



EN ESTE NÚMERO

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

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

Noticias en la Web

Dengue Vaccine TAK-003 Confirmed to be Safe, Effective

13 ago. A new meta-analysis published in the journal *Vaccines* confirmed that the dengue vaccine TAK-003 is highly effective, reducing disease cases by more than 50%, with lasting effects and an excellent safety profile.

TAK-003 is the first and only dengue vaccine approved by the European Medicines Agency. Authorized in December 2022, it is now available in Italy and other European countries.

The vaccine is designed as a 2-dose regimen administered 3 months apart for individuals aged 4 years and older, regardless of previous dengue exposure. However, official immunization recommendations across European Union countries are still being developed. What's more, available evidence on the clinical efficacy and safety of TAK-003 is inconsistent.

To address these gaps, investigators conducted a meta-analysis to evaluate the immunogenicity, efficacy, and safety of TAK-003 after administration of a single dose and the complete 2-dose schedule. By comprehensively assessing the vaccine's performance, the meta-analysis aimed to provide essential insights for optimizing the use of TAK-003 in dengue prevention.

Investigators examined and cross-referenced data from 19 studies examining the immunogenicity, efficacy, and safety of the live-attenuated, tetravalent dengue vaccine TAK-003 across all age groups. The combined data included over 20,000 participants followed for more than a year after final vaccination dose.

Five studies were conducted in the USA, 1 in the UK, and all others in Asian or Central and South American countries, where dengue fever is endemic.

The main outcome of immunogenicity was seroconversion and secondary outcomes focused on clinical efficacy and safety measured by serious adverse events (SAEs). All immunogenicity analyses were stratified by dengue's 4 distinct strains: DENV-1, DENV-2, and DENV-3, and DENV-4.

Overall, 2 doses of TAK-003 successfully induced the production of neutralizing antibodies against all 4 dengue serotypes in at least 90% of adults and children and adolescents, regardless of whether they were seronegative or seropositive at baseline.

A single dose of TAK-003 elicited a high-to-very-high immunogenic response against all 4 serotypes, as well. Seroconversion rates exceeded 90% in children and adolescents and remained high at 70% or more in adults. The lowest seroconversion rates (70-80%) were observed against DENV-3 and DENV-4 in adult participants who were seronegative.

Due to a limited adult study population, all vaccine efficacy results based on intention-to-treat analyses referred to children and adolescents. After completing the 2-dose regimen, the vaccine significantly reduced the risk of dengue disease caused by DENV-2 and DENV-1 by over 80% and 40%, respectively, in both seropositive and seronegative individuals ($P < 0.001$).

However, vaccine effectiveness against DENV-3 and DENV-4 varied based on serological status. While the vaccine significantly protected those who were seropositive (RR = .50 for DENV-3; RR = 0.3 for DENV-4; both $P < .001$), it offered no protection for seronegative children and adolescents ($P > .20$).

Further, 1 or 2 doses of TAK-003 demonstrated excellent safety profiles, with a frequency of SAEs that was comparable with those observed among the controls.

Based on their findings, investigators offered suggestions for vaccination guidance.

“The vaccine was able to reduce the overall rate of dengue fever by more than half in both seronegative and seropositive children/adolescents,” they wrote. “Therefore, considering the results on safety, immunogenicity and efficacy following the administration of 2 vaccine doses, TAK-003 may certainly represent a central tool for the prevention of dengue fever among children and adolescents in highly endemic countries or within-country areas.”

Although 2 doses of TAK-003 are typically recommended for travelers from non-endemic regions visiting dengue-prone areas, researchers also suggested that a single vaccine dose could be considered for populations in non-endemic countries experiencing high dengue outbreaks.

This suggestion is especially important given the increasing global threat of dengue virus, whose incidence reached a record high in 2024. Climate change has exacerbated this surge by expanding the vector of dengue-carrying *Aedes* mosquitoes. The Americas have been particularly affected, with more than 9.7 million cases reported between January and June of this year alone—double the total amount of all cases reported in 2023.

“Given the results in terms of safety, immunogenicity, and efficacy, the administration of 2 doses can undoubtedly be a key tool for dengue prevention,” said Maria Elena Flacco, lead study author and director of the school of specialization in public health at the University of Ferrara, in a news release. “The currently available vaccine can therefore be very useful not only for populations in endemic areas but also for travelers from non-risk areas.”

Going forward, investigators called for preferably independent studies to clarify the efficacy of TAK-003 for adults against serotypes 3 and 4 and the potential use of a single vaccine dose in non-endemic countries.

Fuente: Drug Topics. Disponible en <https://acortar.link/IGyb9D>

New RSV vaccine could prevent 5,000 infant hospitalisations

Aug 13. Study shows new RSV vaccine for pregnant women could prevent 5,000 hospitalisations and 15,000 emergency department attendances for infants.

The UK Health Security Agency and Joint Committee for Vaccination and Immunisation (JCVI) are highlighting the benefits the new Respiratory Syncytial Virus (RSV) vaccination programme is expected to bring following its introduction from September.

A recent detailed analysis[1] estimated that the new programme launching in England this autumn could typically prevent 5,000 hospitalisations and 15,000 emergency department attendances for infants.

The study bases its estimates on the assumption that uptake among pregnant women will be around 60%. It also estimated that the maternal programme could mean 70,000 fewer RSV illnesses in infants under 12 months, 20,000 fewer GP consultations and avoid more than 200 infants being admitted to intensive care units.

Despite infecting around 90% of children within the first 2 years of life, RSV is not something that many



people are aware of. It typically causes mild, cold-like symptoms. However, it can lead to severe lung infections like pneumonia and infant bronchiolitis and is a leading cause of infant mortality globally.

RSV illness is the main cause of winter pressures in children's hospitals each year leading to pressure on paediatric intensive care units, including cancelled operations. It accounts for approximately 20,000 hospitalisations in children under 1 and is responsible for 20 to 30 infant deaths a year in the UK.

The UKHSA continues to work rapidly with NHS colleagues to ensure an effective roll out of the two new programmes and will also monitor the impact of the programmes through its routine national surveillance.

Professor Dame Jenny Harries, Chief Executive of the UK Health Security Agency, said:

These two new RSV vaccine programmes - one for pregnant women and another for older adults as they turn 75 - offer huge opportunities to prevent severe illness in those most vulnerable to RSV, helping to protect lives as well as ease NHS winter pressures.

UKHSA has provided critical scientific information to evidence the benefits of a national RSV immunisation programme and so the rollout of the vaccine is a truly positive moment for the public's health. I urge all those eligible, to take up the offer when the programmes begin in September.

Dame Jenny Harries added:

Having the vaccine during every pregnancy is the best way to protect your baby against RSV, as the vaccine boosts your immune system to produce more antibodies against the virus, and these then pass through the placenta to help protect your baby from the day they are born. The vaccine reduces the risk of severe bronchiolitis by 70% in the first six months of life.

The RSV vaccine is the safest way to protect you and your baby. It has been approved by medicines regulators in the UK, Europe and the USA. Many thousands of women have had the vaccine in other countries, including more than 100,000 women in the USA.

Andrew Gwynne, Minister for Public Health and Prevention, said:

Maternal vaccinations are crucial to protect newborns from life-threatening illnesses like RSV.

Sadly my grandson caught RSV, just days after he was born. It led to weeks in intensive care and persistent, long-lasting health issues. I wouldn't wish that on any family. This new vaccine programme offers us an opportunity to prevent similar trauma, helping stop thousands of hospitalisations while saving precious lives.

I urge everyone eligible to get the vaccine. By doing so, you will provide protection from the first day of your baby's life and safeguard your child's future.

Steve Russell, NHS National Director for Vaccinations and Screening, said:

This is a vitally important study demonstrating the huge impact the RSV vaccine will have, reducing pressure on NHS services during the winter months but more importantly keeping infants out of hospital and saving lives.

The NHS will be rolling out the vaccine from 1 September and with RSV infecting around 90% of children in their first two years of life, we strongly encourage pregnant women who are 28 weeks pregnant or more to speak to their maternity team or GP about getting vaccinated - it could save your child's life. While those aged 75 to 79 should come forward as soon as they are invited by their GP.

In addition to the maternal vaccine programme, a free RSV vaccine will be offered to all those turning 75 years on or after 1 September, along with a one-off campaign for those already aged 75-79 years.

The same modelling – using enhanced surveillance of older adult admissions[2] – suggests that the first season of the older adult's catch-up programme could prevent around 2,500 hospital admissions, 15,000 GP visits and 60,000 RSV illnesses in adults in this age group.

Fuente: Gov.UK News. Disponible en <https://acortar.link/PuDijn>

In Biocen's manufacturing lines, the company's own medicines and those developed by others

Aug 14. On August 14, 1992, the historical leader of the Cuban Revolution, Commander-in-Chief Fidel Castro Ruz, founded the National Center of Biopreparations, as part of the Scientific Pole of western Havana.

The upcoming start of production of the Cuban anti-pneumococcal vaccine, Quimi-Vio, the trivalent antileptospirosis vaccine, VAX-SPIRAL and the polysaccharide antityphoid Vi vaccine, VAX-TyVi, following the transfer of technology from the Finlay Vaccine Institute (IFV), are among the main tasks being carried out these days at the Parenterales plant of the National Center for Biopreparations (BioCen).



Photo: Courtesy of BioCen

This was explained to Granma by Daniela Hormía Rodríguez, director of Parenterales of Biocen, who added that they will also receive the transfer for the production of the Quimi-Vio 11 valente vaccine, which is a product under development by the IFV, but which will be produced so that clinical trials can be carried out.

She specified that, as part of the manufacturing of the center's products, the production of Biomodulin-T and Biomodulin-T in 6R format was licensed in plant 2 of parenterals.

Just in the framework of the celebrations for the 32nd anniversary of the founding of Biocen -on August 14, 1992- by the historic leader of the Cuban Revolution, Commander-in-Chief Fidel Castro Ruz, as part of the Scientific Pole of western Havana, this center transforms and diversifies its functions.

BIOCEN BRAND PRODUCTS

According to Humberto Pérez de la Concepción, deputy director of the Center, the founding concept of this high-tech company was to provide a large-scale productive outlet for the biotechnology products developed by the research, innovation and development (R&D&I) companies of the Western Scientific Pole.

