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VacCiencia es una publicación dirigida a investigadores y especialistas dedicados a la vacunología y temas afines, con el ojetivo de serle útil.

Usted puede realizar sugerencias sobre los contenidos y de esa forma crear una retroalimentación que nos permita acercarnos más a sus necesidades de información.

- Desarrollo de vacunas para un futuro seguro.
- 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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Desarrollo de vacunas para un futuro seguro

El desarrollo de vacunas para futuras pandemias ha avanzado significativamente, apoyado por tecnologías innovadoras y una colaboración global sin precedentes. Actualmente, se utilizan plataformas de respuesta rápida, como las vacunas de ARNm y vectores virales, que permiten fabricar vacunas de manera modular y acelerada al incorporar rápidamente los antígenos del nuevo patógeno identificado. Esto fue clave en la rápida creación de las vacunas contra COVID-19, reduciendo el tiempo de desarrollo de años a meses. [1,2]

El desarrollo de vacunas de ARNm resulta ventajoso debido a que pueden diseñarse y producirse en semanas, lo que es crucial ante brotes emergentes,[3,4] muestra una alta adaptabilidad, es decir, se puede modificar la secuencia de ARNm para responder a mutaciones virales o nuevos patógenos sin rehacer toda la plataforma,[3,4] no requieren virus vivos, reduciendo riesgos para personas inmunodeprimidas.[3] Empresas como Pfizer y Moderna han lanzado vacunas combinadas y adaptativas basadas en ARNm para enfermedades como la gripe y COVID-19, demostrando la versatilidad y rapidez de esta tecnología.[5] El desafío en el uso de esta tecnología incluye la necesidad de mejorar la estabilidad del ARNm para facilitar su almacenamiento y distribución, ya que actualmente requiere bajas temperaturas. Sin embargo, se están desarrollando versiones más estables que podrían almacenarse a temperatura ambiente o en refrigeración convencional, lo que facilitaría su uso global. [6]

Por su parte, las vacunas de vectores virales ofrecen una plataforma versátil y rápida para desarrollar inmunizaciones eficaces frente a nuevas enfermedades emergentes, facilitando una respuesta ágil y robusta ante pandemias y brotes epidémicos. Esto es debido a varias características clave, entre ellas: presentan un mecanismo de acción eficiente debido a que utilizan un virus modificado (vector viral) que no se replica ni causa enfermedad, para introducir en las células del cuerpo el material genético que codifica un antígeno del patógeno, [7,8] es una plataforma bien establecida y adaptable, permitiendo un desarrollo rápido frente a nuevos patógenos emergentes, [9,10] al imitar la infección natural, estas vacunas suelen generar una respuesta inmune fuerte y completa, lo que es crucial para controlar rápidamente brotes y pandemias, [7] estas vacunas ya se habían utilizado con éxito para enfermedades como el Ébola, lo que facilitó su aceptación y aplicación rápida en la pandemia de COVID-19 [8,10] y aunque son relativamente complejas de fabricar y la exposición previa al vector viral puede reducir la eficacia, su capacidad para inducir una respuesta inmune potente y su flexibilidad las hacen una herramienta valiosa para emergencias sanitarias. [7]

Desarrollar una vacuna rápidamente implica un nuevo paradigma de pandemia, con un inicio rápido y muchas fases ejecutadas en paralelo antes de confirmar un resultado exitoso de otra fase. [11]

La aspiración de la Coalición para las Innovaciones en Preparación para Epidemias (CEPI, por sus siglas en inglés) es que el mundo sea capaz de responder a la próxima «enfermedad X» con una nueva vacuna en tan solo 100 días. Es decir, algo más de tres meses para neutralizar la amenaza de un patógeno con potencial epidémico. Con un mejor sistema de vigilancia que permita una detección y una alerta rápidas y con la aplicación oportuna y eficaz de medidas no farmacéuticas, lograr una vacuna en solo 100 días ofrecería al mundo la oportunidad de sofocar la amenaza existencial de un futuro virus pandémico. [11]

Tendencias actuales en el desarrollo de vacunas para futuras pandemias

Las tendencias actuales en el desarrollo de vacunas para futuras pandemias se centran en varios avances tecnológicos y estratégicos clave que buscan acelerar la respuesta, mejorar la eficacia y garantizar el acceso equitativo a nivel global:

- ⇒ Transferencia de tecnología y producción regional: Se promueven modelos donde países con capacidad técnica lideran el desarrollo y luego transfieren conocimiento y tecnología a otros, para evitar desigualdades en el acceso a vacunas, como se está haciendo en América Latina con vacunas ARNm contra influenza A(H5N1). [12]
- ⇒ Uso de inteligencia artificial (IA) y bioinformática: La incorporación de IA y aprendizaje automático acelera la identificación de candidatos vacunales y agiliza ensayos clínicos, permitiendo respuestas más rápidas y seguras frente a patógenos emergentes. [13]

- ⇒ Nuevos adyuvantes: Se están desarrollando adyuvantes que potencian la respuesta inmune, mejorando la eficacia de las vacunas y permitiendo dosis más bajas o menos aplicaciones, lo que acelera y abarata la vacunación. [14]
- ⇒ Nuevas tecnologías de administración de vacunas: como parches de microagujas (MAPs por sus siglas en inglés), que facilitan la aplicación en entornos con infraestructura limitada, eliminan la necesidad de refrigeración estricta y reducen la necesidad de personal especializado y nuevas formas de administración para mejorar la eficacia y facilitar la vacunación en diferentes grupos poblacionales. [14]
- ⇒ Identificación precisa de epítopos ideales: Los avances en inmunogenómica, bioinformática y proteómica permiten seleccionar con mayor exactitud las partes del patógeno que desencadenan una respuesta inmune eficaz, optimizando el diseño de vacunas más específicas y potentes. [15]
- ⇒ Enfoque en vacunas personalizadas y medicina de precisión: Se exploran vacunas adaptadas a las necesidades inmunológicas individuales, anticipando una nueva era en la inmunización. [13]
- ⇒ Fortalecimiento de la cooperación internacional y marcos legales: El Acuerdo de la OMS sobre Pandemias, adoptado recientemente, busca mejorar la coordinación global, garantizar acceso equitativo a vacunas y establecer mecanismos financieros y logísticos para la prevención y respuesta ante emergencias sanitarias. [16]
- ⇒ Ampliación de la cartera de vacunas: Se están desarrollando más de 130 vacunas para enfermedades infecciosas prioritarias, incluyendo malaria, VIH, dengue, ébola, y enfermedades emergentes o reemergentes, lo que amplía la preparación ante futuras amenazas. [16] También se están desarrollando vacunas cuadrivalentes que ofrecen cobertura más amplia frente a distintas cepas de virus, mejorando la protección frente a mutaciones y variantes emergentes,[17] vacunas combinadas, como las desarrolladas por Moderna para gripe y COVID-19, que simplifican la vacunación y aumentan la cobertura inmunitaria [18] y vacunas contra enfermedades prevenibles con alta incidencia en países de bajos ingresos, como meningitis, fiebre amarilla y sarampión, con campañas preventivas impulsadas por organizaciones como Gavi y la OMS. [19]

⇒ Inversiones y campañas globales: Organizaciones como Gavi, OMS y UNICEF impulsan campañas de vacunación preventiva y buscan financiamiento para proteger a millones de personas, enfatizando la importancia de mantener y ampliar la inmunización universal. [19,20]

⇒ Armonización regulatoria y marcos legales internacionales para acelerar la aprobación y distribución de vacunas, así como para facilitar la circulación de insumos y la colaboración entre países en tiempos de escasez. [21]

⇒ Revisión y flexibilización de derechos de propiedad intelectual, propuesta apoyada por muchos países de ingresos bajos y medios, para permitir una producción más descentralizada y accesible, aunque enfrenta resistencia de países de altos ingresos. [21]

En cuanto a preparación para futuras emergencias sanitarias, Europa está consolidando acciones como la formalización de un acuerdo de financiación por valor de 20 millones de euros entre el Banco Europeo de Inversiones (BEI) y la empresa biotecnológica Leyden Labs. Este financiamiento está respaldado por la iniciativa InvestEU de la Comisión Europea, en el marco del programa de Preparación y Respuesta ante Emergencias Sanitarias (HERA). Leyden Labs utilizará estos fondos para avanzar en el desarrollo de un enfoque innovador no basado en vacunas, que consiste en aerosoles nasales que contienen anticuerpos ampliamente protectores para defenderse contra infecciones virales estacionales y pandémicas. El programa principal de Leyden Labs es un aerosol nasal pan-influenza actualmente en desarrollo clínico (PanFlu), con el potencial de ofrecer una protección pionera contra la influenza y reducir significativamente la carga asociada a esta enfermedad, incluyendo infecciones por gripe aviar (H5). [22]

Según un reporte de Vaccines Europe, grupo especializado en vacunas de la Federación Europea de Industrias y Asociaciones Farmacéuticas (EFPIA, por sus siglas en inglés) y que representa a fabricantes de vacunas europeos a la vez que fomentan la innovación, pretenden contar con una gran cantidad de vacunas que permitirá hacer frente a las principales amenazas de salud pública, brindando protección a la población en general, en todas las etapas de la vida. [23]

El 46 % de los candidatos vacunales de las compañías que pertenecen a *Vaccines Europe* abordan enfermedades para las que actualmente no existen vacunas. Además, el 80 % tienen el foco en la población adulta; el 15 % se centra en patógenos resistentes a los antibióticos; el 60 %, en la prevención de enfermedades zoonóticas; más del 60 % tiene como objetivo abordar enfermedades respiratorias; y el 38 % son para la inmunización rutinaria. [23]

Teniendo en cuenta la necesidad de continuar innovando, el grupo considera que sería beneficiosos también centrarse en las vacunas ya existentes, es decir, formulaciones mejoradas, ampliar el uso de una vacuna a una nueva población, incluir más cepas objetivo en una vacuna, desarrollar vacunas combinadas que podrían “disminuir el número de inyecciones y adaptarse mejor a los calendarios nacionales de vacunación” o usar un nuevo enfoque para abordar una enfermedad, lo cual permitiría obtener soluciones personalizadas para combatir diferentes patógenos. [23]

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Noticias en la Web

Moderna recibe la aprobación de la FDA para la vacuna contra el VRS (mRESVIA) en adultos de 18 a 59 años con mayor riesgo de enfermedad

17 jun. Moderna ha anunciado la Administración de Medicamentos de Estados Unidos (FDA, por sus siglas en inglés) ha aprobado mRESVIA (mRNA-1345), la vacuna de la compañía para la prevención de la enfermedad del tracto respiratorio inferior causada por el virus respiratorio sincitial (VRS) en personas de 18 a 59 años con mayor riesgo de contraer la enfermedad. Esta aprobación amplía la indicación anterior de la FDA y la Agencia Europea del Medicamento (EMA, por sus siglas en inglés) para mRESVIA, aprobada en mayo de 2024 para adultos de 60 años o más.

"El VRS representa un grave riesgo de salud para adultos con ciertas enfermedades crónicas, y esta aprobación supone un paso importante para proteger a más poblaciones frente a enfermedades graves provocadas por el VRS", ha afirmado Stéphane Bancel, presidente de Moderna. "Agradecemos la revisión realizada por la FDA y damos las gracias a todos los participantes en nuestro ensayo clínico, así como al equipo de Moderna, por su dedicación para proteger a las personas frente al VRS".

Aunque el riesgo del VRS está ampliamente reconocido en bebés y adultos mayores, los adultos de 18 a 59 años con enfermedades crónicas también son vulnerables1. Más de un tercio de los adultos entre 18 y 59 años tienen al menos una condición subyacente que los pone en mayor riesgo de padecer enfermedad grave por VRS2, con una carga de enfermedad y tasas de hospitalización comparables o incluso superiores a las observadas en adultos mayores.

Esta aprobación se basa en los resultados del estudio de fase 3 de Moderna que evaluó la seguridad e inmunogenicidad de mRESVIA en adultos de 18 a 59 años con enfermedades subyacentes. Las respuestas inmunitarias frente a VRS-A y VRS-B cumplieron con los criterios preestablecidos de inmunoequivalencia en comparación con los resultados observados en adultos de 60 años o más en el estudio de fase 3 controlado con placebo sobre seguridad y eficacia. Se observaron niveles comparables de anticuerpos neutralizantes en los subgrupos de edad de 18-49 años y 50-59 años, lo que respalda el perfil consistente de inmunogenicidad de la vacuna en esta población adulta más joven con riesgo.

Estos hallazgos fueron presentados en la reunión del Comité Asesor sobre Prácticas de Inmunización de los Centros para el Control y Prevención de Enfermedades de EE.UU. en abril de 2025 y publicados en *Clinical Infectious Diseases*.

La vacuna fue generalmente bien tolerada y las reacciones adversas más comunes reportadas fueron dolor en el lugar de la inyección, fatiga, dolor de cabeza, mialgia y artralgia.

Moderna tiene previsto que mRESVIA esté disponible para adultos jóvenes con mayor riesgo (de 18 a 59 años) y adultos mayores (a partir de 60 años) en EE.UU. durante la temporada de virus respiratorios 2025-2026.

Sobre mRESVIA

mRESVIA es una vacuna contra el VRS que consiste en una secuencia de ARNm que codifica una glicoproteína F estabilizada en la conformación de prefusión. La glicoproteína F se expresa en la superficie del virus y es necesaria para la infección, ya que facilita la entrada del virus en las células huésped. La conformación de prefusión de la proteína F es un objetivo significativo de potentes anticuerpos neutralizantes y está altamente conservada en los subtipos VRS-A y VRS-B. La vacuna utiliza las mismas nanopartículas lipídicas (LNPs) que las vacunas contra la COVID-19 de Moderna.

Fuente: Pharma Market. Disponible en https://n9.cl/albl90

New Vaccine Works Against Multiple Fungal Infections

Jun 17. A vaccine developed by University of Georgia researchers successfully protects against and treats vaginal yeast infections in mice, according to a newly published study.

This is the newest application of the vaccine, which was previously shown to protect against the three most common fungal pathogens in four preclinical animal models, including nonhuman primates. These three fungi are responsible for more than 80% of fatal fungal infections.

The latest finding helps clear the way for the vaccine to enter clinical trials. If successful, the vaccine will be the first to prevent pathogenic fungal infections, which the World Health Organization considers one of the top threats to public health.

> ***"We can't just keep … trying to make new drugs to fight fungal infections because we're going to lose."***
>
> ***Karen Norris, College of Veterinary Medicine***

"The thing that's keeping researchers like me up at night is increasing antifungal drug resistance," said Karen Norris, lead author of the study and a professor of immunology and translational biomedicine in the UGA College of Veterinary Medicine. Norris is also the CEO and founder of NXT Biologics, the company behind the vaccine. "It's not a prediction. We're living it right now.

"And we can't just keep swinging away and trying to make new drugs to fight fungal infections because we're going to lose. These organisms are always adapting to resist new drugs."

