-led by the Coalition for Epidemic Preparedness Innovations (CEPI), Gavi and the World Health Organization (WHO), alongside key delivery partner UNICEF. In the Americas, the PAHO Revolving Fund was the recognized procurement agent for COVAX. It aimed to accelerate the development and manufacture of COVID-19 vaccines and to guarantee fair and equitable access for every country in the world.

WHO had multiple roles within COVAX: It provided normative guidance on vaccine policy, regulation, safety, R&D, allocation, and country readiness and delivery.

WHO's Strategic Advisory Group of Experts (SAGE) on Immunization developed evidence-based immunization policy recommendations. Its Emergency Use Listing (EUL) / prequalification programmes ensured harmonized review and authorization across member states.

WHO provided global coordination and member state support on vaccine safety monitoring. It developed the target product profiles for COVID-19 vaccines and provided R&D technical coordination.

On behalf of the COVAX Partners, WHO developed a No-Fault Compensation Program to reduce the financial and liability exposure of the AMC92 and humanitarian agencies operating in the AMC92 and to facilitate access to compensation for eligible injured individuals.

WHO also led, together with UNICEF, the Country Readiness and Delivery workstream, which provided support to countries as they prepared to receive and administer vaccines.

Recognizing the urgency of turning vaccine doses into vaccinated, protected communities, WHO, UNICEF and Gavi, the Vaccine Alliance launched the COVID-19 Vaccine Delivery Partnership (CoVDP). The CoVDP built on existing resources to support the AMC 92 and focused foremost on the 34 countries that were at or below 10% coverage in January 2022. Working closely with countries to understand bottlenecks to vaccination, the CoVDP offered access to urgent operational funding, technical assistance and political engagement to rapidly scale up vaccination and monitor progress towards targets.

COVAX

CEPI Gavi The Vaccine Alliance unicef World Health Organization

Fuente: World Health Organization. Disponible en https://acortar.link/Kxcver

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Patentes registradas en Patentscope

Estrategia de búqueda: *Vaccine in the title or abstract AND 20231221:20231231 as the publication date 42 records*

1.20230405112PHARMACEUTICAL COMPOSITION, PHARMACEUTICAL COMBINED FORMULATION, AND COMBINED FORMULATION KIT FOR PREVENTION OR TREATMENT OF CHRONIC HEPATITIS B, EACH COMPRISING, AS ACTIVE INGREDIENT, ORAL ANTIVIRAL AGENT AND THERAPEUTIC VACCINE INCLUDING LIPOPEPTIDE AND POLY(I:C) ADJUVANT
US - 21.12.2023
Clasificación Internacional A61K 39/29 Nº de solicitud 18037022 Solicitante CHA VACCINE RESEARCH INSTITUTE CO., LTD Inventor/a Jung Sun Yum
The present invention relates to a pharmaceutical composition, a pharmaceutical combined formulation, and a combined formulation kit, each comprising, as active ingredients, an oral antiviral agent and a therapeutic vaccine including a lipopeptide and a poly(I:C) adjuvant. When the pharmaceutical composition, the pharmaceutical combined agent, and the combined formulation kit are administered/used in hepatitis B patients, a remarkable synergy occurs in terms of therapeutic index for chronic hepatitis B, compared to patients who have undergone standard therapy including the administration of conventional antiviral agents, exhibiting the possibility of completely curing the disease.
2.WO/2023/249996VACCINE ADJUVANTS
WO - 28.12.2023
Clasificación Internacional C07D 487/06 Nº de solicitud PCT/US2023/025836 Solicitante VIROVAX LLC Inventor/a DAVID, Sunil, Abraham

A vaccine composition can include an adjuvant compound and a pharmaceutical carrier having the adjuvant. The vaccine composition can also include an immunological vaccine agent in the pharmaceutical carrier with the adjuvant. The immunological vaccine agent has an antigen having immunogenicity. The adjuvant compound can be an adjuvant for a vaccine for a virus, such as Chikungunya virus, Dengue virus Types 1-4, Zika virus, Yellow Fever virus, West Nile virus, Influenza virus, SARS-CoV-2, Smallpox virus, Polio virus, Tetanus virus, Human immunodeficiency virus (HIV), human papilloma virus (HPV), Tick-Borne Flavivirus, Powassan Virus, Mosquito-Borne Flavivirus, Encephalitis Virus, or combinations thereof. The compositions can also include a particle having the adjuvant compound chemisorbed thereon.