However, over time, Biocen has also become not only a producer, but also a developer of products. An example of this is Biomodulin-T, a biological immunomodulator of natural origin, not hemoderivative, composed of specific fractions of the bovine thymus, with the aim of restoring the immunological deficit, he explained.

Pérez de la Concepción told Granma that the company's own products also include anti-anemia and nutritional supplements (liquids and tablets) of natural origin registered under the Trofin brand -Trofin/ Biotrofer, Neotrofin, Neotrofin C F (also composed of vitamin C and folic acid) and Trofinvital- which contain a

hydrolyzed bovine blood, bee honey and propolis, which guarantee their easy absorption by the organism.

The company's own products include dehydrated culture media, reagents and supplements, ready-to-use liquid media for aerobic blood cultures, and the nutritional supplements of the PorMás line, the result of an alliance between the Institute of Sports Medicine, CubaDeportes S.A. and the center.

They are also honored with the development of the bTV virus transport medium, a cell culture medium for the transport of nasopharyngeal and oropharyngeal clinical samples suspected of containing the SARS-CoV-2 virus.



Photo: Dunia Álvarez

SARS-CoV-2, which during the COVID-19 pandemic ensured technological sovereignty, active maintenance of the national epidemiological surveillance system, and confirmation of the diagnosis of the disease.

The National Center for Biopreparations is also the only one in the country to have a full-cycle platform for allergy vaccines (Research-Development-Production-Marketing and Follow-up), making available to patients three therapeutic vaccines: Valergen BT, Valergen ds and Valergen DP (injectable and sublingual), intended for the treatment of patients with allergic sensitization to house dust mite allergens.

Regarding the manufacture of these products for the National Health System, the Deputy Director of Biocen pointed out that this is the first commitment, so they are working against a controlled demand, especially for those products that are part of the basic drug list (Biomodulin-T and the Trofin family).

He stated that they follow up on production levels, work on the quality of the batches and their distribution nationwide.

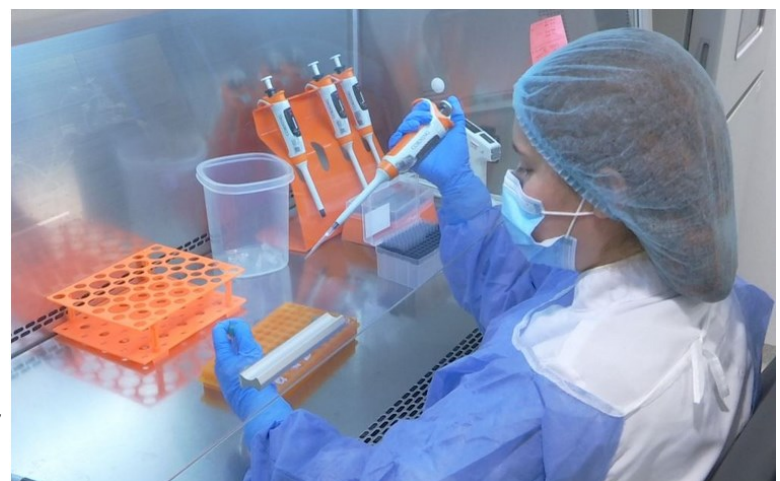
Fuente: Granma. Disponible en <https://acortar.link/N2Fx7u>

Conceden patente a vacuna del coronavirus desarrollada en Medellín

15 ago. La oficina de Patentes y Marcas de Estados Unidos concedió la patente al desarrollo de la vacuna universal del coronavirus desarrollada en Medellín.

Este desarrollo contó con la participación de 12 científicos y profesionales de distintas partes del país, quienes trabajaron en su investigación y desarrollo en la capital antioqueña. La vacuna se podrá producir en la nueva planta de VaxThera en el Oriente de Antioquia.

En medio del caos generado por la pandemia por COVID-19, 12 científicos de diferentes regiones de Colombia comenzaron a idear el desarrollo de una



vacuna contra el virus, 3 años después de distintas fases de investigación y desarrollo en un laboratorio de

Medellín, lograron desarrollar una vacuna universal contra el coronavirus, es decir, la vacuna puede atacar el virus en sus distintas variantes.

En este laboratorio de Medellín fueron instalados equipos de última tecnología, incluso, dispositivos de los cuales en el mundo solo hay 5 ejemplares y que permiten el avance y desarrollo de la investigación.

Incluso, se usaron modelos de inteligencia artificial para su investigación. Tras lograr superar las pruebas y obtener esta patente, la vacuna podrá producirse en la planta de VaxThera inaugurada en mayo de este año en el oriente antioqueño y que avanza en los ajustes finales para entrar en funcionamiento en los próximos meses.

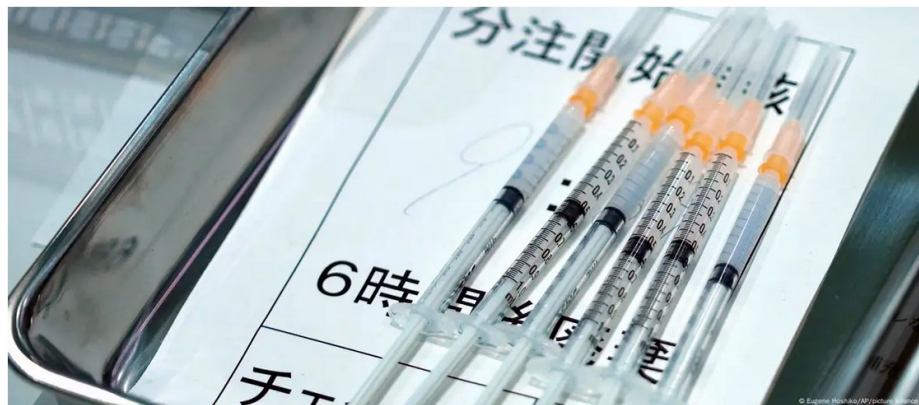
En Colombia no se producen vacunas desde 1998, ahora, no solo está la posibilidad de la planta para producirlas, sino que se ha desarrollado una vacuna única en el mundo.

Esta patente es un reconocimiento y un hito a la investigación en nuestro país, pues desde Antioquia se podrá atender en caso de ser necesaria la producción de vacunas en escenarios como el de la pandemia sin necesidad de importarlas, así como aportar a las investigaciones mundiales en el desarrollo de soluciones médicas.

Fuente: TeleMEDELLÍN. Disponible en <https://acortar.link/RvIVHI>

Crean fármaco contra COVID con 'células asesinas' sintéticas

Aug 16. Un equipo de investigación japonés formado por científicos de la Universidad de Kioto y la Universidad de Salud Fujita ha desarrollado un nuevo fármaco contra COVID-19 basado en células inmunitarias sintetizadas partir de células madre.



Este equipo tiene previsto realizar un ensayo clínico dentro de tres años en pacientes inmunodeprimidos a causa de la

quimioterapia y que sufren síntomas graves de COVID-19, según explicaron los científicos.

La Universidad de Kioto ha presentado una solicitud de registro de patente antes de desarrollar el medicamento a gran escala.

"Aunque el COVID-19 se ha convertido en una enfermedad menos peligrosa, sigue siendo aterradora para algunos pacientes", afirmó el jefe del equipo, Hiroshi Kawamoto, director del Instituto de Ciencias Médicas y de la Vida de la Universidad de Kioto, en un comunicado de esta institución.

El nuevo tratamiento se basa en linfocitos T citotóxicos, también conocidos como 'células asesinas' por su capacidad de destruir otras células infectadas por microorganismos, y en este caso creadas de manera artificial por el equipo de investigación a partir de células madre pluripotentes inducidas.

Efectividad comprobada

Las células, desarrolladas para reducir el riesgo de rechazo por parte de los pacientes, tienen genes con funciones de 'sensores' para detectar las proteínas exclusivas del nuevo coronavirus.

El grupo de científicos comprobó su efectividad tras cultivar las células sintéticas junto a las infectadas con el nuevo coronavirus, de las cuales fueron eliminadas alrededor del 90 % tras doce horas.

El equipo de investigación también incluye miembros de la Universidad de Osaka y del Centro Nacional de Salud y Desarrollo Infantil japonés, quienes tienen previsto realizar pruebas con ratones para determinar la seguridad del tratamiento y consideran esta nueva tecnología puede ser útil para combatir otras enfermedades víricas letales.

En el ensayo clínico, las células desarrolladas artificialmente serán administradas por vía intravenosa, comentó Kawamoto, quien añadió que el riesgo de efectos secundarios graves, como los que se observan en las terapias inmunológicas, es bajo.

Fuente: DW. Disponible en <https://acortar.link/cP3VyL>

Vacuna '2x1' de Pfizer contra COVID-19 y gripe falla en ensayo final

16 ago. Una vacuna combinada contra COVID-19 y gripe desarrollada por Pfizer y BioNTech no logró uno de sus objetivos en un ensayo de fase final, una decepción para las empresas que intentan hacer un mayor uso de la tecnología que tuvo éxito durante la pandemia.

La vacuna no demostró ser al menos tan eficaz como una inyección estándar para generar una respuesta inmunitaria contra la cepa de la gripe B, informaron las empresas en un comunicado este 16 de agosto.

La inyección funcionó mejor con la gripe A y la COVID-19. Pfizer aclaró que las dos empresas están estudiando ajustes a la vacuna que podrían aumentar su eficacia contra la gripe B.

El fallo en la fase 3 de los ensayos de la vacuna combinada contra gripe y COVID-19 de Pfizer-BioNTech puede poner a los socios en desventaja frente a Moderna, que tuvo éxito en la fase 3 en junio. Vemos las vacunas combinadas como una importante herramienta de marketing y comercialización para que las tres empresas impulsen la adopción de las vacunas contra enfermedades respiratorias, ayudándolas a competir con empresas como GSK y Sanofi.

Una combinación reelaborada puede retrasar a Pfizer-BioNTech al menos dos años y necesitaría un nuevo ensayo de fase 3, señaló Sam Fazeli, analista de Bloomberg.

¿Qué problemas económicos y legales ha enfrentado Pfizer?