The vaccine, named NXT-2, aims to fill that gap, preventing fungal infections before they happen and reducing the need for antifungal medications by doing so.

First clinical trial to target yeast infections; later trials to focus on life-threatening infections

The vaccine will first be tested in women with recurrent yeast infections, also known as recurrent vulvovaginal candidiasis or RVVC.

Caused by a type of candida fungus, the condition affects hundreds of millions of women globally. It also costs billions of dollars in health care visits, medication and lost productivity each year in the U.S. alone.

"RVVC is not life-threatening, but it is miserable," Norris said. As many as one in 10 women develop the condition during their lifetime, suffering three or more yeast infections per year. "This is a huge need."

The current treatment protocol relies on one class of drug, increasing the likelihood that the medication will develop resistance and be harder to treat going forward. They also can't be used during pregnancy and don't prevent future infections.

> ***"I believe this vaccine will do the most good in people who are at high risk for highly dangerous, life-threatening infections."***
>
> ***Karen Norris***

Most of the women suffering from recurrent yeast infections are young and otherwise healthy, which makes them an ideal population for a Phase 1 clinical trial.

The results will inform future trials in more vulnerable patient populations, such as transplant recipients and cancer patients, two groups that are particularly vulnerable to life-threatening fungal infections, also covered by the vaccine.

"I've had a physician say to me, 'I have patients that I get through stem cell transplants for their cancer treatment, and then they get aspergillosis. I often don't have adequate treatment for that,'" Norris said. Pulmonary aspergillosis is a serious complication of this treatment and up to half those patients will die from the infection.

"That's where I believe this vaccine will do the most good: in people who are at high risk for highly dangerous, life-threatening infections."

Fungal infections: A growing public health threat

Fungal infections are most commonly seen in people with immune disorders, including those with uncontrolled HIV or impaired immunity from therapies like chemotherapy or anti-inflammatories.

But previous research from Norris, postdoctoral fellow Emily Rayens and the College of Public Health's José Cordero showed that the at-risk population has expanded in recent years.

That study showed people with diabetes; chronic obstructive pulmonary disease (or COPD); or co-infections such as COVID-19, tuberculosis or flu are likewise at higher risk of developing fungal infections.

As drug resistance grows and infections become more difficult to treat, prevention becomes more critical, Norris said.

This is the first fungal vaccine that has shown broad, cross-protective antifungal immunity in multiple animal models, which bodes well for future clinical trials.

Published in Nature's NPJ Vaccines, the study was co-authored by the UGA Center for Vaccines and Immunology's Daniel Wychrij, Taylor Chapman, Whitney Rabacal, Hubertine Willems and Kwadwo Oworae. Additional co-authors include Emily Rayens, a doctoral graduate from UGA's Department of Infectious Diseases, and Brian Peters of the University of Tennessee.

Fuente: News Wise University of Georgia. Disponible en https://n9.cl/7yp12p

Chikungunya vaccine could prevent millions of cases, finds global study

Jun 18. A chikungunya vaccine could stop millions of cases of the mosquito-borne disease that is widely prevalent in the Americas, Africa and South-East Asia. This is according to a study in *Nature Medicine* studying the potential impact of the vaccine.

A vaccine against the disease spread by the *Aedes* mosquito has been urgently needed for decades, and two – Valneva's IXCHIQ and Vimkunya developed by Bavarian Nordic– have now been approved by the US Food and Drug Administration (FDA) and the European Medicines Agency (EMA). IXCHIQ is supported by the Coalition for Epidemic Preparedness Innovations (CEPI).

While chikungunya rarely kills, its impact is often long-term. Around 1 in 1,000 cases proves fatal but as many as 50% of survivors suffer persistent joint pain for months, severely impacting quality of life. With climate change expanding the range of Aedes mosquitoes, outbreaks are increasingly expected in new areas, including southern Europe and across the Americas.

Potential vaccine impact

The researchers analysed chikungunya patterns across 180 countries and found that 104 are experiencing ongoing or sporadic virus transmission.

Around 2.8 billion people live in at-risk areas, and the virus infects an estimated 35 million people annually. While outbreaks typically arise about every 6.2 years, the study indicates that in epidemic years, nearly 8% of susceptible populations may become infected.

Modelling simulations evaluated a reactive vaccination strategy using the recently licensed IXCHIQ vaccine.

To create a model of vaccine impact, the authors relied on consensus estimates from an expert panel of individuals from academia, WHO, CEPI and Gavi on key characteristics of the vaccine, which estimated that the vaccine provides 70% protection against disease, 40% protection against infection and an average period of protection of five years.

The study found that, on average, achieving 50% vaccination coverage of the population exposed to an outbreak would require 132 million doses per year. Around a quarter of this need would be driven by India, where the virus is endemic.

The researchers estimate that at this level of vaccination, there would be 5.8 million fewer infections, 168,000 fewer chronic cases, 450 fewer deaths and 22,900 DALYs averted per year.

Fuente: Gavi. Disponible en https://n9.cl/oggir

En marcha en Cuba programa biotecnológico con apoyo financiero de UE

18 jun. Cuba y la Unión Europea (UE) pusieron en marcha el programa de biotecnología Biotec-Cuba, destinado a potenciar la investigación, producción, regulación e intercambio comercial regional de biofármacos, informaron hoy fuentes oficiales.

Con financiamiento de la UE y la colaboración de organismos nacionales e internacionales, el programa busca elevar los estándares científicos y mejorar el acceso a terapias innovadoras y medicamentos para la población cubana y la región de América Latina y el Caribe, detalla nota de prensa.

El programa Biotec-Cuba cuenta con un financiamiento de ocho millones 500 mil euros y articula esfuerzos entre entre la UE, el Ministerio de Salud Pública (MINSAP), el Grupo de las Industrias Biotecnológica y Farmacéutica de Cuba (BioCubaFarma) y la Universidad de La Habana (UH).

También el Centro para el Control Estatal de Medicamentos, Equipos y Dispositivos Médicos (CECMED), la Organización Panamericana de la Salud (OPS/OMS) y el Programa de las Naciones Unidas para el Desarrollo (PNUD).

La iniciativa Biotec-Cuba apoya dos pilares para el desarrollo de la biotecnología, el primero se enfoca en el impulso de las capacidades existentes de investigación, desarrollo e innovación (I+D+i) de la industria biotecnológica y farmacéutica.

Asimismo, detaca la nota, la capacitación del personal científico para potenciar el desarrollo de investigaciones que contribuyan con el sector de la biotecnología en Cuba (asociación entre PNUD, BioCubaFarma, UH y UE).

El segundo apunta al fortalecimiento de los mecanismos de regulación de productos biofarmacéuticos (alianza entre OPS/OMS, MINSAP/CECMED y UE).

El primer de estos pilares se desarrolla a partir del proyecto "Fortalecimiento de capacidades I+D+i de la industria biotecnológica y farmacéutica de Cuba" (Biotecnología I+D+i), que se implementa a partir de una colaboración entre el PNUD, BioCubaFarma y la UH, con un financiamiento de seis millones 625 mil euros.

Con ese proyecto, se prevé contribuir al impulso de las capacidades de Cuba en la producción de insumos esenciales para la realización de ensayos clínicos encaminados al desarrollo de terapias innovadoras, con el fortalecimiento del Industrial Biotecnológico CIGB-Mariel SA.

También se aportará a la consolidación del sistema de ciencia e innovación científica del país mediante el apoyo a la capacitación de personal científico cubano en nuevas líneas de investigación y su internacionalización mediante la cooperación científica.

Por otro lado, como parte del segundo pilar del Programa, se desarrollará el proyecto "Fortalecimiento de las capacidades de la Autoridad Reguladora Nacional (ARN) de Cuba" (Regulación, salud e innovación), desde articulaciones entre OPS/OMS y el MINSAP/CECMED, con un financiamiento de un millón 875 mil euros.

Con este segundo proyecto, se desea impulsar el desarrollo tecnológico, metodológico y de las capacidades analíticas del Laboratorio Nacional de Control Nacional de Calidad (LNC) del CECMED; así como promover la transición digital en esa entidad.

Esta contribución favorecerá la alineación con normas internacionales de los mecanismos de regulación de productos médicos de fabricación nacional, además de mejoras en la gestión digital de información y procesos de la autoridad reguladora.

Un tercer objetivo se enfoca en la capacitación de especialistas del CECMED según estándares del Listado Global de Autoridades Regulatorias de la OMS y del Grupo de Autoridades Reguladoras de Referencia Regional de las Américas, con la intención de promover la cooperación con pares en la región y Europa.

Esa intervención busca facilitar el acceso a productos sanitarios seguros, producidos en Cuba o importados, bajo los mejores estándares de seguridad internacionales.

La alianza refuerza el compromiso de Cuba con la excelencia científica y la salud pública, posicionando a su industria biofarmacéutica como un actor clave en la innovación regional. Con el apoyo de la UE y socios internacionales, el programa se propone sentar las bases para un futuro con soluciones médicas más accesibles y sostenibles, resalta la nota.

Fuente: Prensa Latina. Disponible en https://n9.cl/25tt3

How AI Is Transforming Vaccine Development in 2025?

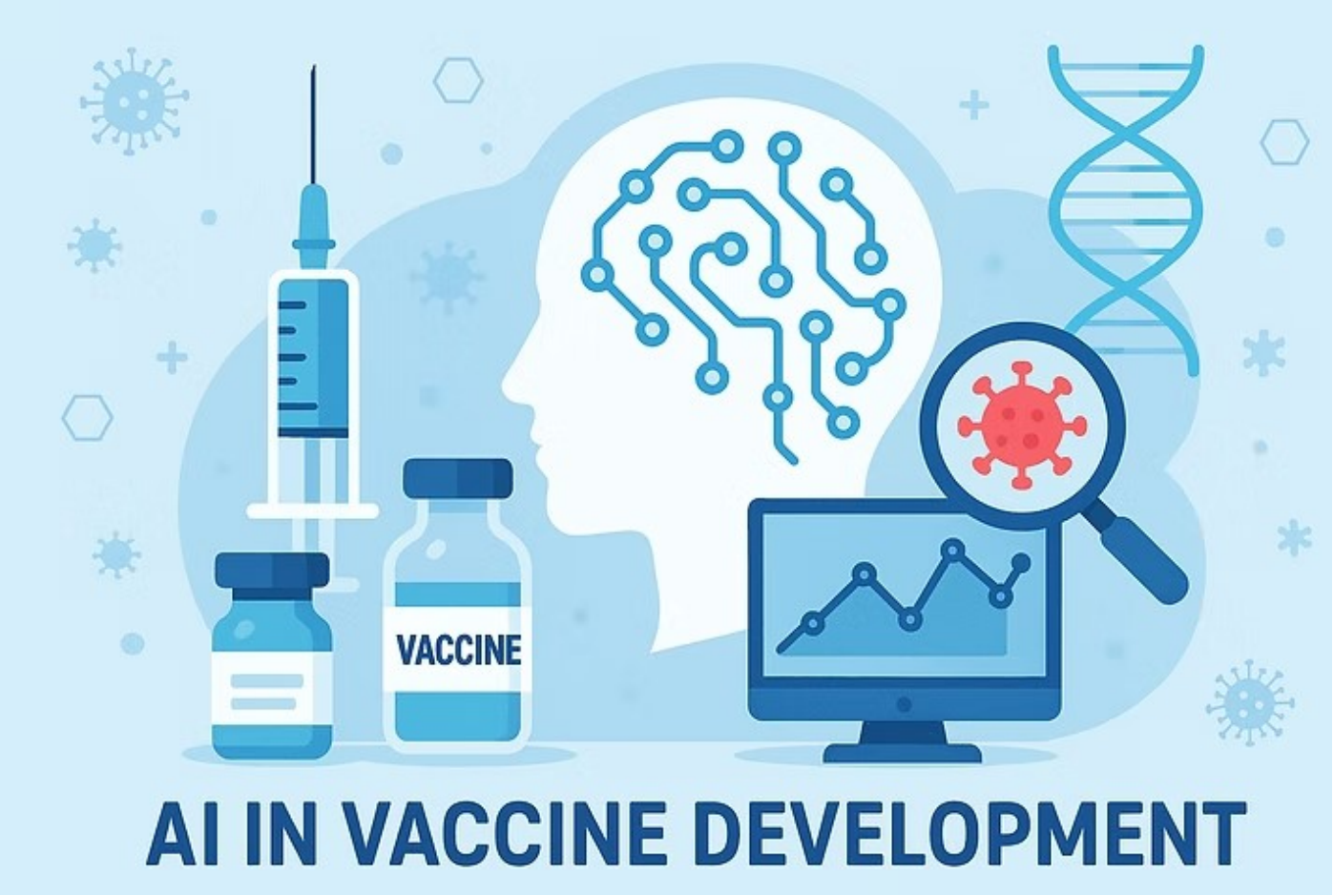
Jun18. One of the most promising applications of AI in healthcare is the development of vaccines. AI helps researchers quickly identify what parts of a virus may work well as targets for vaccines by running through enormous amounts of biological data. From laboratory discovery to global distribution, that means faster, safer and more effective vaccine development. Growth readiness for future outbreaks, alongside easier

distribution of future vaccines.

The Role of AI in Vaccine Development

AI contributes significantly to various stages of vaccine development:

- Speedy Discovery: The time it takes to identify promising vaccine candidates can be shortened by fast-scanning genetic data with machine learning algorithms to identify antigens that look promising.
- Smarter Design: AI models assist in the creation of safer and more effective vaccine formulations, predicting the immune system response to a variety of vaccine design options.
- Efficient Production: AI helps with manufacturing efficiency, meaning that more vaccines can be made faster without compromising quality.
- Quickening Pandemic Response: AI speeds up the vaccine-making process for new diseases, containing outbreaks before they can bloom.



Challenges and Ethical Considerations

Despite its benefits, integrating AI into vaccine development presents certain challenges:

- AI systems need good data. The results — and the vaccines — might be less effective if the data is biased or incomplete.
- Privacy and Security: A fundamental element of the responsible use of health data is the respect of strict legal requirements and the protection of people's privacy.
- Gaps in Regulation: AI tools are not yet fully integrated in vaccine regulations. Agencies may need new frameworks to assess the AI-derived vaccines.
- Ethics: To ensure AI works for everyone, equal ethical oversight is needed to address.

Looking Ahead: The Future of AI in Vaccinology

- Using AI to tailor vaccines to your unique genetic makeup would offer improved efficiency as well as reduced risk of side effects.
- Universal Vaccines: Scientists are studying an AI-directed vaccine that may provide immunity to whole virus families, including all coronaviruses or all variants of the flu.
- Predictive surveillance: An AI technology may soon be able to detect an outbreak in advance, and alert us to take action before a virus spreads widely.

AI is revolutionizing vaccine research, not just accelerating it. AI is rapidly emerging as a crucial tool in our global health toolbox due to its quicker discovery, more intelligent design, and more responsive distribution. These tools will be essential in keeping us ahead of the next public health emergency as they develop further.