3.WO/2023/247747PROTECTIVE STAPHYLOCOCCAL EXOTOXIN VACCINE
WO - 28.12.2023
Clasificación Internacional A61K 39/085 Nº de solicitud PCT/EP2023/067094 Solicitante BIOMEDIZINISCHE FORSCHUNG & BIO-PRODUKTE AG Inventor/a EIBL, Martha M.
A non-pyrogenic Staphylococcal superantigen vaccine comprising a combination of detoxified Staphylococcal superantigen vaccine antigens which are genetically modified toxins that incorporate detoxifying mutations in its T cell receptor binding region and MHC Class II binding region, wherein the combination comprises at least the vaccine antigens Staphylococcal Exotoxin B (SEB) and any one or both of Staphylococcal Exotoxin C (SEC) and Staphylococcal toxic shock syndrome toxin-1 (TSST-1).

4.20230405107BUNYAVIRALES VACCINE
US - 21.12.2023
Clasificación Internacional A61K 39/12 Nº de solicitud 18146995 Solicitante CureVac SE Inventor/a Benjamin PETSCH
The present invention is directed to an artificial nucleic acid, particularly to an artificial RNA, and to polypeptides suitable for use in treatment or prophylaxis of an infection with a virus of the order Bunyavirales, particularly Severe fever with thrombocytopenia syndrome virus (SFTSV), Rift Valley fever virus (RVFV), or Crimean-Congo hemorrhagic fever virus (CCHFV), or a disorder related to such an infection. The present invention further concerns a Bunyavirales vaccine, particularly a SFTSV, RVFV, or CCHFV vaccine. The present invention is directed to an artificial nucleic acid, polypeptides, compositions and vaccines comprising the artificial nucleic acid or the polypeptides. The invention further concerns a method of treating or preventing a disorder or a disease, first and second medical uses of the artificial nucleic acid, polypeptides, compositions and vaccines. Further, the invention is directed to a kit, particularly to a kit of parts, comprising the artificial nucleic acid, polypeptides, compositions and vaccines.

5.20230406910METHOD FOR PRODUCING INFLUENZA HA SPLIT VACCINE
US - 21.12.2023
Clasificación Internacional C07K 16/10 Nº de solicitud 18341960 Solicitante JAPAN as represented by DIRECTOR GENERAL of National Institute of Infectious Diseases Inventor/a Yoshimasa Takahashi
Provided is a method for producing an influenza HA split vaccine which produces an antibody that binds to a HA stem region of influenza, the HA stem region being less likely to cause antigenic variation, An influenza HA split vaccine is subjected to an acidic treatment. Through the acidic treatment, an influenza HA split vaccine which produces an antibody that binds to a LAH of the HA stem region is obtained. This influenza HA split vaccine has an excellent protective ability against infection of other influenza viruses of different antigenicity.

6.WO/2023/245139MUTANT CALR-PEPTIDE BASED VACCINE
WO - 21.12.2023
Clasificación Internacional A61K 39/00 Nº de solicitud PCT/US2023/068539 Solicitante ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI Inventor/a BHARDWAJ, Nina

The presently claimed and described technology provides vaccine compositions comprising at least two mutant-calreticulin (CALR)-peptides, wherein the at least two peptides have overlapping sequences and methods for administration of the vaccine compositions to induce or elicit an antitumor response or improve or enhance antitumor T cell immunity and methods of preventing, treating, reducing, or slowing progression or development of a hematological malignancy in a subject with a calreticulin mutation.

7.20230405111EBV-TARGETED ALLOGENEIC B CELL VACCINE AND PREPARATION METHOD THEREFOR
US - 21.12.2023
Clasificación Internacional A61K 39/245 Nº de solicitud 18017746 Solicitante West China Hospital of Sichuan University Inventor/a Hanshuo YANG
The invention belongs to the field of biotechnology, and relates to an allogeneic B cell vaccine against various human-susceptible viruses and a preparation method therefor. The vaccine has anti-tumor and/or anti-viral preventive and/or therapeutic effects. Specifically, the present invention provides a B cell composition, wherein comprising an allogeneic B cell and a virus antigen, the B cell composition is irradiated with a certain dose of ionizing irradiation. The present invention also provides a B cell vaccine, comprising the above B cell composition. The invention also provides a preparation method for the B cell vaccine and a method and system for improving the antigen presentation ability of the B cell.

8.WO/2023/247613VACCINE FOR PROTECTION AGAINST LEPTOSPIRA SEROVAR AUSTRALIS
WO - 28.12.2023
Clasificación Internacional A61K 39/02 Nº de solicitud PCT/EP2023/066775 Solicitante INTERVET INTERNATIONAL B.V. Inventor/a KLAASEN, Henricus Leo Bernardus Maria
The present invention is directed to providing a canine with protective immunity against *Leptospira* serovar Australis with a vaccine that comprises a non-Australis *Leptospira* serovar.