Los resultados complican los esfuerzos de Pfizer por compensar la caída de las ventas de su vacuna COVID, que se redujeron 70 por ciento en 2023. Moderna, fabricante de una vacuna rival contra COVID-19, informó en junio de resultados positivos en la última fase de una vacuna combinada contra el virus SARS-CoV-2 y la gripe.

El estudio de Pfizer, en el que participaron más de 8 mil adultos, comparó la vacuna combinada con una vacuna contra la gripe aprobada. La empresa también reveló los resultados de un ensayo más pequeño y de



fase inicial en el que una vacuna combinada de segunda generación produjo una respuesta inmunitaria suficiente contra las cepas A y B de la gripe.

Esta no ha sido la única mala noticia para Pfizer durante este mes: Un empleado, Amit Dagar, fue condenado por fraude de valores y conspiración y sentenciado a nueve meses de prisión por ganar más de 200 mil dólares comerciando con información confidencial antes de un anuncio clave sobre Paxlovid, tratamiento de la farmacéutica contra la COVID-19.



Fuente: EL FINANCIERO. Disponible en <https://acortar.link/EG4HyT>

Updated COVID-19 vaccines could be ready next week

Aug 17. The U.S. Food and Drug Administration is set to approve the latest COVID-19 vaccines for the ongoing pandemic. CNN reports two sources familiar with the matter say approval could come before the end of next week.

The FDA will likely approve the updated mRNA vaccines from Pfizer/BioNTech and Moderna that target one of the latest strains of COVID-19 known as KP.2. Novavax's updated shot targets another strain known as JN.1.

If approved next week, it would come much earlier than last year, when updated vaccines were approved by the FDA on September 11.

The new vaccines come as a surge of COVID-19 cases have been reported in recent weeks across the country. Although detailed monitoring of cases is no longer conducted, an analysis of wastewater levels was found to be at its highest rate during the summer months since 2022.

ER visits, hospitalizations and deaths are also on the rise, with four times the rate of hospitalizations in July compared to May.

Pfizer and Moderna tell CNN they already have plenty of the updated vaccines ready to go once they receive approval, and will ship them out immediately following approval, and available in pharmacies and health care centers in a matter of days after approval.

The World Health Organization declared the Coronavirus Pandemic started in March of 2020 and has not yet ended, as cases continue to spread across every populated continent year-round, unlike more seasonal epidemics like the flu.

Fuente: CBS Iowa's News. Disponible en <https://acortar.link/iBfr8A>

Laboratorio CDV inaugura en Argentina una planta de vacunas contra la brucelosis

17 ago. Requirió una inversión de 4 millones de dólares y cuenta con capacidad para producir 10 millones de dosis de vacunas antibrucélicas en su primera fase. Este avance refuerza la expansión de la compañía hacia mercados internacionales clave.

La brucelosis es una enfermedad bacteriana que afecta principalmente al ganado y perros. Las personas la

contraen por contacto con animales infectados o productos contaminados, especialmente leche no pasteurizada.

El Laboratorio CDV anunció la apertura de su nueva planta de elaboración exclusiva de vacunas contra la brucelosis, ubicada en la Planta 1 en el Parque Industrial de Pilar. Con una inversión total de cuatro millones de dólares en obra civil, equipamiento de servicios de planta y equipos de producción.

Esta nueva área exclusiva de producción para vacunas contra la brucelosis, es parte de un paquete de grandes inversiones que se encuentra realizando la empresa en la Argentina.

Las modernas instalaciones de la planta de elaboración de vacunas contra la brucelosis comprenden dos áreas de producción completamente independientes para la elaboración de los dos diferentes tipos de *Brucella*, cepa 19 y cepa RB51: un laboratorio de control de calidad y un área de servicios.

“El inicio de la producción comenzó en julio de 2024 y proyectamos que nuestros productos estén disponibles a partir de septiembre de 2024. Con esta nueva línea de producción, estimamos seguir creciendo y alcanzar un 35% de participación en el mercado. Del total producido, el 70% se destinará al comercio internacional, principalmente a países de Latinoamérica, Asia y Medio Oriente. Este es un enorme paso para el Laboratorio CDV en nuestra misión de expandirnos a nuevos mercados y satisfacer la demanda de productos de calidad, en pos de la prevención y sanidad animal”, afirmó Juan Roô – gerente general de Laboratorio CDV.

El gerente General de la firma aseguró: “La decisión de avanzar con esta nueva planta responde a la necesidad de aumentar la capacidad productiva debido al crecimiento de los pedidos de vacunas de acuicultura -hasta el momento se elaboraban, en forma alternada, en la misma planta que las vacunas de Brucelosis-; la demanda de Brucelosis Cepa 19; y la obtención de registros en el exterior de *Brucella* RB51. En Argentina, el Servicio Nacional de Sanidad y Calidad Agroalimentaria (SENASA) lidera un plan de control y erradicación de la brucelosis”, finalizó Roô.

El Laboratorio CDV está inmerso en un ambicioso proyecto de expansión hacia nuevos mercados internacionales como parte fundamental de su estrategia de negocio y crecimiento. Con el objetivo de ampliar su alcance y consolidar su presencia a nivel global, CDV busca detectar nuevas oportunidades, fomentar colaboraciones internacionales y poner a disposición sus productos con tecnología innovadora y altamente competitiva en un contexto internacional, demostrando su firme compromiso con la prevención de la sanidad animal.

El Laboratorio CDV aspira a ser la primera empresa en Latinoamérica en obtener la certificación bajo las normas PIC/S (*Pharmaceutical Inspection Co-operation Scheme*), un proceso que inició en 2019. Las Normas PIC/S (*Pharmaceutical Inspection Convention and Pharmaceutical Inspection Co-operation Scheme*) son un conjunto de directrices internacionales diseñadas para armonizar las prácticas de inspección y garantizar la calidad de los productos farmacéuticos. Estas normas son desarrolladas y mantenidas por la Convención de Inspección Farmacéutica y el Esquema de Cooperación de Inspección Farmacéutica, una



organización internacional que reúne a las autoridades regulatorias de medicamentos de varios países y regiones.



Para lograrlo, además de su nueva planta de vacunas contra la brucelosis, la recientemente galardonada como Mejor empresa en Sanidad Animal de Latinoamérica 2023 (Premio Animal Health Awards), ha realizado una inversión inicial de 60 millones de dólares en una tercera planta, de elaboración de vacunas veterinarias, diseñada conforme a los estándares internacionales de World Class Manufacturing. Dicha obra, que espera abrir sus puertas para el primer semestre de 2025, no solo cumplirá con estos rigurosos requisitos, sino que también adoptará un enfoque de «industria verde» que optimizará los recursos y mejorará la eficiencia de producción.

La planta integrará diseño, tecnología e innovación en tres áreas clave: construcción, equipamiento y gestión eficiente de recursos naturales.

La firma, presente en nuestro país desde hace casi 40 años, continúa invirtiendo en mejoras de instalaciones, nuevas tecnologías e investigación para continuar brindando productos de excelencia en el sector veterinario, abastecer el mercado argentino y ser referentes reconocidos en los mercados internacionales.

Brucelosis, una zoonosis de amenaza mundial

La brucelosis es una enfermedad bacteriana que afecta principalmente al ganado y perros. Las personas la contraen por contacto con animales infectados o productos contaminados, especialmente leche no pasteurizada. Según la OMS, es una de las zoonosis más extendidas, con graves consecuencias para la salud pública en áreas endémicas. La expansión de la industria animal y la urbanización aumentan el riesgo. Aunque rara vez se transmite entre personas, representa un peligro ocupacional para los trabajadores ganaderos. La vacunación y pruebas serológicas son claves para la prevención. También son cruciales la pasteurización de la leche, evitar productos lácteos no pasteurizados, y medidas de higiene en la manipulación de animales y sus productos.

Los síntomas de la brucelosis en humanos son similares a los de la gripe, incluyendo fiebre, debilidad, malestar y pérdida de peso, aunque pueden presentarse de forma atípica y variar en severidad. El periodo de incubación puede variar de una semana a dos meses, generalmente entre dos y cuatro semanas. La identificación y tratamiento de la enfermedad pueden ser complicados debido a la presentación leve de los síntomas en algunos pacientes.

En la actualidad se utiliza el Sistema Nacional de Vigilancia de la Salud (SNVS), para la vigilancia y la notificación de los casos de brucelosis humana. Según los últimos datos informados, para el año 2022 se notificaron 777 casos, de los cuales se confirmaron como brucelosis 104, tal como muestra la siguiente tabla.

Mediante dicho plan se inmunizan anualmente todas las terneras entre los 3 y los 8 meses de edad con vacuna antibrucélica cepa 19. Dicho plan ha logrado reducir la prevalencia al 0,8% animal según los últimos datos del SENASA. En la región, varios países han vuelto a incorporar la cepa 19 dentro de sus calendarios sanitarios, el último caso es el de Costa Rica, que el año pasado ha adquirido más de 100 mil dosis de

vacuna CDVac Brucelosis cepa 19 elaborada por Laboratorio CDV para comenzar un nuevo plan de control de la enfermedad en el país.

Acerca de Laboratorio CDV

CDV es un laboratorio argentino líder, especializado en la elaboración de biológicos para la prevención de enfermedades que afectan a los rodeos bovinos y ovinos del país, con más de 35 años de trayectoria en la Argentina. Su línea de productos y servicios orientados a la prevención es la más completa del mercado, compuesta por vacunas virales y bacterianas, vacuna Antiaftosa, reactivos y servicio de diagnóstico. Pionero en el desarrollo de la vacuna para el control de Diarrea Viral Bovina con cepas nacionales y la incorporación de adyuvante en doble emulsión para la mejora de la respuesta inmune. También es uno de los primeros centros de diagnóstico de enfermedades veterinarias y miembro de la Red de Laboratorios de SENASA. Desde el 2002 innova en la producción de biológicos para la acuicultura y es el único laboratorio que cuenta además con un Laboratorio de Diagnóstico propio, que le ha permitido conocer la problemática de las principales enfermedades que afectan a los rodeos a nivel productivo y así elaborar productos que se ajusten a la casuística de la región. En enero de 2020, la revista británica Animal Pharm distinguió al laboratorio CDV como la “Mejor empresa del Sector Veterinario en Latinoamérica del 2019”. CDV exporta sus productos a más de 15 países. En el año 2023 el laboratorio, por segunda vez, fue reconocido como Mejor Empresa de Latinoamérica en los premios Animal Health Awards.