Fuente: The Med Report Foundation. Disponible en https://n9.cl/zdq6mm

Pioneering research to develop all-in-one vaccine against some of the world's most deadly diseases

Jun 19. Scientists at Denmark's Adaptvac will lead the development of a new vaccine that could provide all-in-one protection against multiple deadly viruses including Ebolavirus Zaire, Sudan Ebolavirus and Marburg, all of which cause frequent unpredictable outbreaks in regions of Africa, with significant health and societal impacts and fatality rates of up to 90 percent.

Backed by $12.4 million of funding from CEPI and the European Union's Horizon Europe programme, a global consortium led by AdaptVac aims to design and test a new vaccine that could offer broad protection against several filoviruses. Such a vaccine could be used to protect high risk populations, such as health workers, in areas where filovirus outbreaks are most prevalent – primarily in Central and East Africa.

Dr Richard Hatchett, CEO of CEPI, said: "Filoviruses are amongst the world's most deadly viruses. They have proven potential to cause catastrophic epidemics, and they are causing outbreaks with increasing frequency. An all-in-one filovirus vaccine could be a game-changer, protecting those most at risk from these pernicious viral threats and making the world a safer place when faced with a future filovirus Disease X."

Wian De Jongh, CEO of AdaptVac, said: "We are excited to work with CEPI and use our cVLP platform to accelerate preparedness efforts focused on filoviruses. This project builds on the significant support by the EU and Danish government for AdaptVac's COVID-19 vaccine, as well as our ongoing Nipah virus vaccine development program. Together with our collaborators and CEPI, we aim to develop a range of effective and durable vaccines against known viral threats to help prevent future epidemics and pandemics."

The European Commission's Laurent Muschel, Deputy Head of HERA, and Irene Norstedt, Director, DG Research and Innovation said: "One of our EU health emergency preparedness priorities is to address filoviruses, like Marburg and Ebola, through accelerating R&I, and developing safe and effective vaccines. We are proud to support this exciting new innovation, which could be transformative in protecting against such threats, and reinforce preparedness against one of the most deadly viruses we know."

Researchers at the Institute for Drug Discovery at Leipzig will use state-of-the-art AI technology to design a range of immunogens – the substance in a vaccine that provokes an immune response – that have the potential to protect against multiple filoviruses. These immunogens will be added to AdaptVac's innovative Virus-Like-Particle vaccine platform to create several different vaccine constructs which will be tested in preclinical studies. The most promising vaccine candidate will progress into Phase 1/2 clinical trials in Gabon and the Netherlands to evaluate the vaccine's safety and immunogenicity in humans, generating crucial data to provide proof-of-concept for the notion of broadly protective filovirus vaccines.

While there are two licensed vaccines which protect against Ebolavirus Zaire, currently no approved vaccines exist for Sudan Ebolavirus, Marburg or Bundibugyo. A single vaccine capable of combating all of these viral hemorrhagic fevers could offer a cost-effective solution for proactively immunizing those who are most likely to be infected by one or more of the viruses.

The project will also generate vital data and scientific knowledge about filovirus vaccines that will help to advance the 100 Days Mission, a goal spearheaded by CEPI and embraced by G7 and G20 nations, which aims to develop new vaccines in as little as 100 days from viral identification to contain new viruses with epidemic and pandemic potential in their tracks. Armed with this knowledge, researchers could potentially respond much more rapidly when faced with a so-called 'Disease X' – an as-yet-unidentified filovirus that could spill over from animal populations into humans in the future and cause an epidemic or pandemic. It could even help scientists in their quest to develop the 'holy grail' of filovirus vaccines: a single shot that provides broad protection against the entire filovirus family, including those we don't yet know about.

Fuente: CEPI. Disponible en https://n9.cl/fh37g

CanSino Biologics Inc. Anuncia la Aprobación de la NMPA de China para su Nueva Vacuna PCV13i

20 jun. CanSino Biologics Inc. ha anunciado que la Administración Nacional de Productos Médicos (NMPA, por sus siglas en inglés) de China ha concedido la aprobación de la solicitud de nuevo medicamento (NDA) para la Vacuna Conjugada de Polisacáridos Neumocócicos 13-valente (CRM197/TT) (PCV13i), desarrollada por la compañía. La PCV13i de CanSino utiliza una combinación covalente de antígenos polisacáridos y proteínas transportadoras. Una vez que los antígenos polisacáridos se enlazan a las proteínas transportadoras, los polisacáridos pueden convertirse en antígenos dependientes de células T, lo que no solo induce un alto nivel de anticuerpos específicos en lactantes y niños menores de 2 años, sino que también genera células B de memoria para producir memoria inmunológica.

Además, la compañía emplea tecnología de doble vector, que puede reducir la inmunosupresión frente a la inmunogenicidad cuando se coadministra con otras vacunas. En cuanto a la tecnología de producción, la empresa ha adoptado un proceso más seguro, utilizando un medio de cultivo libre de componentes animales como medio de fermentación, lo que reduce los riesgos asociados a factores biológicos de origen animal y evita los residuos tóxicos derivados del proceso tradicional de purificación mediante fenol. La PCV13i es el primer producto de la cartera de vacunas neumocócicas de la compañía que obtiene la aprobación de NDA, sentando las bases para el desarrollo de vacunas conjugadas neumocócicas de mayor valencia.

Por otro lado, dado que la PCV13i tiene un posicionamiento de mercado similar al del principal producto comercializado actualmente por la compañía, Menhycia®, la vacuna MCV4 que la empresa posiciona como una vacuna de alto nivel de pago voluntario, ambos productos comparten grupos objetivo de consumidores.

El lanzamiento de la PCV13i enriquecerá la cartera de productos comercializados por la compañía y mejorará su eficiencia de marketing. Se recomienda a los accionistas e inversores potenciales de la compañía que actúen con cautela al negociar acciones de la empresa.

Fuente: Market Screener. Disponible en https://n9.cl/zvva7

DoH – Abu Dhabi and Sanofi link for vaccine development

Jun 20. The Department of Health – Abu Dhabi (DoH) and Sanofi have signed a memorandum of understanding (MoU) to bolster vaccine development by leveraging local health-tech ecosystems and research infrastructure.

The MoU was signed at the BIO International Convention 2025 in Boston, in the US state of Massachusetts.

Both parties will focus on streamlining regulatory procedures, improving manufacturing readiness and facilitating knowledge exchange between regional and global experts.

The initiative aligns with Abu Dhabi's vision to become an epicentre for bio and pharmaceutical innovation while promoting healthcare solutions powered by advanced technologies.

The alliance aims to advance clinical research and development (R&D) planning, improve resource allocation and set foundational funding terms that contribute to resilient healthcare systems.

These efforts are expected not only to benefit patients within Abu Dhabi but also extend quality care globally.

DoH health life sciences sector executive director Dr Asma Al Mannaei stated: "DoH is partnering with Sanofi to expedite the development of new global vaccines. This initiative aims to shorten the timeline from early research to public availability by utilising advanced technologies, real-time data analysis and conducting parallel clinical trial phases.

"By combining Sanofi's global scientific expertise with Abu Dhabi's state-of-the-art infrastructure, we set new benchmarks for resilience, innovation and international partnerships."

A delegation led by DoH is on a mission to the US from 15 June to 21 June 2025.

It will take part in 20 strategic meetings focused on knowledge sharing and exploring investment prospects that could further propel advanced health solutions' adoption rates.

Sanofi Vaccines Greater Gulf general manager Baptiste de Clarens stated: "The MoU signed with the Department of Health – Abu Dhabi marks an encouraging step towards advancing global health security while reflecting our shared interest in addressing global health challenges through scientific partnership."

Sanofi recently agreed to purchase Blueprint Medicines at an equity valuation of $9.1bn in a strategic move to strengthen its portfolio in the immunology domain with the addition of therapies for rare diseases.

Fuente: Pharmaceutical Technology. Disponible en https://n9.cl/wj4lu

Fiocruz, Institut Pasteur and Sanofi sign unprecedented alliance to develop vaccines

Jun 23. During President Luiz Inácio Lula da Silva's mission to France, Fiocruz, which was part of the official Presidential entourage, signed a new alliance with the Institut Pasteur (Paris, France) and the pharmaceutical company Sanofi to promote innovative solutions and advances in vaccine technology. "The agreement that Fiocruz signed with Sanofi and the Institut Pasteur combined research and production, demonstrating the dynamism and capacity of the Health Economic and Industrial Complex [Ceis]," said Lula during the Brazil-France Economic Forum .

The heads of Fiocruz, Institut Pasteur, and Sanofi signed a Memorandum of Understanding (MoU) at Sanofi's headquarters (in Paris) on Thursday (6/5) that lays the foundations for scientific and technical cooperation, aimed at combining and exchanging knowledge, resources, and scientists between the institutions.

For the President of Fiocruz, Mario Moreira, the new alliance reaffirms the Foundation's historic commitment to universal access to vaccination, based on strengthening the National Immunization Program (PNI) and innovation in the development of health supplies.

"This memorandum, signed during Brazil's mission to France, in a context where the two countries are developing closer ties, materializes our efforts for a successful cooperation with long-standing partners. This initiative honors Fiocruz's historic role as a major producer of health supplies, working directly to reduce inequalities. Vaccine is life," said Mario Moreira. "Ensuring the production of and access to vaccines has always been one of the cornerstones of our work and this commitment is renewed once again with the partnership signed today with these major actors on the global stage."

In addition to the President of Fiocruz, the document was signed by the representative of the Immunobiological Technology Institute (Bio-Manguinhos)/Fiocruz), Mauricio Zuma; the Head of Commercial Operations for the International Region at Sanofi, Stephen Alix; the Executive Vice President of Technology Transfer and Industrial Partnerships at Institut Pasteur, Isabelle Buckle; and the Chairman of the Board of Directors of Institut Pasteur, Yves Saint-Geours.

The alliance reinforces Fiocruz's permanent commitment, through Bio-Manguinhos, to quality and excellence in the production and development of vaccines for the Unified Health System (SUS). "This partnership strengthens the technological and scientific collaboration between Brazil and France for the joint development of innovative and accessible immunizers for the entire population, and it opens the door to broader and more effective cooperation in the area of innovation with these partners," said Mauricio Zuma.

According to the president of Institut Pasteur, Yasmine Belkaid, the MoU will strengthen the already fruitful collaboration with Fiocruz and Sanofi, "two strategic partners of Institut Pasteur".

She added: "We share the same vision: we are convinced that it is by bringing together all

actors, both academic and industrial, that we will be able to expedite the development of vaccine solutions and thus become more effective in tackling infectious and emerging diseases. This approach is fully in line with the ambition of our Pasteur 2030 strategic plan, which aims to rapidly transform innovative scientific research into practical applications to address global health challenges."

At the signing, Institut Pasteur's Executive Vice President for Technology Transfer and Industrial Partnerships, Isabelle Buckle, recalled that she was at Fiocruz in 2016, when she visited Bio-Manguinhos and realized that they had a lot in common in terms of "mission and way of thinking". "Since then, we have tried to make progress on ways to increase innovation. In 2023, we started a partnership that enabled us to receive scientists from Fiocruz. And we are now able to improve the development capacity based on the research excellence of the institutions," she affirmed, emphasizing that, in this context, the MoU reflects the importance of working together, and not in isolation.

"If you look at our cooperation, it goes back decades. We are very happy with the agreement signed today in areas that are pillars for us, such as innovation, research, and development," said the head of Commercial Operations for the International Region at Sanofi, Stephen Alix, at the signing at the pharmaceutical company's headquarters in the French capital.

According to Guillaume Pierart, General Director of Vaccines at Sanofi in Brazil, this strategic alliance creates a unique ecosystem for collaboration, which will allow us to accelerate the development of immunizers to meet current and future public health challenges. "With this, we strengthen our historic commitment to Brazil and reaffirm our vision that public-private partnerships are key to ensuring equitable access to high-quality immunizers, giving the SUS even more strength to protect the population against infectious diseases," Pierart said.

The agenda of appointments in Paris is part of the actions of the France-Brazil Season 2025. Signed after the meeting between the presidents of the two countries in 2023, the season aims to give new impetus to the two-century-old bilateral relationship.

History of partnerships

The partnership between Fiocruz and Sanofi in the field of immunizers goes back a long way: in December 2011, the institutions signed a supply and technology transfer agreement for the injectable polio vaccine (IPV), as well as subsequent additives. In a more recent partnership, from January 2024, Fiocruz and Sanofi signed a new manufacturing partnership agreement for the national production of the acellular hexavalent vaccine, which protects against diphtheria, tetanus, pertussis, poliomyelitis, hepatitis B (HB), and meningitis caused by Haemophilus influenzae type b (Hib). In March, the institutions reaffirmed their mutual interest in establishing further collaborations for immunization and signed another memorandum to this end. The agreement recently signed in Paris goes beyond the transfer of technology, opening up space for new partnerships in innovation.

Fiocruz and Institut Pasteur, both members of the Pasteur Network, have a series of robust scientific cooperations that were established decades ago. In 2023, the institutions signed a framework agreement to boost the development of innovation and technology transfer. As emphasized by Wilson Savino, Advisor to the President of Fiocruz on Cooperation with French Institutions, an even more recent example is the opening of the Pasteur-Fiocruz Center for Immunology and Immunotherapy in May 2024, established at Fiocruz

Ceará, in Eusébio, in the Metropolitan Region of Fortaleza. The Center's mission is to speed up research in the field of immunology and drive the development of innovative immunotherapies for the treatment of communicable and non-communicable diseases", he said.

The Pasteur Network is an alliance of more than 30 institutes that have a crucial role in addressing global health challenges through science, innovation, and public health. In October 2024, key members of the Pasteur Network, including Fiocruz, through Bio-Manguinhos, and the Pasteur Institutes of Dakar, Korea, Paris, and Tunisia signed an MoU to strengthen collaboration in vaccine research and development. This partnership, in particular, focuses on expanding mRNA vaccine production capabilities and addressing global health challenges through innovative research and international cooperation.

Fuente: FIOCRUZ. Disponible en https://n9.cl/6fvum3

OMS aprueba vacuna y anticuerpo para proteger a lactantes del virus respiratorio sincitial

7 jun.

Fuente: CANAL 7. Disponible en https://n9.cl/kt3yf

China aprueba primera vacuna de alta eficacia contra el Virus del Papiloma Humano

8 jun. China ha aprobado la primera vacuna denominada nonavalente contra el virus del papiloma humano (VPH) desarrollada íntegramente dentro del país. El fármaco, que actúa contra nueve tipos de patógenos distintos, ha sido incluido en la lista oficial publicada por la Administración Nacional de Productos Médicos. Así lo informa Xinhua News Agency, socio de la red TV BRICS.

Con esta aprobación, China se convierte en el segundo país del mundo con capacidad para producir de forma independiente una vacuna de alta valencia contra el VPH. Según Zhang Jun, director del Instituto de Salud Pública de la Universidad de Xiamen, la nueva vacuna ampliará el acceso a la inmunización y contribuirá significativamente a reducir el riesgo de cáncer de cuello uterino.