9.WO/2023/247622VACCINE FOR PROTECTION AGAINST LEPTOSPIRA SEROVAR ICTEROHAEMORRHAGIAE
WO - 28.12.2023
Clasificación Internacional A61K 39/02 Nº de solicitud PCT/EP2023/066789 Solicitante INTERVET INTERNATIONAL B.V. Inventor/a KLAASEN, Henricus Leo Bernardus Maria
The present invention is directed to providing a canine with protective immunity against *Leptospira* serovar Icterohaemorrhagiae with a vaccine that comprises non- Icterohaemorrhagiae *Leptospira* serovar.

10.WO/2023/247619VACCINE FOR PROTECTION AGAINST *LEPTOSPIRA* SEROVAR GRIPPOTYPHOSA
WO - 28.12.2023
Clasificación Internacional A61K 39/02 Nº de solicitud PCT/EP2023/066785 Solicitante INTERVET INTERNATIONAL B.V. Inventor/a KLAASEN, Henricus Leo Bernardus Maria
The present invention is directed to providing a canine with protective immunity against *Leptospira* serovar Grippotyphosa with a vaccine that comprises a non-Grippotyphosa *Leptospira* serovar.

11.WO/2023/243890VACCINE COMPRISING NATURAL KILLER CELLS LOADED WITH LIGANDS OF NATURAL KILLER T CELLS AND CANCER ANTIGENS
WO - 21.12.2023
Clasificación Internacional A61K 39/00 Nº de solicitud PCT/KR2023/006867 Solicitante CELLID CO., LTD. Inventor/a KANG, Chang-Yuil
The present invention relates to a vaccine for immune prophylaxis and therapy, the vaccine comprising natural killer cells loaded with ligands of natural killer T cells and antigens, and more specifically, to a vaccine for immunotherapy, the vaccine comprising natural killer cells loaded with alpha-

galactosylceramide (α-GC), which is a natural killer T cell ligand and a type of glycolipid. The composition according to the present invention can be used as an anticancer immunotherapy since natural killer cells can be more easily obtained than dendritic cells, and immunization with natural killer cells loaded with ligands of the natural killer T cells and antigens induces a significant level of cytotoxic T lymphocyte response and also has a therapeutic effect on malignant tumors.

12.WO/2023/246109CELL STRAIN FOR TREATING MELANOMA, AND MULTI-TITER WHOLE-CELL VACCINE THEREOF AND USE METHOD THEREFOR
WO - 28.12.2023
Clasificación Internacional C12N 5/09 Nº de solicitud PCT/CN2023/074440 Solicitante AIR FORCE MEDICAL UNIVERSITY Inventor/a GAO, Tianwen
Provided are a cell strain for treating melanoma, and a multi-titer whole-cell vaccine prepared therefrom and a use method. The multi-titer whole-cell vaccine is prepared by means of mixing a ZJMM-45 homologous human melanoma cell strain with the deposit number CCTCC NO: C2022105 and a FLFMM-34 homologous human melanoma cell strain with the deposit number CCTCC NO: C2022100 in a molar ratio of 1:1. The multi-titer whole-cell vaccine can increase the specific anti-tumor immune response of malignant melanoma vaccines for the Han Chinese population, and obviously improve the total survival rate of patients.

13.11850280Oral vaccine for peste-des-petits-ruminants virus
US - 26.12.2023
Clasificación Internacional A61K 39/155 Nº de solicitud 17218939 Solicitante US BIOLOGIC, INC Inventor/a Jolieke Gerdy van Oosterwijk
The inventive subject matter includes a viral-vectored composition made of a bacterial expression vehicle expressing one or more recombinant viral protein antigens and its method of use. In particular, this invention relates to a vaccine for oral administration. Preferably, the bacterial expression vehicle is *Bacillus subtilis.*

14.WO/2023/244001TUBERCULOSIS VACCINE COMPOSITION CONTAINING IMMUNE-ACTIVE SITE FUSION PROTEIN
WO - 21.12.2023
Clasificación Internacional A61K 39/04 Nº de solicitud PCT/KR2023/008160 Solicitante MYCO-RAPHA INC. Inventor/a KIM, Hwa Jung
The present invention provides a fusion protein vaccine composition by the identification of immune-active domains (sites or segments) of Rv2299c protein, the removal of unnecessary sites or the selection of only necessary portions, and linkage to different immune-active proteins or sites, to effectively activate an immune response in tuberculosis patients, and thus can significantly contribute to the prevention and treatment of tuberculosis.