Cuenta con dos modernas plantas de producción de vacunas y una tercera en desarrollo ubicadas en el Parque Industrial Pilar, provincia de Buenos Aires:

Planta 1: desde el año 2003 producimos vacunas para la prevención de enfermedades reproductivas, respiratorias, clostridiales, queratoconjuntivitis, complejos entéricos neonatales y preventivos de importantes enfermedades zoonóticas como Brucelosis, Rabia, Carbunco y Leptospirosis. También elaboramos reactivos de diagnóstico para la detección de Tuberculosis y Brucelosis y vacunas para prevenir enfermedades en las aves y salmónidos. En el mismo predio, se encuentra el Laboratorio de Diagnóstico, perteneciente a la red del SENASA. Tiene una capacidad total de producción anual de 150 millones de dosis: 85 millones de dosis para vacunas de bovinos y, el resto, para salmónidos y aves.

Planta 2: se producen exclusivamente vacunas antiaftosa desde el año 2018. Esta Planta cuenta con equipamiento de última generación y con un alto grado de automatización de sistemas para garantizar el cumplimiento de los estándares de calidad y bioseguridad más exigentes a nivel mundial. La capacidad productiva actual varía entre 2.5 y 5.0 millones de dosis mensuales, dependiendo del formato de vacuna (tetraivalente y bivalente respectivamente).

Planta 3: actualmente está en construcción y se estima que esté operativa hacia fines del 2024. Ampliará la capacidad productiva de Planta 1 y se podrán elaborar productos para la sanidad animal y la prevención de enfermedades en nuevas especies: vacunas para mascotas, animales de compañía y cerdos. La capacidad productiva total proyectada alcanzará, junto a la producción de planta 1, los 280 millones de dosis, de las cuales 190 millones corresponden a vacunas para bovinos (destinadas al mercado interno y a la exportación) y el resto corresponden a vacunas para salmónidos y otras especies como cerdos y animales de compañía.

Fuente: Valor Agregado. Disponible en <https://acortar.link/73H1pO>

India working on developing vaccine for dengue

Aug 18. While development of a dengue vaccine has been perennially in the making, the recent launch of the third phase of clinical trials of dengue vaccine in India by ICMR with Panacea Biotec, has raised hopes over the availability of a dengue vaccine to the general public in the next few years.

With cases of dengue continuing to surge every year in Telangana and across the country, several vaccine manufacturers from India and abroad are in a race to develop and launch a robust dengue vaccine that could potentially reduce the disease burden and strain on public health institutions in the country.

While development of a dengue vaccine has been perennially in the making, the recent launch of the third phase of clinical trials of an indigenously developed dengue vaccine in India by Indian Council of Medical Research (ICMR), in collaboration with Panacea Biotec, has raised hopes over the availability of a dengue vaccine to the general public in the next few years.

Being considered by many as a landmark trial to evaluate efficacy of indigenous tetravalent dengue vaccine, DengiAll (brand name), the tetravalent dengue vaccine strain was originally developed by National Institutes of Health (NIH), USA and Panacea Biotec, which received the strain, is at the most advanced stage of development.

The phase I and II of this vaccine was completed in 2018-19 with promising results.

Apart from ICMR-Panacea Biotec, the Hyderabad-based Biological E Limited is also in the race to combat dengue fever.

Recently, Japanese pharma giant Takeda and Biological E limited announced collaboration to accelerate access to QDENGGA (Dengue Tetravalent Vaccine) also known as TAK 003 developed by the Japanese pharma company.

Another pharma giant from State Capital, Indian Immunologicals Limited (IIL) is also in the process of developing a dengue vaccine and making it available commercially by early or mid-2026.

At present, the IIL, which is a subsidiary of National Dairy Development Board (NDDB), has successfully finished the first phase of clinical trials to vaccine's safety.

The phase 2 and phase 3 clinical trials of dengue vaccine by IIL are expected to be taken-up at the earliest and the vaccine likely to be launched in 2026.

The vaccine giant from Pune, Serum Institute has already received permission to conduct the phase I and 2 trials of its dengue vaccine labeled as DengusiiL.

In June of this year, the Serum Institute received a green signal from the Indian regulatory authorities to conduct the phase 2 trials of its dengue vaccine, after the promising results of the phase 1 trials.

The tetravalent live attenuated dengue vaccine is being manufactured in India by Serum Institute, which received the vaccine strains from National Institutes of Health (NIH), United States.

Fuente: Telangana Today. Disponible en <https://acortar.link/PkMMIH>



Expertos internacionales se reúnen en Cuba para estudiar el dengue y el oropouche

19 ago. Los especialistas se actualizarán y debatirán sobre la situación epidemiológica. Además, conocerán sobre los avances en el conocimiento, prevención y control de dengue y otras arbovirosis con especial referencia a chikungunya, zika, fiebre amarilla, mayaro y oropouche.

Dengue y oropouche, entre otros arbovirus, se encuentran en el foco de expertos internacionales que participan en La Habana en un curso organizado por el Instituto Pedro Kourí.

De acuerdo con Prensa Latina (PL), entre los objetivos de los especialistas está “la actualización y debate de la situación epidemiológica”, así como “los avances en el conocimiento, prevención y control de dengue y otras arbovirosis con especial referencia a chikungunya, zika, fiebre amarilla, mayaro y oropouche”.

Asimismo, suscribe la convocatoria citada por PL, los delegados conocerán acerca del manejo clínico de los pacientes, así como el control del vector, además de los avances en las investigaciones en patogenia.

También se pondrán al tanto sobre vacunas, genética del individuo, los virus y el vector, nuevas herramientas de control, además de la influencia del cambio climático en la emergencia de enfermedades transmitidas por mosquitos del género *Aedes*, agrega el medio.

A inicios de este mes, también científicos rusos iniciaron una visita a Cuba para estudiar varias enfermedades, entre ellas la Fiebre de Oropouche. Los especialistas pertenecen al Servicio Federal de Supervisión de la Protección y el Bienestar del Consumidor de Rusia (Rospotrebnadzor), entidad que informó que la visita tiene como objetivo “actualizarse sobre infecciones tropicales”.

Rospotrebnadzor precisó que sus expertos realizarían, junto con sus colegas cubanos, una serie de estudios de actualidad sobre males que se registran en la región del Caribe.

Por primera vez, Cuba enfrenta en este verano la circulación de dos arbovirosis con una evolución inicial muy parecida en los pacientes que acuden a los servicios de salud, precisó un reporte reciente de televisión nacional.

“Hay presencia de casos de Oropouche en todas las provincias del país. Por lo tanto, aunque en un municipio determinado no haya circulación, si está en la provincia y usted viaja, puede ser objeto de la picada del mosquito”, afirmó a finales de julio pasado la viceministra de Salud, Carilda Peña García, al actualizar la situación sanitaria a la isla.

Asimismo, en entrevista concedida al Canal Caribe, la funcionaria calificó al dengue como una enfermedad endémica. Explicó que “durante todos los meses del año aparecen casos sospechosos de la enfermedad; algunos se confirman, otros no”.

Científicos cubanos esperan en un año tener una vacuna contra el dengue en la fase de estudios clínicos, anunció Gerardo Guillén Nieto, director de Investigaciones Biomédicas del Centro de Ingeniería Genética y Biotecnología (CIGB) de La Habana.

La fase I se refiere a la primera introducción de una vacuna en etapa experimental en una población humana para determinar inicialmente su seguridad y sus efectos biológicos, incluida la inmunogenicidad.



Esta fase puede incluir estudios de dosis y vías de administración y generalmente involucra a menos de 100 voluntarios.

En declaraciones a la agencia Prensa Latina, Guillén Nieto afirmó que el proyecto de vacuna para enfrentar el dengue es una prioridad dentro de la cartera de desarrollos del CIGB.

La presencia del dengue en Cuba se confirmó por primera vez en 1943, aunque es posible que haya sido la causa de una epidemia en 1902.

De acuerdo con estadísticas de la Organización Panamericana de la Salud, desde 2014 hasta la fecha Cuba ha reportado en dos años números que superan los 3 mil: 2019, con 3 mil 259 contagios y la circulación de dos cepas de la enfermedad; y 2022, con 3 mil 36 enfermos y la confirmación, por vez primera, de los cuatro serotipos de dengue en el territorio nacional.

Fuente: On Cuba News. Disponible en <https://acortar.link/4SraoF>

Con las vacunas antineumocócicas conjugadas se redujo la enfermedad invasiva en Latinoamérica, pero emergen serotipos no vacunales

20 ago. La introducción y el despliegue de las vacunas antineumocócicas conjugadas han logrado reducir de manera significativa las enfermedades invasivas por *Streptococcus pneumoniae* en Latinoamérica y el Caribe, evitando hospitalizaciones y salvando vidas de niños y adultos, confirma una revisión sistemática con metanálisis en PLOS ONE.

El grupo de investigación también constató que la vacunación favoreció el desplazamiento de serotipos cubiertos por los biológicos por otros no vacunales que también causan enfermedad, lo cual obliga a reforzar la vigilancia epidemiológica para monitorear de cerca este fenómeno y eventualmente sustentar la introducción de fórmulas que ofrezcan mayor cobertura.

"El cambio de serotipos también ocurre en otras infecciones, pero el efecto neto de la introducción de las vacunas ha sido muy benéfico en términos de la reducción de la carga de enfermedad", manifestó a Medscape en español el autor principal, Dr. Ariel Bardach, especialista en medicina interna y máster en epidemiología, investigador del Instituto de Efectividad Clínica y Sanitaria (IECS), en Buenos Aires, Argentina, y director del Centro de Investigaciones en Epidemiología y Salud Pública (CIESP), que depende del IECS y del Consejo Nacional de Investigaciones Científicas y Técnicas de Argentina (CONICET).