El desarrollo del fármaco tomó 18 años. Durante este tiempo, los científicos superaron importantes desafíos técnicos, logrando sintetizar partículas del virus utilizando bacterias *E. coli* y completando con éxito las fases

principales de los ensayos clínicos. Desde 2019, se han realizado cinco estudios de gran escala que demostraron la seguridad de la vacuna y su capacidad para generar una fuerte respuesta inmunitaria.

Según la Organización Mundial de la Salud, cada año se registran en el mundo alrededor de 700.000 casos de cáncer relacionados con el VPH, de los cuales unos 530.000 corresponden a cáncer de cuello uterino. La vacunación reduce el riesgo de infección en un 94%.

Por otro lado, el socio de TV BRICS, Mehr News Agency, informó que Irán presentará este verano una vacuna contra el cáncer, desarrollada por el Instituto Nacional de Ingeniería Genética y Biotecnología. En Rusia, según el medio Trinity Mirror, también parte de la red, se está desarrollando una vacuna que será gratuita y representa un avance clave en el tratamiento oncológico.

Fuente: TV BRICS. Disponible en https://n9.cl/cu9h5a

Next-Gen COVID-19 Vaccine Market Intelligence Report and Segment Analysis

Jun 9. The global next-gen COVID-19 vaccine market is on an upward trajectory, poised to generate substantial revenue growth, potentially climbing into the hundreds of millions over the forecast years from 2025 to 2034. This surge is attributed to evolving consumer preferences and technological advancements reshaping the industry.

The next-gen COVID-19 vaccine market is estimated to grow significantly due to the growing number of COVID-19 cases. Apart from this, the viruses mutate rapidly then other organisms, due to which the development of new vaccines becomes necessary to ensure that people build immunity against the new variants. Additionally, many government initiatives are being taken in different countries to tackle the ongoing issues of COVID -19 and to prevent the occurrence of any pandemic in the future. Many companies are collaborating with each other and government organizations to conduct clinical trials for developing next-gen COVID-19 vaccines.

Why Next-Gen COVID-19 Vaccine being Developed?

Companies are still researching vaccinations with novel concepts and ideas, even after the COVID-19 outbreak ended about two years ago. This is due to the fact that COVID-19 instances are still occurring and that prevention and therapy must change along with the virus itself. The COVID-19 pandemic's medical, social, and economic costs, as well as the development and appearance of new strains, have brought attention to the pressing need for next-generation vaccines that are more durable, have a wider range of protection, and can stop infection and transmission.

Next-Gen COVID-19 Vaccine Market Trends

In May 2025, the next-generation, universal vaccination platform, called Generation Gold Standard, was developed by the National Institutes of Health (NIH) and the U.S. Department of Health and Human Services (HHS) utilizing a whole-virus platform that has been inactivated by beta-propiolactone (BPL). The United States is spending $500 million to create vaccinations that are universal. (Source - NIH)

In June 2024, the Vaccine Alliance's Board of Gavi announced a number of decisions that offer a framework for accelerating global immunization. These decisions include the Alliance's 2026-2030 strategy, the approval of "Gavi 6.0," the expansion of Gavi's vaccine portfolio, and plans to support regional manufacturing and global health security through the African Vaccine Manufacturing Accelerator and a First Response Fund for use in future pandemics. (Source - Gavi)

What is the Role of AI in the Next-Gen COVID-19 Vaccine Market?

With the advent of artificial intelligence (AI), a new era in vaccine development has dawned, offering unprecedented opportunities to accelerate the process. Machine learning and deep learning are examples of artificial intelligence (AI) systems that use genetic information, immune system connections, and protein structures to predict antigenic epitopes, assess immunogenicity, and rank antigens for more research. These cutting-edge technologies provide opportunities never before possible. As AI-driven vaccine research advances and computer resources become more accessible, it holds great promise to transform public health and combat infectious diseases worldwide.

Market Dynamics

Driver. Genetic Mutation in the Virus Promotes the Need for New Vaccines

Rapid viral evolution has led to several instances throughout human history where newly emerging viruses have posed a serious threat to public health. It was expected that SARS-CoV-2 variants would evolve given the large global prevalence of COVID-19 infections. Even while vaccinations have been the most effective tool in the fight against the pandemic, there are still a number of obstacles to overcome. The introduction of viral variations is one of the most immediate risks.

Restraint. High Cost of Vaccine Development

The high cost of vaccine development hampers the next-gen COVID-19 vaccine market. The direct expenses of producing a vaccine include the price of labor, raw materials, components, analytics, and the documentation of the procedure and test findings. The development and administration of quality systems, production and QC planning, distribution and warehousing, inventory control, and overhead activities like marketing, sales, and regulation are examples of indirect expenses.

Opportunity. Is mRNA the Future of the Next-Gen COVID-19 Vaccine Market?

mRNA vaccines' enormous therapeutic potential has been highlighted by the COVID-19 pandemic. Twenty-three (17%) of the COVID-19 vaccines now undergoing clinical trials are mRNA-based candidates. Following the discovery of mRNA, which resulted in several scientific breakthroughs, there was a surge in studies in this area, which led to the development of RNA-based vaccines.

What is the Major Factor of North America's Dominance in 2024?

North America dominated the next-gen COVID-19 vaccine market in 2024. The dominance of the region is mainly because of the presence of key market players. These market players are highly competitive and continuously collaborate and invest in new research and clinical trials for the development of next-gen COVID-19 vaccines. Apart from this, the region has advanced infrastructure and government support for conducting studies and testing. Countries like the U.S. and Canada are the major contributors to the region's dominance.

The U.S. Next-Gen COVID-19 Vaccine Market Trends

The U.S. has made progress toward a yearly COVID-19 booster program within the last five years. The U.S. strategy has been the most aggressive when compared to vaccination programs in all of Europe. The FDA's new COVID-19 concept strikes a compromise between a dedication to gold-standard research and regulatory flexibility. In addition to approving vaccinations for high-risk individuals, the FDA will need solid, gold-standard data on low-risk individuals. In addition to helping the FDA choose its future course, these clinical studies will

yield knowledge that the American public and healthcare professionals sorely need.

The Canada Next-Gen COVID-19 Vaccine Market Trends

Canada boasts one of the highest immunization rates in the world because of a strong vaccine supply plan. For 2023 and beyond, Canada has obtained vaccinations from Pfizer, Moderna, and Novavax, with the possibility to buy extra doses if necessary. Once Health Canada has approved the use of next-generation COVID-19 vaccines, which are created by vaccine providers to guard against mutations or variations of concern, these agreements also give people the freedom to acquire them.

Government Support is Promoting the Asia Pacific

Asia Pacific is estimated to host the fastest-growing next-gen COVID-19 vaccine market during the forecast period. Asia Pacific has a large population base, which increases the chances of COVID-19 cases growth. Governments are taking major steps to develop new vaccines to tackle the growing issue of virus mutation. Companies are collaborating in order to advance in vaccine development.

The China Next-Gen COVID-19 Vaccine Market Trends

China is still taking stringent steps to stop the spread of SARS-CoV-2 as of 2025. China has stuck to its "dynamic zero-COVID" strategy, even while the rest of the world has embraced a "living with the virus" mentality. This entails strict traveler quarantine regulations, widespread testing programs, and regional lockdowns. With the extensive dissemination of updated vaccinations that target new variations, China's immunization plan has placed a strong emphasis on local vaccine manufacture. China has adopted next-generation vaccinations by 2025, bringing it closer to international norms.

The India Next-Gen COVID-19 Vaccine Market Trends

As more businesses are ready to introduce them in response to an increase in new cases in various regions of the world, namely Singapore, next-generation COVID-19 vaccinations may soon be accessible in India. A next-generation COVID-19 vaccine to fight the XBB1.5 strain of the Sars-CoV-2 virus has started clinical testing, and Hyderabad-based Biological E anticipates early results. With a local clinical trial waiver for emergency use, a Subject Expert Committee (SEC) last month suggested authorizing the Pune-based Serum Institute of India (SII) to develop a Covid-19 vaccine based on the Omicron XBB1.5 version.

Pandemic Preparation Expenditure is Driving Europe

Europe is expected to grow significantly in the next-gen COVID-19 vaccine market during the forecast period. Increased research funding and the existence of regionally significant market players are responsible for the industry's expansion. Due to rising investments, Europe is seeing an increase in the number of biopharmaceutical businesses. Furthermore, the market is expanding as a result of the European Medicines Agency's (EMA) simplification of regulatory approvals in order to hasten the launch of novel vaccines. Additionally, the market is expanding as a result of rising expenditures in pandemic preparation, which are supporting the creation of next-generation vaccines for newly developing infectious illnesses. Similarly, market demand is being supported by increased investment for vector-based and mRNA technologies that improve manufacturing efficacy and efficiency.

The Germany Next-Gen COVID-19 Vaccine Market Trends

One of the world's most inventive nations for a long time has been Germany. Another illustration of Germany's

diverse scientific and innovative environment is BioNTech. By 2025, Germany is on track to meet its goal of allocating 3.5% of its GDP to research and innovation. The goal of the Medical Research Act, which went into effect in full on October 30, 2024, is to maintain Germany's competitiveness as a pharmaceutical site. It specifically calls for adjustments to expedite approval processes, simplify contract negotiations, and enhance inter-authority collaboration.

The UK Next-Gen COVID-19 Vaccine Market Trends

Early on in the COVID-19 pandemic, the National Institute for Health and Care Research (NIHR) created a single, UK-wide procedure to rank COVID-19 research as urgent public health research. In a variety of patient cohorts and throughout all stages of human trials, the Department of Health and Social Care (DHSC) is still funding a number of national clinical trial "platforms." With assistance from the NIHR Clinical Research Network around the United Kingdom, they are evaluating a number of therapeutic and preventative possibilities in order to find and enroll patients.

Top Companies in the Next-Gen COVID-19 Vaccine Market

Fuente: Towards Healthcare. Disponible en https://acortar.link/NzH3nF

Nirsevimab de Sanofi amplía la duración de la protección frente al VRS

9 jun. El estudio NIRSE-GAL confirma que nirsevimab protege eficazmente durante seis meses a los lactantes frente al VRS, principal causa de bronquiolitis y neumonía. Los nuevos datos de la temporada 2024-25 muestran una reducción notable de hospitalizaciones.

El virus respiratorio sincitial (VRS) ha erigido a España como un país de referencia mundial en innovación en salud pública. Por un lado, por el éxito de las campañas de inmunización universal a lactantes llevadas a cabo en todas las comunidades autónomas las temporadas 2023-2024 y 2024-2025, tanto en lo que se refiere a la agilidad de la implementación como por las coberturas; por el otro, por la obtención de datos de efectividad e impacto en vida real. Así lo pone de manifiesto el proyecto NIRSE-GAL desarrollado por la Dirección Xeral de Saude Pública de la Xunta de

Galicia y el Instituto de Investigación Sanitaria de Santiago de Compostela (IDIS).

NIRSE-GAL, fue uno de los pioneros en el mundo en ilustrar casi en tiempo real la efectividad y el impacto en salud pública de Beyfortus® (nirsevimab), el primer y único anticuerpo monoclonal para proteger a todos los bebés del VRS. En el 43º congreso anual de la Sociedad Europea de Enfermedades Infecciosas Pediátricas (ESPID) celebrado en Bucarest se ha presentado la evidencia en vida real de esta temporada 2024-2025: por un lado, una reducción de las tasas de hospitalización por VRS en comparación con temporadas previas a la implementación del anticuerpo monoclonal de Sanofi, similar a la constatada en 2023-2024 y en los diferentes grupos de población de lactantes (tanto los nacidos antes como durante la temporada de máxima circulación del virus); y por el otro, una disminución de las consultas de atención primaria por bronquiolitis aguda respecto al 2022-2023. Además, también ha evidenciado que, en su segunda temporada de VRS, los menores inmunizados durante el 2023-2024 no han mostrado evidencia de infección compensatoria, enfermedad agravada o reemplazo por otros agentes respiratorios.

Los resultados agregados de la temporada 2023-2024 de NIRSE-GAL constataban una reducción de las hospitalizaciones por infecciones respiratorias de las vías bajas (IRVB o LRTI, en inglés) relacionadas con el VRS del 89,2% en la cohorte general (bebés nacidos antes de temporada) y en un 95,2% en la estacional (bebés nacidos durante la temporada), en comparación con los cinco anteriores otoño-inviernos sin estrategia de inmunización (excluyendo las temporadas de pandemia de la COVID). Además, confirman que durante el 2023-2024 hubo la circulación del virus fue elevada: los niños en su segunda temporada de VRS que no recibieron nirsevimab mostraron una tasa acumulada de hospitalización debido al virus significativamente mayor que la de temporadas anteriores ($p < 0,0001$).

El Dr. José Antonio Navarro explica: "Los datos y la evidencia en vida real que hemos obtenido en España constatan el cambio de paradigma en el abordaje e impacto del VRS con la llegada de nirsevimab. Varios estudios han demostrado una importante reducción de las hospitalizaciones y la carga ambulatoria, lo que implica una liberación significativa de los recursos sanitarios. Además, significan una drástica disminución del sufrimiento infantil y la angustia familiar asociada a estas hospitalizaciones. Cada ingreso evitado representa un bebé que no tiene que pasar por el trauma de una enfermedad grave y una familia que se ahorra días de preocupación y noches sin dormir."

Por su parte, Marta Díez, directora general de Vacunas para Sanofi Iberia, dice: "Es un orgullo para Sanofi España que nuestro país haya liderado la inmunización de bebés frente al VRS en todo el mundo como lo ha hecho. Primeramente, apostando por la innovación en salud pública con agilidad y compromiso por parte de todos los agentes implicados; las autoridades sanitarias, la comunidad médico-científica y nosotros, Sanofi. Y una vez puesta en marcha con éxito la primera campaña de inmunización frente al VRS para todos los lactantes, seguir trabajando codo con codo para recoger datos de la máxima calidad de la eficacia e impacto de nirsevimab en vida real, tal como se ha hecho con NIRSE-GAL. Pues, como compañía líder en la prevención de virus e infecciones respiratorias como el virus respiratorio sincitial o la gripe, estamos convencidos de que el análisis de la implementación de las soluciones preventivas es clave para que las decisiones de salud pública puedan ser lo más transformadoras posible."

Basándose en NIRSE-GAL, la Universidad de Chile ha desarrollado el estudio independiente NIRSE-CL. Éste ha analizado la efectividad e impacto de Beyfortus® a nivel nacional durante el invierno austral de 2024 y, tal como se compartió en ESPID 2025, ha constatado una importante reducción de mortalidad por complicaciones del VRS: de 13 en el año 2023 a 0 en 2024 con la implementación del anticuerpo monoclonal

de Sanofi. Asimismo, como en el caso del proyecto gallego, el chileno también ha evidenciado una prevención de hospitalizaciones por IRVB debido a virus respiratorio sincitial superior al 76% en bebés nacidos antes de la temporada y del 85% en nacidos durante los meses de mayor circulación del virus. NIRSE-CL incluyó a más de 145.000 lactantes, alrededor de la mitad nacidos antes de la temporada de frío.