15.WO/2023/241497USE OF IMMUNE EFFICACY OR CLINICAL RELATIVE IMMUNE EFFICACY IN EVALUATION OF VACCINE RESPONSE STRENGTH OF SUBJECT
WO - 21.12.2023
Clasificación Internacional G01N 33/68 Nº de solicitud PCT/CN2023/099614 Solicitante PEKING UNIVERSITY Inventor/a LI, Fangting
A use of immune efficacy ε or clinical relative immune efficacy ε* in the evaluation of the vaccine response strength of a subject, as well as a method, system, and test kit for evaluating the immunity of a test subject after inoculation of a vaccine by utilizing the selected clinical index. Starting from the principles of immunology, core signal pathways and circulation of lymphocytes and cytokines in the body that participate in human immune response as well as an anti-infection dynamic process of innate and adaptive immune responses to an antigen host are comprehensively considered, clinical indices capable

of measuring immune efficacy and predicting a vaccine response strength are chosen, and evaluation of immunity after inoculation according to immune efficacy ε or clinical relative immune efficacy ε* is proposed, where immune efficacy ε is the product of immune efficacy ε_k of the immune system killing infected cells and immune efficacy ε_c of the immune system killing infected cells.

16.WO/2023/240829HEAT-RESISTANT PROTECTIVE AGENT FOR PORCINE EPIDEMIC DIARRHEA AND SWINE TRANSMISSIBLE GASTROENTERITIS COMBINED LIVE VACCINE, PREPARATION METHOD THEREFOR, AND USE THEREOF
WO - 21.12.2023
Clasificación Internacional A61K 9/19 Nº de solicitud PCT/CN2022/121205 Solicitante JINYUBAOLING BIO-PHARMACEUTICAL CO., LTD. Inventor/a LI, Chao
Disclosed are a heat-resistant protective agent for porcine epidemic diarrhea and swine transmissible gastroenteritis combined live vaccine, a preparation method therefor, and use thereof. The heat-resistant protective agent comprises 5-10 parts by weight of sucrose, 5-10 parts by weight of maltodextrin, 0.5-1 part by weight of ascorbic acid, 1-3 parts by weight of polyvinylpyrrolidone, 1-3 parts by weight of glycine, 1-2 parts by weight of carboxymethyl cellulose, and 3-5 parts by weight of tryptone. When the heat-resistant protective agent is used for preparing the porcine epidemic diarrhea and swine transmissible gastroenteritis combined live vaccine, the loss of each viral antigen in the freeze-drying process can be effectively reduced, and the immune efficacy and long-term stability of the porcine epidemic diarrhea and swine transmissible gastroenteritis combined live vaccine formulation can be kept.

17.WO/2023/248262METHOD FOR PREPARING AN INACTIVATED VIRUS AND AN ANTIVIRAL VACCINE BASED ON AN INACTIVATED VIRUS
WO - 28.12.2023
Clasificación Internacional C12N 7/00 Nº de solicitud PCT/IT2022/000030 Solicitante ALMA MATER STUDIORUM - UNIVERSITA' DI BOLOGNA Inventor/a ROCCULI, Pietro
The present invention relates to a method for preparing an inactivated virus and an antiviral vaccine based on an inactivated virus, to be used both in the medical field and in the veterinary field, wherein the step of inactivating the virus is capable of safeguarding the antigenic protein structure of the virus itself, such as, for example, SARS-CoV-2.

18.20230406899PRODUCTS AND METHODS FOR THE DIAGNOSIS AND DIFFERENTIATION OF HEPARIN-INDUCED THROMBOCYTOPENIA FROM VACCINE-INDUCED IMMUNE THROMBOTIC THROMBOCYTOPENIA AND NON-HEPARIN-INDUCED THROMBOCYTOPENIA
US - 21.12.2023
Clasificación Internacional C07K 14/52 Nº de solicitud 18211970 Solicitante McMaster University Inventor/a Ishac Nazy
Described are mutant Platelet Factor 4 (PF4) proteins that exhibit different binding affinities to vaccine induced immune thrombotic thrombocytopenia (VITT) antibodies or non-heparin-induced thrombocytopenia (non-HIT) antibodies relative to heparin-induced thrombocytopenia (HIT) antibodies. Also provided herein are methods for differentiating between VITT, HIT, and/or non-HIT in subjects suspected of having VITT, HIT, or non-HIT.