"El mensaje clave radica en que la vacuna es útil para prevenir enfermedad grave y secundariamente reducir la resistencia microbiana y el estrés del sistema de salud. ¿Cubren bien los serotipos circulantes? Sí. ¿Son infalibles? No. Y generan una selección natural de serotipos [no cubiertos por las vacunas]. Es como una competencia donde corremos a los microorganismos de atrás", indicó a Medscape en español la Dra. Miriam Rozenek, infectóloga y geriatra, exsecretaria del comité de vacunas de la Sociedad Argentina de Infectología (SADI) y directora del consejo de infectogeriatría de la Sociedad Argentina de Geriatria y Gerontología (SAGG), que no participó de la investigación.

Impacto de las vacunas sobre la carga de enfermedad

Las vacunas conjugadas son vacunas de polisacáridos capsulares purificados con diferentes serotipos de *S. pneumoniae*. La primera, heptavalente o PCV7, fue licenciada por la Administración de Alimentos y Fármacos (FDA) de Estados Unidos a fines del año 2000, aunque para 2008 México y Uruguay eran los

únicos países latinoamericanos que la habían incorporado en sus calendarios de vacunación para todos los niños. Con la llegada de nuevas fórmulas que cubren más serotipos, la decavalente o PCV10 (2009) y la 13 valente o PCV13 (2010), se extendió la adopción de la misma medida: en 2012 ya había 26 países y territorios en Latinoamérica y el Caribe que la aplicaban con distintos esquemas y para 2019 la cifra ya había subido a 35, aunque no todos incluían a los mayores de 65 años.

Fuente: Medscape. Disponible en <https://acortar.link/J8ueoX>

Cuba vacunará a su población contra el neumococo, la influenza y el papiloma humano

20 ago. Cuba aplicará a partir del próximo 9 de septiembre la vacuna antineumocócica Pneumosil-10, dirigida a la protección de los niños menores de un año, nacidos en 2024, contra diez serotipos de neumococo, informó este lunes José Angel Portal Miranda, ministro de Salud Pública, durante la apertura del XVIII Curso Internacional de Dengue y otros arbovirus emergentes.

Añadió que, como parte del esquema nacional de inmunización, cuando se disponga de la vacuna antineumocócica Quimi-Vio –desarrollada por el Instituto Finlay de Vacunas y actualmente en producción en el Centro Nacional de Biopreparados–, se aplicará a los niños de dos años de edad, nacidos en 2022.

Sobre las campañas de inmunización en el país, el doctor Francisco Durán García, director nacional de Epidemiología del Minsap, explicó a Granma que en el mes de agosto comenzó la aplicación de la vacuna antigripal, la cual previene el virus de influenza causante de cuadros respiratorios.

Detalló que se está aplicando a la población infantil de dos años, y para los adultos debe comenzar en el mes de septiembre o inicios de octubre, con énfasis en los grupos de riesgo, es decir, mayores de 60 años de edad, personas con enfermedad pulmonar obstructiva crónica, asmáticos y diabéticos, entre otros.

Durán García precisó que, a inicios de 2025, deben comenzar a aplicar la vacuna contra el virus del papiloma humano, una infección de transmisión sexual que provoca, como complicaciones fundamentales, el cáncer cérvicouterino en las mujeres y el cáncer anorrectal.

Amplió que esta vacuna se aplicará por primera vez en nuestro país a las niñas de nueve años de edad, y luego, cuando se adquieran más dosis, se extenderá a la población femenina hasta los 14 años. Su aplicación repercutirá en una disminución de estas formas de cáncer.

En el caso de las vacunas contra la COVID-19, precisó que se continúa aplicando un refuerzo para los grupos de riesgo, que debe concluir en el presente año.

Fuente: Mesa Redonda. Cubadebate. Disponible en <https://acortar.link/Uo16ZT>

Serum Institute says working to develop Monkeypox vaccine

Aug 20. The World Health Organisation on August 14 declared the Mpox outbreak a public health emergency of international concern. The move came after a sudden increase in cases was recorded in parts of Africa. In India, around 30 Mpox cases have been detected since 2022. The most recent case in the country was reported in March 2024.

Serum Institute of India on Tuesday said it is currently working to develop a vaccine for Monkeypox, with positive outcomes expected in a year's time. The World Health Organisation on August 14 declared the Mpox outbreak a public health emergency of international concern.

The move came after a sudden increase in cases was recorded in parts of Africa.

In India, around 30 Mpox cases have been detected since 2022. The most recent case in the country was reported in March 2024.

"In view of the global health emergency declared due to Mpox outbreak, Serum Institute of India is currently working on developing a vaccine for this disease to cater to millions of lives that might be at risk," Serum Institute of India CEO Adar Poonawalla said in a statement.

Hopefully, with the ongoing progress, the Pune-based vaccine major will have more updates and positive news to share within a year's time, he added.

The Union Health ministry has issued advisories highlighting that scrutiny at airports and seaports, especially at international entry points will increase.

The government has declared three hospitals -- Ram Manohar Lohia Hospital, Safdarjung Hospital, and Lady Hardinge Medical College -- as nodal centres for the isolation, management and treatment of patients.

Fuente: The Economic Times. Disponible en <https://acortar.link/g2C6Ca>



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Patentes registradas en Patentscope

Estrategia de búsqueda: (Vaccine) AND DP:([13.08.2024 TO 20.08.2024]) as the publication date 52 records.

1. [20240269259](#) RABIES VIRUS VACCINE

US - 15.08.2024

Clasificación Internacional [A61K 39/205N](#) de solicitud 18643377 Solicitante Intervet Inc. Inventor/a Ian Tarpey

The present invention provides a vaccine for rabies virus and methods of making and using the vaccine alone, or in combinations with other protective agents.

2. [4412709](#) NEMATODENIMPFSTOFF

EP - 14.08.2024

Clasificación Internacional A61P 33/10Nº de solicitud 22878045 Solicitante AGRESEARCH LTD Inventor/a UMAIR SALEH

The present invention is directed to a **vaccine** comprising recombinant antigens derived from the parasitic nematode *Haemonchus contortus*, which will raise an immune response in farmed and wild ruminants that are susceptible or predisposed to infection by one or more nematode worm species. The recombinant antigens used in the invention are conserved among species of nematode worms so that the **vaccine** will provide protection against multiple types of nematode worms. In particular, the invention provides a composition or **vaccine** composition comprising the recombinant *H. contortus* antigens: (i) enolase (EN); (ii) arginine kinase (AK); and (iii) ornithine decarboxylase (ODC), or antigenic fragments thereof, together with a veterinary acceptable carrier or diluent.

3. WO/2024/164611 ATOMIZED **VACCINE** INHALATION APPARATUS

WO - 15.08.2024

Clasificación Internacional A61M 11/00Nº de solicitud PCT/CN2023/131442 Solicitante QINGDAO FUTURE MEDICAL TECHNOLOGY CO., LTD. Inventor/a WANG, Weilai

An atomized **vaccine** inhalation apparatus, wherein an atomized **vaccine** inhalation cup comprises a cup lid and a cup body (2). The cup lid is fastened to an upper end of the cup body (2), and the cup lid is provided with an inhalation port and an aerosol inlet (1.1, 4.1). The aerosol inlet (1.1, 4.1) is used for the insertion of an aerosol outlet (3.1) of an atomizer medicine cup (3). The inhalation port is used for inoculation, by oral inhalation or nasal inhalation, using an atomized **vaccine** that enters the cup body (2). The cup lid comprises an oral cup lid (1) or/and a nasal inhalation cup lid (4). The inhalation port on the oral cup lid (1) is an oral inhalation port (1.2), and the inhalation port on the nasal inhalation cup lid (4) is a nasal cavity inhalation port (4.2). The present invention can be used in conjunction with an atomizer to satisfy use scenarios of oral or/and nasal inhalation inoculation of atomized vaccines. The present invention further comprises an automatic cup dropper (5). The lower half of the automatic cup dropper (5) is cylindrically tube-shaped and has a bottom surface that has an open structure, the upper half is a semi-open cylindrical tube-shaped structure having a closed top, and the inner diameter of the cylindrical tube shape is smaller than the outer diameter of a cup mouth of the cup body. The automatic cup dropper (5) occupies a small space and has the characteristics of facilitating the transport, storage, picking up, and use of the atomized **vaccine** inhalation cup.

4. 20240269271 GLYCOPROTEIN D VARIANTS AS **VACCINE** ADJUVANTS

US - 15.08.2024

Clasificación Internacional A61K 39/39Nº de solicitud 18407567 Solicitante VIRION THERAPEUTICS, LLC Inventor/a Hildegund CJ Ertl

Disclosed herein are compositions for increasing the immunogenicity of a **vaccine** antigen and methods of inducing an immune response in a subject using the compositions described herein. Disclosed herein are compositions for a therapeutic **vaccine** to HPV-associated cancers and methods of inducing an immune response to HPV in a subject using the compositions described herein.

5. 12060389 ENTEROVIRUS MULTI-ANTIGEN EPITOPE FUSION PROTEIN, GENE, **VACCINE**, AND PREPARATION METHOD THEREOF

US - 13.08.2024

Clasificación Internacional C07K 14/005N° de solicitud 18412485Solicitante Institute of Medical Biology, Chinese Academy of Medical SciencesInventor/a Longding Liu

An enterovirus multi-antigen epitope fusion protein, a gene, a vaccine and a preparation method thereof are provided, relating to the field of vaccine preparation technologies. The amino acid sequence of the enterovirus multi-antigen epitope fusion protein is shown in SEQ ID NO: 4. The vaccine is prepared by adopting the preparation method of a genetically engineered protein vaccine, and the prepared vaccine has stronger specificity. After protein purification, there are fewer impure proteins and more specific antigen proteins, thus improving the effectiveness and safety of the combined vaccine.