Chile fue el primer país del hemisferio sur en implementar una estrategia de protección frente al VRS a todos los lactantes que se enfrentan a su primera temporada de VRS.

Seis meses de protección para todos los lactantes

Sanofi ha presentado nuevos datos del estudio clínico de fase IIIb HARMONIE, publicado en *The Lancet Child & Adolescent Health*, en el 43º congreso de la Sociedad Europea de Enfermedades Infecciosas Pediátricas.

Los resultados amplían el tiempo de protección de nirsevimab a seis meses para todos los lactantes, al demostrar que este innovador anticuerpo monoclonal redujo las hospitalizaciones por VRS en un 82,7%.

Fuente: IMMÉDICO. Disponible en https://acortar.link/U8hPF4

'Vaccine Safety Pyramid Scheme': FDA Approves Meningococcal Vaccine for Infants Without Placebo-Controlled Trials

Jun 9. The U.S. Food and Drug Administration (FDA) has expanded its approval of Sanofi Pasteur's MenQuadfi meningococcal vaccine to include infants as young as 6 weeks old.

> *"The FDA expanded approval of Sanofi's MenQuadfi, a meningococcal vaccine, to include infants as young as 6 weeks old, even though 5.3% of infants who participated in clinical trials experienced a serious adverse event. The FDA approved the drug based on trials that compared MenQuadfi to a similar, previously approved vaccine, not a placebo, in what attorney Aron Siri called a "vaccine safety pyramid scheme."*

The vaccine, designed to protect against meningococcal disease — meningitis and meningococcal septicemia — was previously recommended for children ages 2 and older.

According to the package insert, during the six months following the clinical trials, 5.3% of infants ages 6 weeks to 23 months who received the MenQuadfi shot experienced a serious adverse event.

The FDA defines a serious adverse event as a reaction that leads to hospitalization, death, disability, or that requires intervention to prevent permanent damage, or constitutes some other important medical event, such as breathing problems.

The types of serious adverse events ranged from cardiac arrest, respiratory distress and failure, febrile convulsions and seizures, to a wide range of infections, according to reports on the clinicaltrials.gov website.

Children's Health Defense (CHD) Senior Scientist Karl Jablonowski said the reports of infections and convulsions indicate immune system dysfunction that could be linked to vaccination.

'Good example of a vaccine safety pyramid scheme'

The FDA approved MenQuadfi for the younger age group because the agency considered adverse event rates to be similar to those found to be associated with GSK's Menveo, another approved meningococcal vaccine. In the case of Menveo, 3.6% of infants who got the shot experienced serious adverse events.

In other words, because Menveo is considered safe, and MenQuadifi's serious adverse event rates are only slightly higher than those of Menveo, the FDA can conclude that MenQuadifi is also safe despite the high rates of serious adverse events, according to attorney Aaron Siri.

However, Menveo was licensed based on a trial in which the vaccine's safety and efficacy were compared to yet another meningococcal vaccine, Menactra, Siri said.

He wrote:

"Menactra was licensed based on a trial in which Menomune was used as a control; and Menomune was not licensed based on a proper placebo-controlled trial. In fact — and this is mind twisting — the package insert for Menomune lists the clinical trial for Menactra (in which Menomune was used as the control) as the basis for its safety."

Siri called this circular evidence for vaccine safety, where vaccine approvals are based on comparisons to other vaccines — none of which were ever safety tested against a true placebo — "a good example of a vaccine safety pyramid scheme."

The result is that clinical trials show the last two pneumococcal vaccines have 5.3% and 3.6% of infants experiencing serious adverse events, "and no one bats an eye. They grant licensure," Siri wrote.

He added:

"A pyramid scheme of safety, at the bottom of which there is no baseline on which safety is being judged. Just a get-it-licensed-to-profit shell game. FDA and pharma have nothing to lose here.

"We, as taxpayers, will pay for all of the harms suffered and, worst of all, the children who are injected and harmed and their families will really pay for the harms."

Lower age group means more doses in first 18 months of life

According to the package insert for MenQuadfi, younger infants receive more doses.

Adults and children ages 2 and up can receive a single shot. For infants who begin the vaccination course between ages 6-23 months, the vaccine is administered as a two-dose series.

As is typical with vaccines, the dose size — 0.5mL — doesn't vary from infant to adult.

However, for the newly expanded group of infants who begin the course of vaccination at age 6 weeks, the vaccine is approved as a four-dose series of shots administered during the first 18 months of life.

For this group, in addition to high rates of serious adverse events, there were also high rates of less serious side effects. For example, among infants ages 6 weeks through 34 months, 38.5-45.6% experienced tenderness, 12.5-19.5% experienced erythema, 27.3-42.1% cried abnormally, 7.8%-17.6% experienced fever and 3.5%-13.2% vomited.

The insert also warns that the Guillain-Barré syndrome has been linked to other similar pneumococcal vaccines and may be a potential risk.

Infants in the clinical trials received the pneumococcal vaccines at the same time that they received other vaccines, including diphtheria, tetanus pertussis, inactivated polio and Haemophilus influenzae type b vaccines, Prevnar 13 (a different pneumococcal vaccine), rotavirus vaccine, hepatitis B vaccines, MMRII vaccines and varicella vaccines and hepatitis A vaccines.

Similar to the MenQuadfi vaccine, many of the other vaccines are administered at ages 2 months, 4 months, 6 months and 15-18 months of age, or at some point before the child reaches 18 months.

Vaccine safety advocates have long called for vaccines to undergo safety testing in clinical trials against true inert placebos, rather than against other vaccines or placebos containing the same excipients (preservatives and adjuvants) in the vaccine being tested.

They argue that without true placebo testing, it's impossible to ascertain true risk profiles for the products, and that such comparative trials are considered the "gold standard" for evaluating all other pharmaceutical products.

The lack of adequate safety testing has also been a concern of Secretary of Health and Human Services (HHS) Robert F. Kennedy Jr., who co-authored a book with CHD Chief Scientific Officer Brian Hooker on the published data comparing outcomes for vaccinated and unvaccinated people.

Kennedy announced earlier this year that all new vaccines will have to undergo placebo testing, a rule that would mark "a radical departure from past practices," an HHS spokesperson told The Washington Post.

HHS did not at the time indicate how the changes would be implemented, or what would be considered "new" vaccines.

Fuente: THE DEFENDER. Disponible en https://n9.cl/6s1w5r

Merck Initiates Phase 3 Study Evaluating Dengue Vaccine Candidate

Jun 12. Merck (NYSE: MRK), known as MSD outside of the United States and Canada, today announced the initiation of the MOBILIZE-1 Phase 3 clinical trial evaluating the safety, immunogenicity and efficacy of a single dose of V181, an investigational quadrivalent vaccine, for the prevention of dengue disease caused by any of the four dengue virus serotypes (DENV-1, DENV-2, DENV-3, and DENV-4), regardless of prior dengue exposure. Recruitment for the trial has begun, and the first participants are now enrolling in Singapore.

"Study will evaluate a single dose of V181 for the prevention of dengue disease caused by any of the four serotypes of the dengue virus regardless of previous exposure."

"Approximately half of the world's population live in areas with a risk for dengue, making it a serious public health threat," said Dr. Paula Annunziato, senior vice president, infectious diseases and vaccines, global clinical development, Merck Research Laboratories. "The initiation of the MOBILIZE-1 study, the first Phase 3 trial in our clinical development program, marks a key milestone in our work to help address this widespread mosquito-borne disease. If successful, V181 could provide an important single-dose option for at risk populations, regardless of previous exposure to dengue, to help reduce the significant burden around the globe." Merck is committed to research and innovation that aims to help protect the millions of people at risk for dengue virus infection and is establishing a program of clinical trials for V181, including conducting trials globally, in places where dengue is a significant health threat.

About MOBILIZE-1 (NCT07013487)

MOBILIZE-1, also known as V181-005, is a Phase 3, randomized, double-blind, placebo-controlled study evaluating the safety, immunogenicity and efficacy of V181, an investigational vaccine for the prevention of dengue disease. The study aims to enroll approximately 12,000 healthy individuals 2 to 17 years of age who will be randomized to receive either a single dose of V181 or placebo. The study is planned to include more than 30 trial sites in dengue endemic areas in the Asia-Pacific region, including Indonesia, Malaysia, Philippines, Singapore, Thailand and Vietnam. The primary endpoints of the study are safety and efficacy of a single dose of V181 in preventing symptomatic virologically confirmed dengue (VCD) of any severity, due to any of the four dengue serotypes, regardless of prior dengue exposure. The key secondary efficacy endpoint is evaluating a single dose of V181 in preventing symptomatic VCD of any severity due to each of the four dengue serotypes, regardless of prior dengue exposure. Additional secondary endpoints include evaluating a single dose of V181 in preventing symptomatic VCD with warning signs, severe VCD and hospitalization.

About V181

V181 is a live attenuated quadrivalent vaccine currently being investigated for the prevention of dengue disease caused by any of the four dengue virus types (DENV-1, DENV-2, DENV-3, and DENV-4). V181 is designed to be a single-dose vaccination and is being studied in individuals to provide protection against dengue, including severe forms, whether the individuals have been previously infected with the dengue virus or had no prior infections.

About Dengue disease

Dengue disease is one of the fastest growing mosquito-borne diseases that affects not just the health but often the economic stability of communities across the globe. It is a rapidly emerging cause of serious and sometimes debilitating illness in tropical and subtropical countries. With approximately half of the world's population, or four billion people, at risk for dengue disease, it represents a critical public health challenge. Globally, around 105 million dengue viral infections occur annually, with approximately 50-60 million being symptomatic on average per year. While the majority of infections are uncomplicated, serious illness caused by dengue can be severe and lead to death (on average, ~4-11 million cases result in hospitalizations per year and there is an average annual incidence of ~29,000 dengue-related deaths worldwide). Symptoms of mild dengue fever may include a high fever, a rash and muscle and joint pain. Dengue fever might evolve to severe dengue, formerly known as dengue hemorrhagic fever, which can cause severe bleeding, a sudden drop in blood pressure, and in rare cases, death.

About Merck

At Merck, known as MSD outside of the United States and Canada, we are unified around our purpose: We use the power of leading-edge science to save and improve lives around the world. For more than 130 years, we have brought hope to humanity through the development of important medicines and vaccines. We aspire to be the premier research-intensive biopharmaceutical company in the world – and today, we are at the forefront of research to deliver innovative health solutions that advance the prevention and treatment of diseases in people and animals. We foster a diverse and inclusive global workforce and operate responsibly every day to enable a safe, sustainable and healthy future for all people and communities.

Fuente: MERCK. Disponible en https://n9.cl/ukwdl

Updated COVID-19 vaccines found effective against severe illness

Jun 25. A new multi-state study led by the Centers for Disease Control and Prevention's (CDC) VISION Network – including Regenstrief Institute – has provided the most comprehensive assessment to date of the effectiveness of 2023-2024 COVID-19 vaccines among adults in the U.S. during the XBB and JN.1 Omicron subvariant waves.

Data suggest that receiving updated COVID-19 vaccines remains crucial, especially for older adults and those at increased risk for severe outcomes, and underscores the additional protection provided by the updated COVID-19 vaccines, above and beyond previous infection or vaccination. While protection against mild and moderate illness decreased over time, the vaccine continued to offer strong defense against critical illness throughout the study period.

Partners for this study, in addition to the CDC and Regenstrief, include Kaiser Permanente Northwest, University of Colorado, Intermountain Health, HealthPartners and Kaiser Permanente Northern California.

> *"These results are both reassuring and instructive for patient care. This study demonstrates that the updated COVID-19 vaccines continue to offer significant protection against severe outcomes like hospitalization and critical illness, especially in the months immediately following vaccination. These findings reinforce the importance of staying up to date with recommended vaccines, particularly for our older and more vulnerable patients as the virus continues to evolve."*
>
> *Shaun Grannis, M.D., M.S., study co-author, vice president for data and analytics at Regenstrief and a professor at the Indiana University School of Medicine*

The study spanned more than 345,000 emergency department (ED)/urgent care encounters and more than 111,000 hospitalizations in adults in the U.S. across 230 hospitals and 362 E.D.s and urgent care centers.

Key findings

- The updated vaccines reduced the risk of ED and urgent care visits related to COVID-19 by 24 percent, hospitalizations by 29 percent and critical illness (intensive care unit admission or in-hospital death) by 48 percent during the first seven to 299 days after vaccination.
- Maximum protection against all measured COVID-19 outcomes was observed during the first two months after vaccination, with severe case reduction of up to 68 percent against critical illness.
- Vaccine effectiveness (VE) waned over time, particularly beyond six months after vaccination.

The study was conducted through the CDC's VISION Network in collaboration with healthcare systems in Oregon and Washington (Kaiser Permanente Northwest), Colorado (University of Colorado), Utah (Intermountain Health), Indiana (Regenstrief Institute), Minnesota and Wisconsin (HealthPartners), and California (Kaiser Permanente Northern California).

Regenstrief Institute contributes data and scientific expertise to the network, ensuring robust analysis across a broad range of medical facilities in urban and rural areas.

VISION investigators evaluated electronic health record data, integrated with laboratory and vaccination records, from September 21, 2023, to August 22, 2024. The research focused on adults aged 18 years and older, examining outcomes among those who did and did not receive the 2023-2024 monovalent XBB.1.5 COVID-19 vaccines. The study covered periods when both XBB and JN.1 Omicron variants were predominant.

"This study offers encouraging news for population health," said co-author Brian Dixon, PhD, MPA, director of the Regenstrief Center for Biomedical Informatics and a professor at IU Indianapolis Fairbanks School of Public Health. "Our findings show that the updated COVID-19 vaccines continue to provide protection against severe illness and hospitalization. Effective vaccines remain a critical tool in keeping communities healthy and reducing costs associated with COVID-19 infection by preventing hospitalizations and emergency department visits."

The findings highlight the importance of following CDC recommendations for updated COVID-19 vaccination, particularly in light of waning immunity and continuing virus evolution. Protection was especially significant for adults 65 and older, supporting current public health guidance that recommends timely vaccination and additional doses for high-risk groups.

The study, "Estimated 2023-2024 COVID-19 Vaccine Effectiveness in Adults," was funded by the CDC and is published in *JAMA Network Open*.

Fuente: News Medical Life Sciences. Disponible en https://n9.cl/6e5gb

El desafío de vacunar a todos los niños del mundo contra el virus respiratorio sincitial culpable de las bronquiolitis

26 jun. La revista *The Lancet* sirve de altavoz para 44 organizaciones internacionales que buscan la implantación a nivel mundial del modelo de inmunización que validó la comunidad gallega.