19.20230405103COXIELLA BURNETII AVIRULENT NINE MILE PHASE II VIABLE BACTERIA AND METHODS OF USE
US - 21.12.2023
Clasificación Internacional A61K 39/02 Nº de solicitud 17969740 Solicitante BOARD OF REGENTS, THE UNIVERSITY OF TEXAS SYSTEM Inventor/a Guoquan F. Zhang
Certain embodiments are directed to the use of avirulent LPS phase II viable bacteria as a live attenuated vaccine against human Q fever and method of immunizing a subject with said vaccine.

20.20230405100VACCINE
US - 21.12.2023
Clasificación Internacional A61K 39/00 Nº de solicitud 18166420 Solicitante Treos Bio Limited Inventor/a Julianna Lisziewicz
The disclosure relates to polypeptides and pharmaceutical compositions comprising polypeptides that find use in the prevention or treatment of cancer, in particular breast cancer, ovarian cancer and colorectal cancer. The disclosure also relates to methods of inducing a cytotoxic T cell response in a subject or treating cancer by administering pharmaceutical compositions comprising the peptides, and companion diagnostic methods of identifying subjects for treatment. The peptides comprise T cell epitopes that are immunogenic in a high percentage of patients.

21.20230407269Vaccine
US - 21.12.2023
Clasificación Internacional C12N 7/00 Nº de solicitud 18033809 Solicitante Erez Yahalomi Inventor/a Erez Yahalomi
Methods and systems and architecture for producing cells, virus and bacteria of different sizes and structures by parameters control of temperature or humidity. While these parameters can be constant or time dependent. Said systems may comprising heating elements such as electric heaters, incubating chambers and cooling elements.

22.WO/2023/245140SYSTEMS AND METHODS FOR THE PREPARATION OF VACCINES UTILIZING PREDICTABLY INACTIVATED PATHOGENS
WO - 21.12.2023
Clasificación Internacional A61K 39/215 Nº de solicitud PCT/US2023/068541 Solicitante PERUMALA HOLDINGS, LLC Inventor/a PISHARODI, Madhavan
A method is described for producing a vaccine from a neutered pathogenic source. The neutered pathogenic source may be a SARS-COV-2 virus that is neutered with a defined dose of UV-C light. The neutered SARS-COV-2 viral vaccine is administered through an inhalation pump.

23.3204952CORONAVIRUS VACCINE
CA - 26.12.2023
Clasificación Internacional A61K 39/215 Nº de solicitud 3204952 Solicitante BIONTECH SE Inventor/a MUIK, ALEXANDER
This disclosure relates to the field of RNA to prevent or treat coronavirus infection. In particular, the present disclosure relates to methods and agents for vaccination against coronavirus infection and inducing effective coronavirus antigen-specific immune responses such as antibody and/or T cell responses.

24.806509ORAL ADMINISTRATION OF CORONAVIRUS SPIKE PROTEIN FOR ALTERING CYTOKINE LEVELS AND PROVIDING PASSIVE IMMUNITY TO NEWBORN PIGS
NZ - 22.12.2023
Clasificación Internacional A61K 38/16 Nº de solicitud 806509 Solicitante Mazen Animal Health Inc. Inventor/a HOWARD, John
Plants and plant produced compositions which include Coronavirus S proteins are disclosed. These may be used as vaccines, boosters or immune modulators. The compositions have been shown to reduce the inflammatory cytokine response by altering cytokine levels when administered to an animal. The compositions may be used as an immune modulator to reduce/ameliorate or prevent the cytokine storm often associated with Coronavirus or other virus infection. The compositions may also be used to produce additive protection when administered with any vaccine composition to increase vaccine effectiveness.

The compositions when used as vaccines have been shown to protect newborn animals through passive immunity.

25.20230405106CHIMERIC PROTEIN COMPRISING THE RECEPTOR BINDING DOMAIN OF THE CORONA VIRUS SPIKE PROTEIN AND COMPOSITIONS COMPRISING THEM
US - 21.12.2023
Clasificación Internacional A61K 39/12 Nº de solicitud 18035254 Solicitante CENTRO DE INGENIERÍA GENÉTICA Y BIOTECNOLOGÍA Inventor/a Glay CHINEA SANTIAGO
The present invention provides a chimeric protein that has a modular structure and comprises a receptor binding domain (RBD) from the spike protein (S) of coronaviruses, a segment able to bind the core antigen from the Hepatitis B Virus (HBcAg), a segment including six consecutive histidine residues (HHHHHH), and two spacer segments. In this chimeric protein the aforementioned segments are arranged in a specific order, and the protein is able to form hybrid nanoparticles with HBcAg. The chimeric protein is part of vaccine compositions used for the prevention of coronavirus infections. Therefore, the invention discloses a method for the prevention of coronavirus infections, whereby a vaccine composition comprising said chimeric protein is administered.