6.20240269272VACCINE COMPOSITION COMPRISING ENCODED ADJUVANT

US - 15.08.2024

Clasificación Internacional A61K 39/39N° de solicitud 18566077Solicitante NOUSCOM AGInventor/a Elisa SCARSELLI

The present invention relates to a vaccine composition comprising (1) a first set of one or more vectors comprising a nucleic acid encoding one or more adjuvants, wherein the first set of one or more vectors are adenoviral vectors, and (2) an antigen or a combination of antigens or a nucleic acid encoding said antigen or combination of antigens or a second set of one or more vectors comprising said nucleic acid. The invention further relates to said vaccine composition for use in the treatment or prophylaxis of a disease. In addition, the invention relates to a vaccine composition or vaccine kit for inducing an immune response comprising (1) a first nucleic acid encoding one or more adjuvants or a first set of one or more vectors comprising said first nucleic acid and (2) an antigen or a combination of antigens or a second nucleic acid encoding said second antigen or combination of antigens or a second set of one or more vectors comprising said second nucleic acid, wherein (1) is administered to a patient at a first location and (2) is administered to the patient at a second location, wherein the first location is the same or within 20 cm of the second location and the lymphatic system of the first and second location drains to the same lymph nodes. The invention also relates to a vaccination regimen comprising a first administration step comprising administration of an antigen and an encoded adjuvant, and a second administration step comprising administration of an antigen and/or an encoded adjuvant.

7.WO/2024/168224ENGINEERED NIPAH VIRUS MRNA VACCINE

WO - 15.08.2024

Clasificación Internacional A61K 39/12N° de solicitud PCT/US2024/015123Solicitante VERNAGEN, LLCInventor/a KIM, Baek

Provided herein are a Nipah virus vaccine composition including (i) a messenger ribonucleic acid (mRNA) including an open reading frame (ORF) encoding soluble Nipah virus glycoprotein (soluble NiV-G) fused with human collagen type I alpha 1 (COL1A1) signal peptide, (ii) a mRNA including an ORF encoding full-length Nipah virus glycoprotein (full-length NiV-G), (iii) a mRNA including an ORF encoding full-length Nipah virus fusion protein (full-length NiV-F), or (iv) the mRNA including the ORF encoding full-length NiV-G, and the mRNA including the ORF encoding full-length NiV-F, and a method of inducing immune response against Nipah virus by administering an effective amount of the Nipah virus vaccine composition to a subject in need thereof.

8. [20240269255](#)HPV INFECTIOUS DISEASE **VACCINE**

US - 15.08.2024

Clasificación Internacional [A61K 39/12](#)Nº de solicitud 18561804Solicitante DAIICHI SANKYO COMPANY, LIMITEDInventor/a Yoshikuni ONODERA

Provided are lipid particles encapsulating a nucleic acid capable of expressing an E6 antigen and an E7 antigen of human papillomavirus, whereby a **vaccine** for preventing and/or treating infection with human papillomavirus type 6 and/or type 11 can be provided. The lipid particles comprise a lipid that is a cationic lipid having the general formula (Ia), or a pharmaceutically acceptable salt thereof.

[In the formula, R^1 , R^2 , p, L^1 and L^2 are as defined in the specification.]

9. [20240269266](#)BROAD-SPECTRUM MULTI-ANTIGEN PAN-CORONAVIRUS **VACCINE**

US - 15.08.2024

Clasificación Internacional [A61K 39/215](#)Nº de solicitud 18601925Solicitante THE REGENTS OF THE UNIVERSITY OF CALIFORNIAInventor/a Lbachir BenMohamed

Waning immunity induced by first-generation Spike-alone-based COVID-19 has failed to prevent immune escape by many variants of concern (VOCs) that emerged from 2020 to 2024, resulting in a prolonged COVID-19 pandemic. Thus, a next-generation Coronavirus (CoV) **vaccine** incorporating highly conserved non-Spike SARS-CoV-2 antigens is described herein. Conserved non-Spike T cell antigens in combination with a Spike antigen encapsulated in lipid nanoparticles: (i) Induced high frequencies of lung-resident antigen-specific CXCR5+CD4+ T follicular helper cells, GzmB+CD4+ and GzmB+CD8+ cytotoxic T cells, and CD69+IFN- γ +TNF α +CD4+ and CD69+IFN- γ +TNF α +CD8+ effector T cells; and (ii) Reduced viral load and COVID-19-like symptoms caused by various VOCs. The combined antigen/LNP-based pan-CoV **vaccine** could be rapidly adapted for clinical use to confer broader cross-protective immunity against emerging highly mutated and pathogenic VOCs.

10. [20240269171](#)EPSTEIN-BARR VIRUS (EBV) ANTIGEN COMPOSITES AND DENDRITIC CELL (DC)-BASED **VACCINE**, AND USE THEREOF

US - 15.08.2024

Clasificación Internacional [A61K 35/15](#)Nº de solicitud 18574764Solicitante Helen LIUInventor/a Helen LIU

Epstein-Barr virus (EBV) antigen composites and a dendritic cell (DC)-based **vaccine**, and a use thereof in preparation of a drug for controlling an EBV-associated infectious disease are provided. Patient-derived DCs are stimulated in vitro, loaded with lysates of various types of EBV-infected cells with strong immunogenicity for EBV-associated infectious diseases, and induced into mature dendritic cells (mDCs) by various cytokines and specific agonists, so as to obtain a complete DC-based **vaccine** with corresponding antigens. The DC-based **vaccine** can be injected back into the patient to activate the immune system to produce cytotoxic T cells, thereby killing EBV-infected cells, exerting an immunological effect, and improving a life quality of the patient. In addition, the DC-based **vaccine** can be prepared in about one week with a low cost, is safe, and shows no obvious side effects.

11. [WO/2024/164391](#) HEAT-RESISTANT PROTECTIVE AGENT FOR SWINE ERYSIPELAS LIVE **VACCINE**, PREPARATION METHOD THEREFOR, AND USE THEREOF

WO - 15.08.2024

Clasificación Internacional [A61K 47/42](#)Nº de solicitud PCT/CN2023/081576 Solicitante JINYUBAOLING BIOPHARMACEUTICAL CO., LTD Inventor/a LI, Chao

A heat-resistant protective agent for a swine erysipelas live **vaccine**, a preparation method therefor, and a use thereof. The heat-resistant protective agent comprises the following components in mass/volume percent: 8% to 12% of maltodextrin, 3% to 5% of gelatin, 1% to 2% of L-arginine hydrochloride, 1% to 3% of polyvinylpyrrolidone, 1% to 3% of L-histidine hydrochloride, 6% to 8% of enzyme-hydrolyzed casein, 3% to 5% of D-sorbitol, 1% to 2% of sodium thiosulfate, 3% to 6% of tert-butyl alcohol, and 1% to 3% of polyethyleneimine, the remainder being water for injection. According to the heat-resistant protective agent, a swine erysipelas live **vaccine** can be stably stored for a long time, the decrease in the titer of live bacteria in the swine erysipelas live **vaccine** is inhibited, immune efficacy is ensured, and the swine erysipelas live **vaccine** also has a good freeze-dried appearance, a relatively low water content and good dissolution characteristics.

12. [20240269257](#) INORGANIC POLYATOMIC OXYANIONS FOR PROTECTING AGAINST ANTIGENIC DAMAGE DURING PATHOGEN INACTIVATION FOR **VACCINE** PRODUCTION

US - 15.08.2024

Clasificación Internacional [A61K 39/145](#)Nº de solicitud 18500970 Solicitante Najit Technologies, Inc. Inventor/a Ian J. Amanna

Provided are methods for rapidly inactivating a pathogen, or for producing a **vaccine** composition containing an inactivated noninfectious pathogen having retained antigenicity and/or immunogenicity, comprising exposing the pathogen to a chemical inactivating agent (e.g., one or more chemical oxidizing, alkylating or crosslinking agents) in the presence of inorganic polyatomic oxyanions in an amount and for a time sufficient to render the pathogen noninfectious while enhancing retention of pathogen antigenicity and/or immunogenicity relative to that retained by contacting the pathogen with the chemical inactivating agent alone. The methods are broadly applicable to pathogens having RNA or DNA genomes (e.g., including viruses, bacteria, fungi, and parasites). Also provided are **vaccine** compositions (medicaments) containing a pathogen inactivated by exposure to an inactivating agent in the presence of elevated concentrations of inorganic polyatomic oxyanions, and methods for eliciting an immune response in a subject by administering the **vaccine** compositions.

13. [WO/2024/168177](#) AFRICAN SWINE FEVER VIRUS **VACCINE** COMPOSITIONS AND METHODS OF MAKING AND USING THE SAME

WO - 15.08.2024

Clasificación Internacional [A61K 39/12](#)Nº de solicitud PCT/US2024/015039 Solicitante KANSAS STATE UNIVERSITY RESEARCH FOUNDATION Inventor/a SHI, Jishu

A safe and efficacious live-attenuated **vaccine** is presented, (LAV) VNUA-ASFV-LAVL2, generated by serial passaging of a field isolate (VNUA-ASFV-05L1, genotype II) in porcine alveolar macrophage (PAMs, 65 passages) and an immortalized porcine alveolar macrophage cell line (3D4/21, 55 passages). VNUA-ASFV-

LAVL2 can efficiently replicate in both PAMs and 3D4/21 cells. It provides 100% protection, even with the low dose of 10^2 HAD₅₀, for the vaccinated pigs against the challenge of contemporary pandemic ASFV field isolate. Pigs vaccinated with this LAV at a dose range of 10^2 to 10^5 HAD₅₀ remain clinically healthy during both an observation period of immunization and a 28-day observation period of challenge. VNUA-ASFV-LAVL2 is eliminated from blood by 28 days post inoculation (DPI), and from feces or oral fluids by 17 DPI. ASFV-specific IgG antibodies and significant cellular immunity can be detected in vaccinated pigs before an ASFV challenge.

14. [20240269262](#)METHODS, KITS, AND APPROACHES FOR VIRAL VACCINES

US - 15.08.2024

Clasificación Internacional [A61K 39/215](#)Nº de solicitud 18286025Solicitante University of Florida Research Foundation, IncorporatedInventor/a Duane Mitchell

The invention provides methods of making vaccines against viruses, including against SARS-Cov-2. Such methods entail identifying areas of a viral genome that are highly conserved and making vaccines that target the highly conserved areas. The invention provides a polypeptide [vaccine](#) comprising a SARS-Cov-2 polypeptide or an immunogenic fragment thereof and a pharmaceutically acceptable excipient. The invention provides a polynucleotide [vaccine](#) comprising a polynucleotide encoding a SARS-Cov-2 polypeptide or immunogenic fragment thereof linked to a heterologous promoter and a pharmaceutically acceptable excipient. The invention provides methods for effecting prophylaxis of or treating SARS-Cov-2 infection comprising a step of administering a polypeptide [vaccine](#) and/or a polynucleotide [vaccine](#) to a subject in need thereof.