Galicia ha sido pionera en la protección de los menores contra el patógeno que enviaba otoño tras otoño a los más pequeños a la UCI. En la comunidad se gestaron los principales ensayos clínicos que dieron validez a la inmunización frente a las bronquiolitis a través de un anticuerpo monoclonal.

Nirsevimab que es la molécula que protege frente a la infección respiratoria, se halla el virus respiratorio sincitial (VRS) que ataca a los pulmones de los menores de cinco años. Además, también la vacunación de las madres durante la gestación es otra forma de protección. Al año mueren en el mundo más de 100.000 por la infección que provoca, la gran mayoría en los países más desfavorecidos.

Desde 2023 esa situación ha cambiado. Al menos en España y en los países más desarrollados con acceso al programa de inmunización. La llegada de la molécula que coloca un escudo protector a los niños frente al

virus ha servido para reducir un 80% los ingresos hospitalarios, y lo que ello supone en costes indirectos. "Los datos de Galicia, que fueron pioneros en el mundo, los ratificaron y muchos países han seguido precisamente esas cifras y las recomendaciones globales se han introducido con el mismo éxito en sus programas evitando un número significativo de hospitalizaciones".

Federico Martinón-Torres, jefe del servicio de Pediatría del Área Sanitaria de Santiago de Compostela y Barbanza y responsable del Grupo de Investigación Genética, Vacunas, Infecciones y Pediatría (GENVIP) del Instituto de Investigación Sanitaria de Santiago de Compostela (IDIS) suscribe estas palabras. Y como buen conocedor del impacto de las estrategias de inmunización aprobadas en muchos países busca su extensión a todas las regiones del mundo. "Hoy hay dos estrategias posibles aprobadas: junto a nirsevimab [desarrollada por Sanofi y Astrazeneca], que se emplea en los menores de un año, está la vacunación de la madre [Abrysvo, de Pfizer]".

Martinón-Torres es uno de los promotores, como coordinador del Centro Colaborador de la OMS en Seguridad en Vacunas en Santiago de Compostela, de la declaración que recoge hoy la revista científica *The Lancet*. "El problema es que ninguna de estas medidas está disponible todavía en esos países en vías de desarrollo, y por tanto es clave el apoyo por parte de GAVI, la Alianza global para las Vacunas". En 2018, esta organización ya colocó al VRS como una de las prioridades para la que había que obtener una vacuna.

Siete años más tarde hay dos opciones de prevención. En 2024, el Grupo Estratégico Consultivo de Expertos en Inmunización (SAGE, por sus siglas en inglés) recomendó que "todos los países introduzcan productos para la prevención de la enfermedad grave por VRS en los lactantes", recuerda *The Lancet*.

Aproximadamente el 45% de las muertes asociadas al VRS se producen en bebés menores de seis meses, recoge la publicación. "La mortalidad, así como la morbilidad grave, podrían prevenirse mediante la vacunación materna o la inmunización pasiva de los lactantes después del nacimiento. La prevención de la enfermedad por VRS también podría reducir el riesgo de neumonía bacteriana superpuesta".

Un escudo para todos los niños del mundo

Este investigador gallego es la cara visible de un conjunto de 44 organizaciones científicas y sociales que "exhorta a todos los países que den los recursos necesarios para que GAVI pueda llevarlo a cabo. La OMS ya ha indicado la prioridad de esta intervención, pero GAVI es el mecanismo necesario para que estas estrategias de prevención, ya sea el monoclonal, la vacuna o ambas, lleguen a estos países", subraya Martinón-Torres.

El llamamiento internacional subraya que la inversión en prevención del VRS contribuiría de forma directa al cumplimiento del Objetivo de Desarrollo Sostenible 3.2: poner fin a las muertes evitables de recién nacidos y menores de cinco años antes de 2030. Además, permitiría aliviar la presión sobre los sistemas de salud y se alinea con los objetivos de la OMS, UNICEF y otras agencias globales para reforzar la salud materno-infantil y reducir la mortalidad por enfermedades respiratorias, que siguen siendo la principal causa de muerte en menores de cinco años a nivel mundial.

Para Martinón-Torres se trata de un momento crítico "porque todo esto ocurre en un contexto en el que la OMS y la propia GAVI están debilitadas ante los recortes en donaciones por parte de algunos de los países, fundamentalmente Estados Unidos". Por ello subraya que "en el fondo es una llamada a la acción porque es una situación triste".

Los diferentes escudos contra el virus han demostrado su eficacia y su seguridad. "Nosotros vamos a abordar la tercera estación en Galicia y en España con una profilaxis universal al alcance de todos los lactantes, mientras en los países donde además esos lactantes se mueren, ni siquiera tienen en el horizonte cercano la posibilidad de acceder a estas medidas", lamenta el investigador.

Usar como altavoz la revista científica, que ya se hizo eco hace dos años de los resultados obtenidos contra el virus en la región gallega, no es casualidad, como asegura Martinón-Torres. "La idea es que se demuestre que la comunidad científica y todos los expertos a nivel global, independientemente del país de origen y todos sus afiliados, pues son conscientes de esta necesidad de priorización y de esta llamada a la acción para GAVI para que lo priorice".

"Si entre todos conseguimos que las cosas se muevan y que esta solución para un virus que es letal para para los lactantes, se ponga en marcha, será un éxito completo", remacha.

Fuente: EL MUNDO. Disponible en https://n9.cl/l86hei

Vacunas contra COVID actualizadas efectivas contra nuevas variantes

26 Jun. Las vacunas actualizadas contra la COVID-19 se mantienen al día con las nuevas cepas del coronavirus, y siguen siendo efectivas para mantener a las personas fuera del hospital, señala un estudio reciente.

El estudio, que examinó la efectividad de las vacunas COVID 2023-2024 contra las olas de las variantes ómicron XBB y JN.1, encontró que las vacunas actualizadas causaron:

⇒ 24% menos de riesgo de visitas a la sala de emergencias y a la atención de urgencia relacionadas con la COVID-19.

⇒ 29% menos de riesgo de hospitalización.

⇒ 48% menos de riesgo de ingreso en UCI o muerte en el hospital.

Esta protección se extendió desde una semana tras la vacunación hasta 299 días después, reportaron los investigadores en la edición del 25 de junio de la revista *JAMA Network Open*.

La máxima protección llegó durante los dos primeros meses tras la vacunación, reduciendo los casos graves de COVID-19 hasta en un 68%, muestran los resultados.

Sin embargo, la efectividad de la vacuna disminuyó con el tiempo, particularmente después de los seis meses.

"Este estudio demuestra que las vacunas actualizadas contra la COVID-19 siguen ofreciendo una protección significativa contra resultados graves como la hospitalización y la enfermedad crítica, sobre todo en los meses inmediatamente posteriores a la vacunación", señaló en un comunicado de prensa el coautor del estudio, el Dr. Shaun Grannis, vicepresidente de datos y análisis del Instituto Regenstrief.

"Estos hallazgos refuerzan la importancia de mantenerse al día con las vacunas recomendadas, sobre todo para nuestros pacientes mayores y más vulnerables, a medida que el virus sigue evolucionando", dijo.

Estos hallazgos se producen en un momento en que las acciones gubernamentales han puesto obstáculos en el camino de las vacunas actualizadas contra la COVID-19.

En mayo, la Administración de Alimentos y Medicamentos de EE. UU. (FDA, por sus siglas en inglés) anunció que no aprobará las vacunas actualizadas contra la COVID-19 para el público en general a menos que hayan sido sometidas a ensayos controlados con placebo.

Más tarde ese mes, el secretario de Salud y Servicios Humanos, Robert F. Kennedy Jr., dijo que los Centros para el Control y la Prevención de Enfermedades (CDC) de EE. UU. ya no recomendarían la vacuna contra la COVID-19 para niños sanos o mujeres embarazadas sanas. El sitio web de los CDC no se ha actualizado para reflejar las órdenes de Kennedy.

En este nuevo estudio, los investigadores analizaron datos de más de 345,000 visitas a la sala de emergencias o a la atención de urgencia, y más de 111,000 hospitalizaciones entre adultos de EE. UU. con una infección con la COVID-19.

Los casos de COVID-19 procedían de seis sistemas de atención de la salud en ocho estados: Oregón, Washington, Utah, Colorado, Indiana, Minnesota, Wisconsin y California. En total, los casos fueron tratados en 241 hospitales y 373 salas de emergencias y centros de atención de urgencia, según el estudio.

Los investigadores compararon estos casos con los registros de salud electrónicos que reflejaban los registros de laboratorio y vacunación desde septiembre de 2023 hasta agosto de 2024, cuando predominaban las variantes XBB y JN.1 de COVID-19.

Los resultados muestran que la protección fue especialmente significativa para los adultos a partir de los 65 años, lo que respalda las directrices que recomiendan la vacunación oportuna y dosis adicionales para los grupos de alto riesgo, apuntaron los investigadores.

"Nuestros hallazgos muestran que las vacunas actualizadas contra la COVID-19 siguen proporcionando protección contra la enfermedad grave y la hospitalización", señaló en un comunicado de prensa el investigador Brian Dixon, director del Centro Regenstrief de Informática Biomédica.

"Las vacunas efectivas siguen siendo una herramienta crítica para mantener a las comunidades sanas y reducir los costos asociados con la infección con la COVID-19, al prevenir las hospitalizaciones y las visitas al departamento de emergencias", añadió Dixon.

Fuente: infobae. Disponible en https://n9.cl/9xua1

Pfizer's Prevnar 20 Study: A Potential Game-Changer for Elderly Pneumonia Prevention

Jun 27. Pfizer Inc. is conducting a study titled 'Real-world Effectiveness of the 20-valent Pneumococcal Conjugate Vaccine (PCV20) Among Medicare Fee-for-service Beneficiaries Aged ≥65 Years in the United States.' The study aims to evaluate how well the Prevnar 20 vaccine prevents various types of pneumonia and lower respiratory tract infections in people aged 65 and older. This research is significant as it seeks to confirm the vaccine's effectiveness in a real-world setting, potentially influencing future vaccination recommendations for older adults.

The intervention being tested is the Prevnar 20 vaccine, a 20-valent pneumococcal conjugate vaccine designed to prevent invasive pneumococcal disease, pneumococcal pneumonia, and other related infections. The vaccine includes additional serotypes beyond those covered by previous vaccines, aiming to provide broader protection.

This study is observational and retrospective, using existing Medicare data to assess vaccine effectiveness. Participants are divided into two groups: those vaccinated with PCV20 and those who are not. The primary purpose is to estimate the vaccine's overall effectiveness against specific infections in the elderly population.

The study began on January 20, 2025, and its primary completion is yet to be determined. The latest update was submitted on June 26, 2025. These dates are crucial as they indicate the study's progress and the timeline for potential results.

The study's findings could have significant market implications for Pfizer, potentially boosting its stock performance if the vaccine is shown to be highly effective. This could also impact investor sentiment positively, especially in the context of competitive vaccines like PCV15 and PPSV23. The outcome may influence the broader vaccine market, particularly in the elderly demographic.

The study is ongoing, and further details can be accessed on the ClinicalTrials portal.

Fuente: Tip Ranks. Disponible en https://n9.cl/vpeayp

SK bioscience Completes Large-Scale Production Facility for Next-Generation Pneumococcal Vaccine

Jun 30. SK Bioscience and Sanofi employees are taking a commemorative photo to celebrate the completion of the pneumococcal vaccine production facility. / Courtesy of SK Bioscience

SK bioscience has taken a significant step forward in entering the next-generation pneumococcal vaccine market by expanding its manufacturing capacity. With the development of the highly anticipated vaccine progressing smoothly, the company has proactively secured large-scale commercial production facilities to strengthen its global competitiveness.

On June 30, SK bioscience held a completion ceremony at its vaccine-specific production facility, 'L HOUSE,' located in Andong, Gyeongbuk. This expansion project will be utilized for the production of GBP410, a 21-valent pneumococcal vaccine candidate currently under joint development with Sanofi.

The ceremony was attended by key executives from both companies, including Thomas Triomphe, Senior Vice President of Vaccine Business at Sanofi, along with representatives from both the French and U.S. headquarters. Their presence underscored the strong partnership and mutual trust built over years. Sanofi views this facility expansion as more than just physical growth; it is regarded as a strategic foundation for future global market entry and a tangible outcome of the fruitful collaboration.

Following the completion, SK bioscience and Sanofi aim to further enhance their cooperation for product commercialization and global distribution. This aligns with the expanding development efforts of GBP410, a project originally initiated in December last year.

An Jae-yong, CEO of SK bioscience, commented, "This achievement marks an important milestone resulting from 11 years of trust and joint efforts," and added, "Under the principle of 'One Team, One Goal,' we will accelerate our strategy to compete in the global vaccine market alongside Sanofi."

The newly expanded facility now measures approximately 4,200 square meters (about 1,300 pyeong), increasing the capacity within the existing L HOUSE infrastructure. The facility is also preparing for cGMP certification by the U.S. Food and Drug Administration (FDA), ensuring the quality standards required for large -scale production. This expansion enables SK bioscience not only to produce GBP410 in large quantities but also to prepare for global exports.

Currently, GBP410 is progressing smoothly through Phase 3 clinical trials in countries including South Korea, the U.S., and Australia, involving approximately 7,700 infants, children, and adolescents. Notably, GBP410, which covers 21 serotypes, boasts the widest protective coverage among vaccines under development for infants and young children, with high expectations for its effectiveness against invasive pneumococcal disease (IPD).

According to the World Health Organization (WHO), around 700,000 children under age 5 die annually from pneumonia, with approximately 300,000 of those deaths attributable to pneumococcus. GBP410 is anticipated to contribute significantly to reducing mortality from preventable pneumococcal diseases, with demand steadily increasing worldwide.

By combining SK's advanced manufacturing capabilities with Sanofi's expertise in vaccine development and commercialization, SK bioscience aims to establish a leading position in the rapidly growing global pneumococcal vaccine market.