26.WO/2023/250448HIV VACCINE IMMUNOGENS
WO - 28.12.2023
Clasificación Internacional C07K 16/10 Nº de solicitud PCT/US2023/068921 Solicitante CALIFORNIA INSTITUTE OF TECHNOLOGY Inventor/a GRISTICK, Harry
Provided herein are HIV immunogens and uses thereof for generating an immune response in a subject. This disclosure further provides a method for treating or preventing a human immunodeficiency type I (HIV-I) infection in a subject using the disclosed HIV immunogens and/or antibodies generated by any of the methods disclosed herein.

27.WO/2023/242155COMPOSITIONS AND METHODS FOR THE DIAGNOSIS OF HIV INFECTION
WO - 21.12.2023
Clasificación Internacional G01N 33/569 Nº de solicitud PCT/EP2023/065719 Solicitante JANSSEN VACCINES & PREVENTION B.V. Inventor/a LAGATIE, Ole Siegfrid
The invention provides compositions comprising and diagnostic methods, kits and devices using polypeptide antigens derived from HIV for the detection of HIV infection, in particular in subjects vaccinated with an HIV vaccine.

28.WO/2023/248128USE OF A SPRAY FREEZE-DRYING PROCESS FOR THE LYOPHILIZATION OF A MRNA-ENCAPSULATING LIPID NANOPARTICLES FORMULATION
WO - 28.12.2023
Clasificación Internacional A61K 9/00 Nº de solicitud PCT/IB2023/056374 Solicitante PFIZER INC. Inventor/a BHATNAGAR, Bakul Subodh
The invention relates to the lyophilization of a liquid pharmaceutical formulation including lipid nanoparticles encapsulating mRNA. According to the invention, a spray freeze-drying process is used to achieve the lyophilization. The invention is of particular interest for the lyophilization of mRNA vaccine formulations.

29.WO/2023/250522VACCINE ADJUVANTS AND METHODS
WO - 28.12.2023
Clasificación Internacional A61K 39/39 Nº de solicitud PCT/US2023/069083 Solicitante ADMINISTRATORS OF THE TULANE EDUCATIONAL FUND Inventor/a MORICI, Lisa, A.
The disclosure provides adjuvant compositions and methods for generating an immune response by administering the adjuvant compositions with vaccines, such as by the intradermal route. Exemplary

adjuvant compositions include a double-mutant heat-labile toxin adjuvant derived from an Escherichia coli enterotoxin and a bacterial-derived outer membrane vesicle adjuvant from an attenuated strain of Burkholderia pseudomallei.

30.WO/2023/245159RECOMBINANT HERPES SIMPLEX VIRUS 2 (HSV-2) VECTORS AND ENGINEERED TRANSGENIC VERO CELL LINES
WO - 21.12.2023
Clasificación Internacional A61K 39/245 Nº de solicitud PCT/US2023/068568 Solicitante ALBERT EINSTEIN COLLEGE OF MEDICINE Inventor/a JACOBS, William
A recombinant herpes simplex virus 2 (HSV-2) vaccine vector including a complete deletion of the gene encoding glycoprotein D and its promoter is described, and methods for producing virus and virions of the recombinant HSV-2 in transgenic Vero cells expressing HSV-1 glycoprotein D are provided. Compositions including the recombinant HSV-2 and methods of using the compositions are also provided.

31.20230405108PEPTIDES AND COMBINATIONS OF PEPTIDES FOR USE IN IMMUNOTHERAPY AGAINST AN INFECTION BY SARS-COV-2 (COVID-19)
US - 21.12.2023
Clasificación Internacional A61K 39/215 Nº de solicitud 17962403 Solicitante Eberhard Karls Universität Tübingen Medizinische Fakultät Inventor/a Juliane Walz
SARS-CoV2-associated T-cell peptide epitopes as active pharmaceutical ingredients of vaccine compositions to stimulate anti-SARS-CoV2 immune responses, or to stimulate T cells ex vivo and transfer into patients. Peptides of SARS-CoV2-associated T-cell peptide epitopes 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.

32.WO/2023/248117TEMPERATURE INTEGRITY SENSOR
WO - 28.12.2023
Clasificación Internacional G01K 1/024 Nº de solicitud PCT/IB2023/056359 Solicitante UNIVERSITÀ DEGLI STUDI DI CAGLIARI Inventor/a SFORAZZINI, Giuseppe
The present invention relates to a temperature integrity sensor or more precisely a temperature continuity sensor of a product which needs to be kept at a temperature below its degradation temperature, such as for instance a refrigerated or frozen edible product; a pharmaceutical product such as a vaccine, or an antibiotic; or a biological-medical product such as a sample of a body fluid or tissue, or an organ. The sensor is based on RFID technology, in particular passive RFID technology.