15. [20240269263](#)IMMUNOMODULATORY COMPOSITIONS AND RELATED METHODS

US - 15.08.2024

Clasificación Internacional [A61K 39/215](#)Nº de solicitud 18433923Solicitante Flagship Pioneering Innovations VII, LLCInventor/a Ellen Lovisa Larsdotter AFZELIUS

Provided herein are, *inter alia*, compositions (e.g., [vaccine](#) compositions (e.g., [vaccine](#) booster compositions)) comprising a hIL-10R binding agent (e.g., a hIL-10R binding protein (or a nucleic acid molecule comprising the same)) and optionally an immunogen (e.g., an immunogenic protein (or a nucleic acid molecule encoding the same)). Further provided herein are methods of utilizing hIL-10R binding agents (e.g., hIL-10R binding proteins (or nucleic acid molecules comprising the same)), including, e.g., in methods of vaccination, e.g., as [vaccine](#) boosters.

16. [WO/2024/167885](#)IMMUNOMODULATORY COMPOSITIONS AND RELATED METHODS

WO - 15.08.2024

Clasificación Internacional [C07K 14/44](#)Nº de solicitud PCT/US2024/014558Solicitante FLAGSHIP PIONEERING INNOVATIONS VII, LLCInventor/a AFZELIUS, Ellen Lovisa Larsdotter

Provided herein are, *inter alia*, compositions (e.g., [vaccine](#) compositions (e.g., [vaccine](#) booster compositions)) comprising a hIL-10R binding agent (e.g., a hIL-10R binding protein (or a nucleic acid molecule comprising the same)) and optionally an immunogen (e.g., an immunogenic protein (or a nucleic acid molecule encoding the same)). Further provided herein are methods of utilizing hIL-10R binding agents (e.g., hIL-10R binding

proteins (or nucleic acid molecules comprising the same)), including, e.g., in methods of vaccination, e.g., as [vaccine](#) boosters.

17. [4412647](#)MULTIVALENTE INFLUENZAIMPFFSTOFFE

EP - 14.08.2024

Clasificación Internacional [A61K 39/12](#)Nº de solicitud 22801613Solicitante SANOFI PASTEUR
INCInventor/a ALEFANTIS TIMOTHY

Disclosed are multivalent [vaccine](#) or immunogenic compositions comprising influenza virus hemagglutinin (HA) from standard of care influenza virus strains, or ribonucleic acid molecules encoding the same; and one or more influenza virus HA identified or designed by machine learning, or one or more ribonucleic acid molecules that encode the influenza virus HA identified or designed by machine learning. Also disclosed are methods of using the [vaccine](#) or immunogenic compositions.

18. [20240269258](#)MULTIVALENT INFLUENZA VACCINES

US - 15.08.2024

Clasificación Internacional [A61K 39/145](#)Nº de solicitud 18627824Solicitante SANOFI PASTEUR
INC.Inventor/a Timothy ALEFANTIS

Disclosed are multivalent [vaccine](#) or immunogenic compositions comprising influenza virus hemagglutinin (HA) from standard of care influenza virus strains, or ribonucleic acid molecules encoding the same; and one or more influenza virus HA identified or designed by machine learning, or one or more ribonucleic acid molecules that encode the influenza virus HA identified or designed by machine learning. Also disclosed are methods of using the [vaccine](#) or immunogenic compositions.

19. [20240270829](#)VACCINE THERAPY

US - 15.08.2024

Clasificación Internacional [C07K 16/18](#)Nº de solicitud 18395150Solicitante AC Immune SAInventor/a Andrea Pfeifer

The present invention provides means for treating, alleviating and preventing amyloid-related pathology in young to middle-aged subjects with Down's syndrome (DS). In particular, the present invention provides antigenic peptide fragments derived from amyloid protein or amyloid-like protein for use in the preventive treatment of amyloid-related pathology in young to middle-aged subjects with Down's syndrome.

20. [4413033](#)VERFAHREN ZUR BESTIMMUNG NOROVIRUSREAKTIVER ANTIKÖRPER

EP - 14.08.2024

Clasificación Internacional [C07K 16/10](#)Nº de solicitud 22800964Solicitante TAKEDA VACCINES
INCInventor/a BRAUN RALPH

The present disclosure is directed to methods for determining the presence and/or amount of norovirus-reactive antibodies in a sample from a subject. The subject may be vaccinated with a norovirus [vaccine](#) or infected with a norovirus. The present disclosure further relates to *in vitro* methods for diagnosing a norovirus infection and determining protection against a norovirus infection in a subject for instance after vaccination with a norovirus [vaccine](#). The present disclosure is further directed to kits for determining norovirus-reactive

antibodies in a sample. The present disclosure is further directed to microsphere complexes comprising microspheres coupled to norovirus virus like particles.

21. [WO/2024/167669](#) COMBINATIONS OF DENDRITIC CELL-BASED VACCINES AND CHECKPOINT INHIBITORS

WO - 15.08.2024

Clasificación Internacional [A61K 35/15](#)Nº de solicitud PCT/US2024/012603 Solicitante MAYO FOUNDATION FOR MEDICAL EDUCATION AND RESEARCH Inventor/a KNUTSON, Keith, L.

Methods and materials for treating cancer (e.g., ovarian cancer) using a combination of a Th 17 DC [vaccine](#) and an immune checkpoint inhibitor are provided herein.

22. [WO/2024/168014](#) DENDRITIC CELL-BASED VACCINES AND USES THEREOF

WO - 15.08.2024

Clasificación Internacional [A61K 35/15](#)Nº de solicitud PCT/US2024/014767 Solicitante MAYO FOUNDATION FOR MEDICAL EDUCATION AND RESEARCH Inventor/a KNUTSON, Keith L.

Methods and materials for treating cancer (e.g., ovarian cancer) using a combination of a Th17 DC [vaccine](#), optionally in combination with an immune checkpoint inhibitor, are provided herein.

23. [WO/2024/167803](#) ADJUVANT FORMULATIONS INCLUDING LOW VISCOSITY CHITOSAN OR CHITOSAN DERIVATIVES

WO - 15.08.2024

Clasificación Internacional [A61K 47/36](#)Nº de solicitud PCT/US2024/014372 Solicitante MERCK SHARP & DOHME LLC Inventor/a STRABLE, Erica L.

The invention relates generally to the use of chitosan and chitosan derivatives as an adjuvant in a [vaccine](#) composition. More specifically, the invention relates to pharmaceutical compositions and formulations that include a low viscosity chitosan or a trimethyl chitosan.

24. [20240269269](#) SELF-ASSEMBLING NANOPARTICLES

US - 15.08.2024

Clasificación Internacional [A61K 39/385](#)Nº de solicitud 18494491 Solicitante Barinthus Biotherapeutics North America, Inc. Inventor/a Geoffrey Martin Lynn

The present disclosure relates to a [vaccine](#) comprising at least one peptide antigen conjugate having the formula selected from PEG-[E1]-A-[E2]-[U]-H and H-[U]-[E1]-A-[E2]-PEG, wherein E1 is an N terminal extension, E2 is a C terminal extension, A is peptide antigen, H is hydrophobic block, wherein one or more drug molecules (D) are optionally attached to each H directly or via a suitable linker X1; U is a linker, [] denotes the group is optional and - denotes that the two adjacent groups are directly attached to one another by a covalent bond or indirectly to one another via a suitable linker X. The [vaccine](#) is useful in treating or preventing a cancer, an autoimmune disease, an allergy, or an infectious disease.

25. [2024205414](#) CANINE LYME DISEASE [VACCINE](#)

AU - 15.08.2024

Clasificación Internacional N° de solicitud 2024205414 Solicitante Intervet International B.V. Inventor/a CALLISTER, Steven M

26. [4413144](#) RNA-IMPfstoff-Lipidnanopartikel

EP - 14.08.2024

Clasificación Internacional [C12N 15/85](#) N° de solicitud 22878062 Solicitante GLOBAL LIFE SCIENCES SOLUTIONS CANADA ULC Inventor/a GEALL ANDY JOHN

Disclosed are recombinant expression vectors useful as RNA vaccines. Also disclosed are pharmaceutically acceptable carriers for the recombinant expression vectors, particularly lipid nanoparticles.

27. [WO/2024/167071](#) NOVEL LOW-TEMPERATURE-ADAPTIVE ATTENUATED MIDDLE EAST RESPIRATORY SYNDROME CORONAVIRUS

WO - 15.08.2024

Clasificación Internacional [C12N 7/00](#) N° de solicitud PCT/KR2023/008704 Solicitante PIONEER VACCINE INC. Inventor/a SEO, Heejeong

The present invention relates to a novel low-temperature-adaptive attenuated Middle East respiratory syndrome coronavirus (MERS-CoV) and uses thereof, in which, by stepwise adapting a MERS-CoV to low temperatures, a novel low-temperature-adaptive attenuated MERS-CoV that enables effective prevention of MERS-CoV infection was developed, and can be useful as a [vaccine](#) and therapeutic agent able to prevent Middle East respiratory syndrome.

28. [20240269267](#) SYNTHETIC DNA [VACCINE](#) IMMUNOGENIC IMPROVEMENTS

US - 15.08.2024

Clasificación Internacional [A61K 39/295](#) N° de solicitud 18566859 Solicitante The Wistar Institute of Anatomy and Biology Inventor/a David Weiner

Disclosed herein is a composition comprising one or more viral antigen or a recombinant nucleic acid sequence that encodes one or more viral antigen with enhanced immunogenicity in vivo. Also disclosed herein is a method of generating an immune response in a subject by administering the composition to the subject. The disclosure also provides a method of preventing and/or treating a viral infection in a subject using said composition and methods.