Fuente: Korea IT Times. Disponible en https://n9.cl/5cudq

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Patentes registradas en Patentscope

Estrategia de búqueda: (Vaccine) AND DP:([17.06.2025 TO 30.06.2025]) *as the publication date 64 records.*

1.WO/2025/129745NEEDLE-FREE DELIVERY DEVICE

WO - 26.06.2025

Clasificación Internacional A61M 5/30Nº de solicitud PCT/CN2023/142527Solicitante BEIJING NOMEDEL DRUG DELIVERY INNOVATION PLATFORM, LTD.Inventor/a MAO, Shanhong Shane

The present invention relates to a needle-free delivery solution for delivering drugs and vaccines applied in the field of human clinical care and animal health care, including a needle-free delivery device and components thereof, a system, and a related drug-instrument combination product. By means of the arrangement of multiple pores and the control of the flow rate of the jet flow of drugs and vaccines, the dispersion degree of drugs and vaccines in vivo, the number of pores, the pore size, and the distribution of the pores, the present invention can significantly improve the single-dose delivery amount of drugs and vaccines without damaging the skin, has a delivery efficiency far higher than that of existing needle-free injections, and can be applied to a wider range of application scenarios. The present invention can also accurately deliver drugs and vaccines to one or more target sites at different depths in the intracutaneous tissues, subcutaneous tissues, muscles, or human organs and enhance the dispersion effect at the target sites. The present invention can also precisely control the three-dimensional dispersion degree of drugs and vaccines at the target sites, and particularly, control and regulate the dispersion volume, the dispersion range, and the dispersion center position of drugs and vaccines at the target sites, thereby greatly improving the contact effect of drugs and vaccines with the in-vivo tissues and the bioavailability of drugs and vaccines. The needle-free delivery solution of the present invention exhibits a significantly improved drug absorption effect, effectiveness, and a significantly enhanced vaccine response effect in drug-instrument combination use with a feline triple vaccine, a human hepatitis B vaccine, a human pneumonia vaccine, a human tumor vaccine, and semaglutide, and especially after the vaccine is injected at an amount of 60% of a standard dose, the average antibody titer of the vaccine is 1.1 or more times that of a needle injection at a 100% standard dose, and 60 days after the second dose of the vaccine is injected, the average antibody titer can reach up to 6.3 or more times that of the average antibody titer of the needle injection. Therefore, a novel needle-free delivery solution featuring high efficiency, precision, and excellent bioavailability is provided for drug and vaccine delivery. This invention relates to a needle-free jet technology for the delivery of drugs and vaccines in the field of human and animal health,including needle-free delivery devices and their components,systems,and related drug-device combination products.By changing nozzle settings such as the number of pores,the size of pores,and the distribution of pores,the invention controls the jet rate and the dispersion of drugs and vaccines in the body,therefore achieves better efficiency compared to the traditional needle-based delivery method,and significantly increases quantities deliverable in a single dose without damaging the skin.The invention can accurately deliver drugs and vaccines to target depths in the skin,subcutis,muscle,or organs with enhanced dispersion of drugs and vaccines at the target depth.The

invention can also accurately control the three-dimensional dispersion of drugs and vaccines at the target position.Through controlling and regulating the dispersion volume,dispersion area,and dispersion epicenter,the invention greatly improves the bioavailability of drugs and vaccines in the body.The needle-free jet delivery solution of this invention has been used in delivering multivalent cat vaccines,GLP-1 drugs,human hepatitis B vaccines,and human cancer vaccines in animal models.The drug-device combination of a polypeptide vaccine with the device shows significantly improved drug absorption and immunogenicity.For the commercially available polyvalent cat vaccine from Zoetis,60%of the standard dose was combined with the needle-free jet device,generating 1.1 times the average antibody titer of the standard dose using traditional needle-based injections.When a standard dose was combined with the needle-free jet device,the average antibody titer 60 days after the second dose of the vaccine reached up to 6.3 times the average antibody titer for the standard dose using traditional needle-based injection.The invention provides a new needle-free jet delivery solution with high efficacy,accuracy,and bioavailability for drugs and vaccines.

2.WO/2025/129798METHOD FOR PREPARING TUMOR VACCINE BY USING MAGNETIC HYPERTHERMIA INACTIVATION TECHNOLOGY

WO - 26.06.2025

Clasificación Internacional A61K 39/00Nº de solicitud PCT/CN2024/074225Solicitante SHAANXI BAICI KANGDA MEDICAL TECHNOLOGY CO., LTD.Inventor/a LIU, Xiaoli

The present disclosure relates to the field of pharmaceuticals, and particularly, to a method for preparing a tumor vaccine by using magnetic hyperthermia inactivation technology. Firstly, a magnetic hyperthermia therapeutic agent is used to generate magnetic heat in tumor cells to induce immunogenic death of the tumor cells. Secondly, the exogenous substance, the magnetic hyperthermia therapeutic agent, is removed by means of magnetic separation technology. Thirdly, two different strategies may be adopted according to needs: one is to add an immunologic adjuvant to prepare a whole-cell tumor vaccine containing various tumor antigens; the other one is to select a specific tumor neoantigen and add the immunologic adjuvant to prepare a tumor neoantigen vaccine with higher specificity. In a mouse tumor vaccine test, the results show that the whole-cell tumor vaccine prepared by the described method can effectively inhibit the growth of homologous tumors, and the tumor-free rate of mice in the vaccination group reached 100%. Thus, the present disclosure provides a new treatment strategy for clinical anti-tumor immunotherapy and possesses good application prospects.

3.WO/2025/129746MULTI-MODE FLUID DELIVERY DEVICE

WO - 26.06.2025

Clasificación Internacional A61M 5/178Nº de solicitud PCT/CN2023/142528Solicitante BEIJING NOMEDEL DRUG DELIVERY INNOVATION PLATFORM, LTD.Inventor/a MAO, Shanhong Shane

The present invention relates to a multi-mode fluid delivery solution for delivering drugs and vaccines in the fields of human clinical care and animal health care, including a multi-mode fluid delivery device, a related component thereof, a system, and a related drug and device combination product. Through the design of multiple holes and a detachable injection head and syringe needle members contained therein, the multi-mode fluid delivery device allows flexible switching among a needle-free injection mode, a microneedle

injection mode, and a needle injection mode, and can control the flow rate of the jet flow of the drug and the vaccine, the dispersion degree of the drug and the vaccine in vivo, the number of holes and the syringe needle members, and the size and distribution of the holes. Through the different injection modes, the present invention significantly improves the single-dose delivery amount of the drug and the vaccine without damaging the skin, greatly increases the delivery efficiency relative to existing needle-free injection and microneedle injection modes, makes the dispersion degree of the drug in vivo far higher than that of existing needle injection mode, and thus possesses broader application prospects. The present invention can precisely deliver the drug and the vaccine to one or more target sites of different depths in or under the skin, in the muscles, or in human organs by means of a high-speed jet flow or the syringe needle members, and thus enhance the dispersion effect at the target sites. The present invention can also accurately control the three-dimensional dispersion degree of the drug and the vaccine at the target sites, and therefore greatly improves the contact effect of the drug and the vaccine with tissues and the bioavailability of the drug and the vaccine. The multi-mode fluid delivery solution of the present invention exhibits a significantly improved drug absorption effect, good efficacy, and a significantly enhanced vaccine response effect in drug and device combination use with 3-in-1 vaccines for cats, human hepatitis B vaccines, human pneumonia vaccines, human tumor vaccines, and semaglutide.

4.20250205328CONTROLLED RELEASE VACCINE FORMULATIONS

US - 26.06.2025

Clasificación Internacional A61K 39/12Nº de solicitud 18847437Solicitante Merck Sharp & Dohme LLCInventor/a Akhilesh Bhambhani

The present disclosure provides, among other things, a vaccine composition that includes HPV virus-like particles (VLPs) of at least one type of human papillomavirus (HPV) selected from the group consisting of HPV types: 6, 11, 16, 18, 26, 31, 33, 35, 39, 45, 51, 52, 53, 55, 56, 58, 59, 66, 68, 73, and 82, where the vaccine composition provides enhanced or comparable HPV vaccine response in comparison to a similar multiple-dose vaccine.

5.WO/2025/129741TERMINAL STERILIZATION METHOD FOR CANCER PARTICLE VACCINE LOADED WITH CANCER CELL LYSATE COMPONENT AND USE THEREOF

WO - 26.06.2025

Clasificación Internacional A61L 2/08Nº de solicitud PCT/CN2023/142384Solicitante SUZHOU ERSHENG BIOMEDICAL CO., LTD.Inventor/a LIU, Jinsheng

A terminal sterilization method for a cancer particle vaccine loaded with a cancer cell lysate component and use thereof. According to the terminal sterilization method adopting specific irradiation sterilization, irradiation sterilization can be carried out by using rays and the like after a vaccine freeze-dried formulation has been prepared and sealed, so that the operation is more convenient, and the requirements for sites, instruments, and the like are relatively low. The irradiation sterilization treatment can produce a certain influence on components contained in an irradiated substance, but does not reduce the effect of a nano/micron vaccine or particle loaded with the lysate component. The irradiation-sterilized nano/micron vaccine exhibits better efficacy compared to a nano/micron vaccine prepared aseptically throughout the process, whether injected

directly into an organism or utilized for in-vitro activation of other immune cells, so that the method has important application prospects in the field of oncotherapy.

6.2039866BROAD-SPECTRUM MESSENGER RIBONUCLEIC ACID VACCINE AGAINST CHIKUNGUNYA VIRUS DESIGNED BY OPTIMIZING FULL-LENGTH STRUCTURAL PROTEIN SEQUENCE

NL - 27.06.2025

Clasificación Internacional C07K 14/18Nº de solicitud 2039866Solicitante Institute of Medical Biology, Chinese Academy ofInventor/a Shuaiyao Lu

The present invention belongs to the technical field of messenger ribonucleic acid {mRNA} vaccine preparation, and specifically relates to a broad—spectrum mRNA vaccine against Chilrungunya virus {CHECK-') designed by optimizing the full—length structural protein sequence. Specifically, an amino acid sequence of the protein provided by the present invention is shown in SEQ ID HD. 1. The vaccine provided by the present invention has a stronger level of cellular immune response, a higher sustained level of binding antibodies produced after a dose reaches a certain level, and a certain effect on the level of neutralizing antibodies. In a broad—spectrum, the vaccine produced IÜ neutralizing antibodies against pseudoviruses from West Afiican pedigrees, Indian lÜcean pedigrees, and East Central and SouthAfiican pedigrees, with cross—protection.Fig .l

7.0002842028VACCINE FOR SPECIFIC PREVENTION OF CHLAMYDIA IN FARM ANIMALS

RU - 19.06.2025

Clasificación Internacional A61K 39/118Nº de solicitud 2024115666SolicitanteInventor/a Евстифеев Виталий Валерьевич (RU)

FIELD: veterinary science; microbiology; biotechnology. SUBSTANCE: described is a vaccine for the specific prevention of chlamydia in farm animals, the antigen composition of which is represented by strains of microorganisms of the genus Chlamydia, emulsified with an oil-lanolin adjuvant and a preservative, characterized by the fact that it contains inactivated antigens of three strains of Chlamydia: Chlamydia psittaci “250”, Chlamydia psittaci “PC-85” and Chlamydia psittaci “AMK-16”. Strains are recovered from different types of farm animals in different regions of the Russian Federation, purified and adsorbed on potassium alum and emulsified in equal proportions in an adjuvant based on a disperse system which is a mixture of polyethylsiloxane liquid (PES-3) and lanolin. Vaccine can induce development of antichlamydial immunity at the level sufficient for protection of vaccinated animals against infection with chlamydial agent. Advantage of the invention lies in the antigen composition presented by the Chlamydia strains recovered from different animal species differing by the composition of antigen determinants that extends the antigen spectrum of the vaccine and enhances the immunogenicity of the preparation. Another advantage is the presence in the strain AMK-16 of epitopes specific for two types of chlamydia Chlamydia abortus and Chlamydia psittaci that is proved by the presence in the genome of this strain of genes specific for both types of chlamydia. EFFECT: all this in combination allows to induce immunity to two types of Chlamydia in different animal species at once. 1 cl, 4 tbl

8.WO/2025/131221PRODUCTION OF ATTENUATED *LEISHMANIA DONOVANI* BY ND:YAG LASER AND ITS MEDICAL APPLICATION IN MICE AS ATTENUATED VACCINE (*IN VIVO*) FOR IMMUNIZATION WITH ELIMINATION OF VISCERAL LEISHMANIASIS

WO - 26.06.2025

Clasificación Internacional A61K 39/008Nº de solicitud PCT/EG2023/000021Solicitante BAHYAZEA, Nibras Ridha MohammedInventor/a BAHYAZEA, Nibras Ridha Mohammed

Production of attenuated *L. donovani* by Nd:YAG laser and its medical application in mice as attenuated vaccine (*invivo*) was planted on N199 semi solid media, its exposed to Nd:YAG laser in wavelength 1060°A, in 500 pulse (between each pulse 6 second), Calculated viable cells and percentage of killing using MTT stain by ELISA reader, it was killed highly. Approved results presence high percentage of killing of *L. donovani* which was exposed to Nd:YAG laser and the viable cells of *L. donovani* exposed to laser devoid to flagellum (flagellum responsible for movement, penetrate to liver and spleen for cause infection). Results approved the mice its infected with sign and symptoms of infection include fever, enlarge the size of liver and spleen (become very bulked), when done smear from liver and spleen for injected mice approve presence of *L. donovani* under light microscope on slide in amastigote, this results indicate the radiation emitted from Nd:YAG laser is efficient and effective in attenuation *L. donovani* its lost of flagellum, attenuated and not cause infection for liver and spleen in 500 pulse with 4 1060 Ao, therefor can used *L. donovani* exposed to radiation emitted from Nd :YAG laser as attenuated vaccine against infection of *L. donovani,* this method indicates to use *L. donovani* after exposure them to Nd:YAG laser as attenuated vaccine.

9.20250205327CRIMEAN-CONGO HEMORRHAGIC FEVER VIRUS M-SEGMENT NUCLEIC ACID VACCINE AND METHODS OF USE AND PRODUCTION

US - 26.06.2025

Clasificación Internacional A61K 39/12Nº de solicitud 18029576Solicitante THE UNITED STATES GOVERNMENT, AS REPRESENTED BY THE SECRETARY OF THE ARMYInventor/a Aura R. GARRISON

Crimean-Congo hemorrhagic fever virus (CCHFV) is a tick-borne virus that causes severe hemorrhagic fever disease in humans. Currently, no licensed CCHF vaccines exist, and the protective epitopes remain unclear. Here, we tested a DNA vaccine expressing the M-segment glycoprotein precursor gene (GPC) of the laboratory CCHFV strain CCHFV-IbAr 10200 (CCHFV-M10200). Increasing the dose of CCHFV-M 10200 provides complete protection from homologous CCHFV challenge in mice, and significant (80%) protection from challenge with the clinically relevant, heterologous CCHFV-Afg09-2990 strain. We also report complete protection from CCHFV-Afg09-2990 challenge following vaccination with a CCHFV-Afg09-2990 GPC expressing DNA vaccine (CCHFV-M Afgog). Finally, we show that the non-structural M-segment protein, GP38, influences CCHF vaccine immunogenicity and provides significant protection from homologous CCHFV challenge. Our results demonstrate that M-segment DNA vaccines elicit protective CCHF immunity and further illustrate the immunorelevance of GP38.

10.WO/2025/135605PEPTIDES, NUCLEIC ACIDS, RECOMBINANT EXPRESSION VECTORS, CELLS, SARS-COV-2 VACCINE SUBSTANCE, SARS-COV-2 VACCINE COMPOSITION, AND SARS-COV-2 IMMUNIZATION METHOD

WO - 26.06.2025

Clasificación Internacional C07K 14/005Nº de solicitud PCT/KR2024/019526Solicitante UIF (UNIVERSITY INDUSTRY FOUNDATION), YONSEI UNIVERSITYInventor/a PYUN, Jae Chul

Disclosed are peptides, nucleic acids, recombinant expression vectors, cells, a SARS-CoV-2 vaccine substance, a SARS-CoV vaccine composition, and a SARS-CoV-2 immunization method.