33.WO/2023/242436ALLERGY VACCINES BASED ON CONSENSUS ALLERGENS
WO - 21.12.2023
Clasificación Internacional A61K 39/35 Nº de solicitud PCT/EP2023/066434 Solicitante DANMARKS TEKNISKE UNIVERSITET Inventor/a RIVERA DE TORRE, Esperanza
The present invention relates to synthetic and/or recombinant consensus allergens and to their use as allergy vaccines in particular in the treatment of peach-cypress allergy, in the form of an allergy vaccine comprising a consensus allergen and/or a nucleic acid sequence encoding such, wherein the consensus allergen comprises at least (60) amino acids and is derived from a consensus sequence of the amino acid sequences of at least five (5) protein allergens, and wherein said protein allergens share at least 20% amino acid sequence identity.

34.WO/2023/244561MEDICAL DELIVERY ASSEMBLY
WO - 21.12.2023
Clasificación Internacional A61J 1/20 Nº de solicitud PCT/US2023/025123 Solicitante KOSKA FAMILY LIMITED Inventor/a GIBNEY, Eric Dwyer

A pre-filled medical delivery assembly 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) vial to a patient. The delivery assembly generally includes a modular design consisting of separately constructed components cooperatively arranged and coupled to one another. In accordance with some embodiments, the medical delivery assembly comprises a hub connector that includes at least one alignment track on an interior portion thereof, configured to receive a corresponding wing of a BFS vial which it is designed to couple with.

35.WO/2023/244957MRNA THERAPEUTIC VACCINE FOR TREATMENT OF ATHEROTHROMBOSIS
WO - 21.12.2023
Clasificación Internacional A61K 39/00 Nº de solicitud PCT/US2023/068270 Solicitante ATHEROVAX, LLC Inventor/a IVERSEN, Patrick
Described herein are mRNA-based and peptide-based therapeutic vaccines comprising modified TNFR2 sequences complementary to variants of Homo sapiens TNFR2 genes and methods for treating subjects having atherosclerosis.

36.WO/2023/244044MODIFIED CORONAVIRUS SPIKE ANTIGEN PROTEIN AND USES THEREOF
WO - 21.12.2023
Clasificación Internacional C07K 14/005 Nº de solicitud PCT/KR2023/008308 Solicitante UIF(UNIVERSITY INDUSTRY FOUNDATION), YONSEI UNIVERSITY Inventor/a OH, Jong-Won
One aspect relates to a modified coronavirus spike antigen protein and uses thereof. It was confirmed that a spike antigen protein of coronavirus, according to one aspect, exhibited suppression of cell membrane fusion ability and improvement in safety by modifying two protein cleavage sites present in a coronavirus spike protein of the coronavirus. In addition, inoculation with a vaccine using said antigen protein induces the production of a large amount of neutralizing antibodies to inhibit the invasion of the coronavirus into cells, thereby suppressing viral proliferation. Accordingly, the present invention can be used in various industries and markets, such as prevention of coronavirus infection, alleviation and treatment of symptoms, infection diagnosis, etc.

37.WO/2023/246621COXSACKIEVIRUS A10 STRAIN AND USE THEREOF
WO - 28.12.2023
Clasificación Internacional C12N 7/00 Nº de solicitud PCT/CN2023/100471 Solicitante BEIJING MINHAI BIOTECHNOLOGY CO., LTD. Inventor/a XIAO, Xia
A coxsackievirus A10 strain and a use thereof. Amino acid sequences of VP4, VP3, VP2 and VP1 proteins of the coxsackievirus A10 strain are respectively as represented by SEQ ID NOs 1, 2, 3 and 4, and amino acid sequences of 2A, 2B, 2C, 3A, 3B, 3C, and 3D proteins are respectively as represented by SEQ ID NOs 5, 6, 7, 8, 9, 10 and 11. The strain is obtained by using Vero cell isolation, readily infects Vero cells, and a higher titer can be obtained; the strain has advantages such as good immunogenicity, a strong cross neutralization capability, and genetic stability, and can be used for preparing a vaccine or drug for preventing or treating coxsackievirus A10 infection or a disease caused by coxsackievirus A10 infection.