29. [20240269640](#) METHODS AND COMPOSITIONS FOR LARGE-SCALE CONJUGATABLE POLYMER AND PROTEIN SYNTHESIS

US - 15.08.2024

Clasificación Internacional [B01J 19/00](#) N° de solicitud 18496770 Solicitante Ligandal, Inc. Inventor/a Andre Watson

Methods and compositions for manufacturing large-scale quantities of conjugatable peptides/peptoids/polymers/nucleic acids and conjugatable proteins, as well as hybrid materials consisting of synthetic and unnatural amino acids, glycopeptides, proteoglycans, and other molecular modifications are disclosed, for a variety of purposes including rapid antidote and [vaccine](#) applications in biodefense,

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therapeutics, diagnostics, theranostics, thin films, multilayered assemblies, biofilms, sensors, drug delivery vehicles, gene delivery vehicles, gene editing vehicles, staged release compounds, and the like.

30. [4413021](#) SPEZIFISCHE BACULOVIRUS-HAUPTHÜLLGLYKOPROTEIN-GP64-BINDENDE PROTEINE

EP - 14.08.2024

Clasificación Internacional [C07K 14/31](#)Nº de solicitud 22802032 Solicitante NAVIGO PROTEINS GMBH Inventor/a FIEDLER ERIK

gp64 is the major envelope glycoprotein of baculoviruses. The present invention relates to novel proteins that specifically bind to the baculovirus envelope protein gp64. The novel proteins of the present invention are advanced and powerful tools because they allow precise capturing of gp64 in affinity chromatography. The gp64 binding proteins are particularly useful tools within the process of protein production (e.g. [vaccine](#) production) to provide for gp64 free samples. Further, the binding protein for gp64 are useful for methods to analyze the presence of gp64.

31. [20240269252](#) COMPOSITIONS FOR INDUCING AN IMMUNE RESPONSE

US - 15.08.2024

Clasificación Internacional [A61K 39/00](#)Nº de solicitud 18544197 Solicitante President and Fellows of Harvard College Inventor/a Nisarg J. Shah

Acute myeloid leukemia (AML) is a clonal disorder of hematopoietic stem and progenitor cells. It is a devastating disease with a poor prognosis and an average 5-year survival rate of about 30%. Disclosed herein are composition and methods for treating leukemia with a biomaterial comprising a polymer scaffold, a dendritic cell activating factor, a dendritic cell recruitment factor, and at least one leukemia antigen. The biomaterial-based [vaccine](#) disclosed herein promotes a potent, durable and transferable immune response against acute myeloid leukemia to prevent cell engraftment and synergizes with chemotherapy to prevent relapse.

32. [WO/2024/165898](#) AUTOMATED DIGITAL INJECTION GUN WITH THE ABILITY TO STORE THE INJECTION DATA OF EACH LIVESTOCK.

WO - 15.08.2024

Clasificación Internacional [A61M 5/145](#)Nº de solicitud PCT/IB2023/053871 Solicitante MOHAMMADIOUNOTIKANDI, Ali Inventor/a MOHAMMADIOUNOTIKANDI, Ali

An animal injection gun with a comprehensive system of drug and [vaccine](#) injection for domestic and wild animals, which, in addition to performing hard injections, stores comprehensive and complete information on the proportion of each animal in the system so that if needed, this information can be used from the birth of the new baby to the end of the animal's life and prevented the spread of herd diseases. The components of this device include: the electronic circuit controlling the engine, the part which functions for injection, the placement location of the carpules, battery, controlling lights, needle head, push button, battery, storage location of injection data and other parts of the device has been embedded on the gun.

33. [20240271147](#) TOBAMOVIRUS PSEUDOVIRIONS FOR STABILISING SINGLE STRANDED RNA

US - 15.08.2024

Clasificación Internacional C12N 15/82Nº de solicitud 18568456Solicitante University of Cape TownInventor/a Ann Elizabeth MEYERS

Provided herein is a method for stabilising a single stranded RNA (ssRNA) by encapsidation of the ssRNA with a tobamovirus coat protein to obtain a pseudovirion (PsV), the method comprising expressing a tobamovirus coat protein and the ssRNA comprising a tobamovirus encapsidation origin (OriA), wherein the expressed tobamovirus coat protein interacts with the OriA sequence on the ssRNA to initiate encapsidation of the ssRNA by the tobamovirus coat protein, thereby forming a pseudovirion. The PsVs produced according to the method can be used as a diagnostic control composition, where the ssRNA is a sequence detected by a molecular diagnostic assay. The pseudovirions may also be used as a **vaccine** to elicit an immune response in a subject, and in pharmaceutical compositions to be administered to a subject.

34. WO/2024/167866 MODIFIED PIV5 **VACCINE** VECTORS: METHODS OF MAKING AND USES

WO - 15.08.2024

Clasificación Internacional C07K 14/075Nº de solicitud PCT/US2024/014505Solicitante CYANVAC LLCInventor/a HE, Biao

A CVB viral expression vector comprising a PIV5 W3A viral genome that contains mutations at amino acid residue S157 or S156 in the P/V gene and a deletion of the small hydrophobic (SH) gene of the PIV5 W3A viral genome, wherein the amino acid substitution at amino acid residue S157 or S156 comprises a substitution of serine (S) to phenylalanine (F) or asparagine (N) and wherein the SH gene has a deletion of the SH open reading frame or a deletion of an entire SH gene transcript unit. The CVB viral expression vector wherein the vector expresses a heterologous polypeptide comprising a SARS-CoV-2 spike (S), and/or nucleocapsid (N) and/or membrane (M) proteins, RSV fusion protein (F) or other antigens.

35. 20240272143 RELEASE ASSAY FOR DETERMINING POTENCY OF SELF-AMPLIFYING RNA DRUG PRODUCT AND METHODS FOR USING

US - 15.08.2024

Clasificación Internacional C12Q 1/6804Nº de solicitud 18567056Solicitante GLAXOSMITHKLINE BIOLOGICALS SAInventor/a Qiongman KONG

A potency release assay for measuring the potency of drug product composition comprising self-amplifying mRNA (SAM) that encodes at least one immunogenic polypeptide or at least one therapeutic peptide and a non-viral delivery system is described. In one embodiment the drug product is a **vaccine** comprising SAM and a non-viral delivery system such as SAM/lipid nanoparticle (LNP) delivery system, a Cationic Nanoemulsion (CNE) delivery system, or another SAM delivery system. It is demonstrated that the potency of a SAM drug product can be assessed in an in vitro system, at the RNA amplification stage (agnostic assay), by measuring the amount of double-stranded RNA (dsRNA) in cells which have been transfected with the SAM in the drug product. Thus, dsRNA can be used as a surrogate endpoint for potency. It is demonstrated that there is a very high correlation between total dsRNA in a cell culture transfected with the SAM and the potency of the SAM based drug product.

36. 20240270796 **VACCINE** COMPOSITIONS OF HERPESVIRUS ENVELOPE PROTEIN COMBINATIONS TO INDUCE IMMUNE RESPONSE

US - 15.08.2024

Clasificación Internacional C07K 14/005N° de solicitud 18494219Solicitante THE HENRY M. JACKSON FOUNDATION FOR THE ADVANCEMENT OF MILITARY MEDICINE, INC.Inventor/a Xinle Cui

Provided are antigenic compositions and uses thereof that include at least two human herpesvirus (HHV) polypeptides involved in mediating HHV binding, fusion, and entry into host cells, such as gp350, gH, gL, and gB, or nucleic acids encoding the polypeptides. The two HHV polypeptides comprise any combination of: a gB polypeptide; a gp350 polypeptide; a gL polypeptide; and a gH polypeptide, and optionally any one or more of the following polypeptides: gp42, gM, gN, gl, gC, gE, gD, ORF68, BMRF-2, BDLF2, UL128, UL130, UL131A, and gpK8.1. Also disclosed are methods of inducing an immune response or treating or preventing O an HHV infection in a subject by administering to the subject at least two of the HHV polypeptides or nucleic acid(s) encoding the same. Methods of passively transferring immunity using high-titer anti-HHV antibodies or immune cells are also disclosed.

37.WO/2024/165753COLD STORAGE DEVICE

WO - 15.08.2024

Clasificación Internacional F25D 3/08N° de solicitud PCT/EP2024/053372Solicitante B MEDICAL SYSTEMS S.À R.LInventor/a PIRES, Daniel

An ice-lined cold storage device, notably a **vaccine** storage device, is provided with an indication of simulated autonomy indicating the duration during which a payload will be maintained below a pre-specified temperature without use of a cooling circuit to remove energy from the cold storage device. The simulated autonomy is provided using a temperature model which uses data which is specific to the ice-lined cold storage device and by: a) detecting an initial ambient temperature, an initial storage compartment temperature and an initial ice-lining temperature of the ice-lined cold storage device; b) running a first simulation using the temperature model and using the initial ambient temperature, the initial storage compartment temperature and the initial ice-lining temperature to determine a first simulated storage compartment temperature after a first simulation time step; c) running one or more subsequent simulations, each subsequent simulation being run using the temperature model and using data created in a previous simulation, to determine a subsequent simulated storage compartment temperature after a subsequent simulation time step; and d) determining the simulated autonomy of the ice-lined refrigerator using at least one of the subsequent simulated storage compartment temperature(s).

38.20240269260MRNA-BASED **VACCINE** COMPOSITION FOR INDUCING IMMUNE RESPONSE AGAINST HIV AND HPV

US - 15.08.2024

Clasificación Internacional A61K 39/21N° de solicitud 18501992Solicitante Sarfaraz K. NiaziInventor/a Sarfaraz K. Niazi

The present invention generally relates to the field of molecular biology and immunology; more specifically, the invention relates to a messenger RNA (mRNA) composition to express selected epitopes of the antigens of Human Immunodeficiency Virus (HIV) and Human Papillomavirus (HPV) for inducing an immune response to prevent or treat HIV and HPV infections.

39.20240269253DNA **VACCINE** FOR USE IN THE THERAPEUTIC AND/OR PROPHYLACTIC TREATMENT OF TUMOR DISEASES

US - 15.08.2024

Clasificación Internacional A61K 39/00Nº de solicitud 18695235Solicitante UNIVERSITA' DEGLI STUDI DI TORINOInventor/a Francesco NOVELLI

A recombinant expression vector suitable for eliciting an immune response a subject having a tumor is provided. In addition to a promoter and additional transcription regulatory elements, the recombinant expression vector has a nucleotide sequence coding for an immunogenic synthetic peptide of SEQ ID NO:15.

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