38.WO/2023/250436USE OF MATRIX BOUND VESICLES (MBV) AS VACCINE ADJUVANTS
WO - 28.12.2023
Clasificación Internacional A61K 39/39 Nº de solicitud PCT/US2023/068905 Solicitante UNIVERSITY OF PITTSBURGH - OF THE COMMONWEALTH SYSTEM OF HIGHER EDUCATION Inventor/a BADYLAK, Stephen Francis
Disclosed herein are extracellular matrix (ECM) compositions, specifically to compositions comprising matrix bound nanovesicles (MBV) and an immunogen, and the use of these compositions, *e.g.*, in vaccination.

39.WO/2023/247781PEPTIDES FOR INTRACELLULAR DELIVERY
WO - 28.12.2023
Clasificación Internacional C07K 7/06 Nº de solicitud PCT/EP2023/067189 Solicitante UNIVERSIDADE DE SANTIAGO DE COMPOSTELA Inventor/a MONTENEGRO GARCÍA, Javier
The present invention relates to short peptides or salts thereof which can be modified with appropriate hydrophobic tails to generate amphiphilic molecules useful for the intracellular delivery of molecules of biological interest. Thus, the invention also relates to the amphiphilic molecules and to the complexes between said amphiphilic molecules and the molecules of biological interest. In addition, the invention refers to the use of said peptides, said amphiphilic molecules and said complexes for the delivery of molecules of biological interest. The invention relates to said peptides or salts thereof, said amphiphilic molecules and said complexes for use in medicine, particularly for use as a vaccine. Methods for the preparation of the amphiphilic molecules and the complexes of the invention are also contemplated. Finally, the invention relates to novel amino acids useful in the synthesis of the peptides and molecules of the invention.

40.WO/2023/244048SARS CORONAVIRUS 2 RECOMBINANT VECTOR EXPRESSING REPORTER GENE DERIVED FROM GH CLADE SARS CORONAVIRUS 2 OF KOREAN ISOLATES, AND PRODUCTION METHOD THEREFOR
WO - 21.12.2023
Clasificación Internacional C12N 7/00 Nº de solicitud PCT/KR2023/008313 Solicitante UIF(UNIVERSITY INDUSTRY FOUNDATION), YONSEI UNIVERSITY Inventor/a OH, Jong-Won
One embodiment relates to a SARS coronavirus 2 recombinant vector expressing a reporter gene derived from GH clade SARS coronavirus 2 of Korean isolates, and a production method therefor. A full-length clone of SARS coronavirus 2 of Korean isolates or a derivative thereof, according to one embodiment, can be used as a standard material for evaluating the efficacy of therapeutic agents and vaccines in cell lines and animal models while maintaining infectivity and replication capacity when restored to viruses, can be used to develop a large-capacity test method for the development of a therapeutic agent, and can be used to develop attenuated vaccine strains. In addition, a SARS coronavirus 2 recombinant vector expressing a reporter gene of Korean isolates or a derivative thereof can be used for high-capacity rapid drug screening for the development of antibody therapeutic agents and anti-viral therapeutic agents.

41.806997IPSC-BASED VACCINE AS A PROPHYLACTIC AND THERAPEUTIC TREATMENT FOR CANCER
NZ - 22.12.2023
Clasificación Internacional A61K 39/00 Nº de solicitud 806997 Solicitante KHLORIS BIOSCIENCES, INC. Inventor/a KOOREMAN, Nigel, G.

42.WO/2023/249186METHOD AND APPARATUS FOR PROVIDING MULTIDIMENSIONAL AUDIOGRAM
WO - 28.12.2023
Clasificación Internacional A61B 5/12 Nº de solicitud PCT/KR2022/095152 Solicitante SOUND VACCINE, INC. Inventor/a KWAK, Sang Yeop
Disclosed are a method and apparatus for providing a multidimensional audiogram. According to the present invention, provided is an apparatus for providing a multidimensional audiogram, the apparatus comprising a processor, and memory connected to the processor, wherein the memory stores program instructions that are executed by the processor to: output, on a first surface of a polyhedron, pure tone audiograms related to hearing thresholds of a subject measured in N frequency bands; define a plurality of harmonic templates by rearranging the N frequency bands into a frequency set including a plurality of element frequencies having an integer ratio relationship; calculate the degree of harmonic template

instability by calculating the standard deviation of the hearing thresholds of the plurality of element frequencies in each of the plurality of harmonic templates; output the calculated degree of harmonic template instability to a second surface of the polyhedron; calculate harmonic template hearing by calculating the average of the hearing thresholds of the plurality of element frequencies in each of the plurality of harmonic templates; and output the calculated harmonic template hearing to a third surface of the polyhedron.

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