11.20250197874PLANT-PRODUCED CHIMAERIC ORBIVIRUS VLPS

US - 19.06.2025

Clasificación Internacional C12N 15/82Nº de solicitud 18989890Solicitante CSIRInventor/a Albertha René VAN ZYL

This invention relates to a second generation, plant-produced synthetic *Orbivirus* candidate vaccine. The vaccine comprises a plant produced chimaeric *Orbivirus* virus like particle (VLP) comprising at least one structural protein from one *Orbivirus* serotype and at least one structural protein selected from another serotype of the *Orbivirus*, wherein both structural capsid proteins are from the same *Orbivirus* species. In particular the invention relates to a vaccine against an *Orbivirus*, a method of producing chimaeric *Orbivirus* virus-like particles (VLPs) for use in a method of prevention and/or treatment of an *Orbivirus* infection, the use of the chimaeric *Orbivirus* VLPs in the manufacture of a vaccine for an *Orbivirus*, and a method of preventing and/or treating an *Orbivirus* infection.

12.WO/2025/125852ORAL VACCINE FOR COVID-19

WO - 19.06.2025

Clasificación Internacional A61K 39/12Nº de solicitud PCT/IB2023/062464Solicitante ABDALI, NargessInventor/a ABDALI, Nargess

An oral vaccine for COVID-19 is disclosed. The oral vaccine for COVID-19 includes a delivery platform including *Arthrospira platensis* with a plurality of host genomes and a plurality of COVID-19 antigen delivery vectors coupled to the plurality of host genomes. Each respective host genome of the plurality of host genomes includes a nucleotide sequence identical to nucleotide sequence of SEQ ID NO. 1. Each COVID-19 antigen delivery vector of the plurality of COVID- 19 antigen delivery vectors has a nucleotide sequence identical to nucleotide sequence of SEQ ID NO. 2. Each respective COVID-19 antigen delivery vector of the plurality of COVID-19 antigen delivery vectors includes at least one antigen of COVID-19 with a weight ratio of the delivery platform to the at least one antigen of COVID-19in a range of 1: 10^{-3} to 1: 2.5×10^{-3} (delivery platform: at least one antigen of COVID-19).

13.WO/2025/123842VACCINE LYOPROTECTANT WITHOUT ANIMAL-DERIVED PROTEIN COMPONENT AND USE THEREOF

WO - 19.06.2025

Clasificación Internacional A61K 9/19Nº de solicitud PCT/CN2024/120325Solicitante CHANGCHUN BCHT BIOTECHNOLOGY CO.Inventor/a LU, Jingcai

A vaccine lyoprotectant without an animal-derived protein component, which contains the following components: 0.2 wt.%-8wt.% of sucrose; 1.0 wt.%-10 wt.% of trehalose; 0.2 wt.%-4.0 wt.% of sodium

glutamate; 0.05 wt.%-1.0 wt.% of urea; 0.05 wt.%-1.0 wt.% of arginine; and 0.05 wt.%-2.0 wt.% of glucose, with the balance being a phosphate buffer solution having a pH in the range of 6.8-7.8. The present invention further relates to a vaccine semi-finished product and a lyophilized preparation prepared from the lyoprotectant.

14.WO/2025/125908ORAL VACCINE FOR HEPATITIS B

WO - 19.06.2025

Clasificación Internacional A61K 39/12Nº de solicitud PCT/IB2024/050653Solicitante ABDALI, NargessInventor/a ABDALI, Nargess

An oral vaccine for Hepatitis B is disclosed. The oral vaccine for Hepatitis B includes a delivery platform including Arthrospira platensis with a plurality of host genomes and a plurality of Hepatitis B surface antigen delivery vectors coupled to the plurality of host genomes. Each Hepatitis B surface antigen delivery vector of the plurality of Hepatitis B surface antigen delivery vectors has a nucleotide sequence identical to nucleotide sequence of SEQ ID NO. 2. Each respective Hepatitis B surface antigen delivery vector of the plurality of Hepatitis B surface antigen delivery vectors includes at least one surface antigen of Hepatitis B with a weight ratio of the delivery platform to the at least one surface antigen of Hepatitis B in a range of 1: 10^{-4} to 1: $2x10^{-3}$ (delivery platform: at least one surface antigen of Hepatitis B).

15.20250205329MUTANTS OF RESPIRATORY SYNCYTIAL VIRUS FUSION PROTEINS

US - 26.06.2025

Clasificación Internacional A61K 39/155Nº de solicitud 19017356Solicitante YIKANG BIOTECH (SUZHOU) CO., LTD.Inventor/a Lei CHEN

The present disclosure relates to the field of biomedicine, and in particular, to an improved mutant of a respiratory syncytial virus (RSV) fusion (F) protein and uses thereof. The mutant can form a trimeric structure without introducing a heterologous trimerization domain. Meanwhile, through mutation designs such as releasing internal electrostatic repulsion, deleting the furin cleavage site, truncating the C-terminal domain, and introducing interchain disulfide bonds, the protein is stabilized in the pre-fusion conformation and exhibits enhanced stability. The mutant in the present disclosure is highly immunogenic when used as a vaccine or a vaccine component and can induce the production of a high level of neutralizing antibodies in the immunized animal, which can be used in the preparation of a vaccine for the prevention or treatment of RSV infection, and can also be used as a reagent for the detection of RSV.

16.4570265IMPFSTOFF ZUR VERWENDUNG BEI DER VORBEUGUNG VON ENTZÜNDLICHEN ZUSTÄNDEN BEI KÜHEN

EP - 18.06.2025

Clasificación Internacional A61K 39/085Nº de solicitud 23461694Solicitante ZAKL BADAWCZO WDROZENIOWY OSRODKA SALMONELLA IMMUNOLAB SP Z O OInventor/a LIEDER DOROTA

The subject matter of the present invention is a vaccine for use in the prevention and/or treatment of udder inflammation (mastitis) in cows, characterized in that it contains preparation a) and/or preparation b), wherein preparation a) contains as active substance S. aureus 4.2 LG_2 strain, inactivated with formaldehyde for intramammary administration, and preparation b) contains as active substance S. uberis 19MK and 7MO

strains inactivated with formaldehyde for intramammary administration. The subject matter of the invention is also a method of manufacturing of such vaccine and the use thereof.

17.WO/2025/129864IMPROVED RESPIRATORY SYNCYTIAL VIRUS FUSION F PROTEIN MUTANT AND USE THEREOF

WO - 26.06.2025

Clasificación Internacional C07K 14/135Nº de solicitud PCT/CN2024/087839Solicitante YIKANG BIOPHARMACEUTICALS CO., LTDInventor/a CHEN, Lei

The present invention belongs to the field of biomedicines. Particularly, provided are an improved respiratory syncytial virus fusion F protein mutant and the use thereof. The provided respiratory syncytial virus fusion F protein mutant can form a trimeric structure without introducing heterologous trimerization domains. Meanwhile, by designing mutations such as the release of an electrostatic repulsion force within the protein, the deletion of furin cleavage sites, the truncation of C-terminal domains, and the introduction of interchain disulfide bonds, the mutant can be stabilized in the pre-fusion conformation, making the protein more stable. When used as a vaccine or a vaccine component, the respiratory syncytial virus F protein mutant has high immunogenicity, can induce immunized animals to produce a relatively high level of neutralizing antibodies, may be used for preparing a vaccine for preventing respiratory syncytial virus infections, and may also be used as a reagent for detecting respiratory syncytial viruses.

18.20250195642NUCLEIC ACID STABILIZING SOLUTION FOR VACCINES, THERAPY, DIAGNOSTICS, STORAGE, AND TRANSPORT

US - 19.06.2025

Clasificación Internacional A61K 39/39Nº de solicitud 19065686Solicitante Daykin Molecular Systems, LLCInventor/a Erik Avaniss Aghajani

Chemical compositions and/or mixtures that allow nucleic acid to remain stable at ambient temperatures. The disclosed technology includes a solution and manufacturing methods thereof. The solution includes a chelating agent, a buffering agent, and a salt. The solution is configured to protect RNA and/or an RNA-based vaccine added to the solution and prevents or reduces degradation of the RNA and/or the RNA-based vaccine for a duration of 2 to 180 days over a temperature range of −20 degrees C. to +38 degrees C. The chelating agent can comprise ethylenediaminetetraacetic acid (EDTA). The buffering agent can comprise tris(hydroxymethyl)aminomethane (TRIS). The salt can comprise NaCl. The solution is configured to preserve an injectable mRNA vaccine added to the solution, and the solution is safe for injection into mammals.

19.20250195639MULTI-EPITOPE MRNA SARS-COV-2 VACCINE FOR BOOSTING IMMUNITY THROUGH THE ACTIVATION OF CD4 AND CD8 T CELLS AS WELL AS B LYMPHOCYTES

US - 19.06.2025

Clasificación Internacional A61K 39/215Nº de solicitud 18702692Solicitante THE REGENTS OF THE UNIVERSITY OF CALIFORNIAInventor/a Andre E. NEL

In various embodiments immunogenic nanoparticles are provided that are capable of raising an immune response directed against SARS-CoV-2. In certain embodiments the immunogenic nanoparticles comprise mRNA multi-epitope vaccines that can be used in combination with or independent of other covid-19 vaccines

(e.g., the spike protein mRNA vaccine(s)) to invoke a strong $CD8^+$ or $CD4^+$ T-cell as well as neutralizing antibody producing B-cell responses. In certain embodiments this vaccine is based on the rational combination of well-conserved T- and B-cell epitopes identified COVID-19 and viral variants.

20.WO/2025/135201CATIONIC POLYSACCHARIDE COPOLYMER ADJUVANT, AND VACCINE

WO - 26.06.2025

Clasificación Internacional A61K 39/39Nº de solicitud PCT/JP2024/080241Solicitante RYUJYU SCIENCE CORPORATIONInventor/a Onishi, Yasuhiko

A latex polymerization product useful as a vaccine adjuvant material is obtained by polymerizing an olefin compound in water by using a cationic derivative of a polysaccharide and adjusting a latex solution of a surfactant, and obtaining a non-viral vector for feeding deoxyribonucleic acid (DNA) and ribonucleic acid (RNA) into a cell. The latex solution is composed of a polymer obtained by polymerizing an olefin compound in water with a cationic derivative of a polysaccharide. The complex is obtained by reacting various inactivated viruses, deoxyribonucleic acid (DNA) and ribonucleic acid (RNA) with the latex solution. In contrast to vectors from dangerous viruses, the use of such a non-viral vector is safe and, because the vector is synthetic, stable. The selectivity of the cell membrane is important for enhancing the transformation efficiency as a vector. In order to further enhance the transformation efficiency, it is necessary to have a hydrophobic-hydrophilic domain, specifically, in order to increase the effectiveness of the vaccine adjuvant material, it has been found that a latex composed of a copolymer material of a cationic polysaccharide and a vinyl monomer has excellent endocytosis and TLR7 agonist properties.

21.4572780TH2-IMPFSTOFFBASIERTE VORBEUGUNG UND BEHANDLUNG VON ENTZÜNDUNGEN BEI FETTSUCHT

EP - 25.06.2025

Clasificación Internacional A61K 38/17Nº de solicitud 23855592Solicitante UNIV WASHINGTONInventor/a DISIS MARY L

Overexpressed proteins associated with inflammatory adipocytes have been demonstrated in TNF-a inflamed adipocyte lines derived from humans and mice as well as in visceral fat derived from mice fed an inflammatory-generating high fat high sucrose diet. The adipocyte-associated proteins are immunogenic in humans and mice, and can be used as a vaccine that drives Type II T-cells to inflammatory adipose tissue. Compositions and methods for the prevention and treatment of disease associated with metabolic obesity, including cancer, such as breast cancer, and non-alcoholic fatty liver disease (NAFLD) are provided.

22.20250205330METHODS FOR PROVIDING PROTECTION TO PORCINE EPIDEMIC DIARRHEA VIRUS (PEDV) WITH A PLANT PRODUCED VACCINE

US - 26.06.2025

Clasificación Internacional A61K 39/225Nº de solicitud 18989993Solicitante Mazen Animal Health, Inc.Inventor/a John Howard

Methods for producing a protective immune response to Porcine Epidemic Diarrhea Virus (PEDV) is provided wherein a fusion protein comprising the S1 Spike protein of the virus operably fused to the heat labile enterotoxin B subunit (LTB) peptide is expressed in a plant and the plant or plant product comprising the

fusion protein is orally administered to an animal. The vaccine can be produced by introducing into a plant a construct comprising a promoter preferentially directing expression to seed of said plant, a nucleic acid encoding the S1-LTB fusion protein and a nucleic acid targeting expression to the endoplasmic reticulum of the plant. When orally administered to an animal, a protective response is observed, including a serum antibody response and mucosal immune response.

23.20250195442POLYMER-COATED NANOPARTICLES

US - 19.06.2025

Clasificación Internacional A61K 9/51Nº de solicitud 18844473Solicitante 20Med Therapeutics B.V.Inventor/a Hendrika Maria ROELOFS-HAARHUIS

The invention is in the field of nanoparticles. In particular, the invention relates to a polymer-coated nanoparticle comprising a biologically active payload. The invention further relates to a method to prepare the polymer-coated nanoparticle. The polymer-coated nanoparticles may be used as a medicament, preferably as a vaccine, such as a prophylactic and/or a therapeutic vaccine.

24.WO/2025/128971RSV VACCINE BEARING A POLYNUCLEOTIDE WHICH IS DE-OPTIMISED AND DE-ATTENUATED

WO - 19.06.2025

Clasificación Internacional A61K 39/12Nº de solicitud PCT/US2024/059997Solicitante THE UNITED STATES OF AMERICA, AS REPRESENTED BY THE SECRETARY, DEPARTMENT OF HEALTH AND HUMAN SERVICESInventor/a BUCHHOLZ, Ursula J.

Provided is a polynucleotide encoding a respiratory syncytial virus (RSV) variant having an attenuated phenotype comprising a modified RSV genome or antigenome that encodes a mutant RSV NS1, P, or M2-1 protein that differ from their parental counterpart at one or more amino acid residues. The invention also relates to methods of vaccinating an animal with the RSV variant or a pharmaceutical composition containing the RSV variant or inducing an immune response by administering the RSV variant to an animal, and further relates to methods of producing an RSV variant vaccine.

25.20250197924METHODS FOR SELECTION AND COMBINATION OF SEQUENCING RESULTS FROM BIOLOGICAL SAMPLES FOR NEOANTIGEN SCORING

US - 19.06.2025

Clasificación Internacional C12Q 1/6869Nº de solicitud 18542383Solicitante AMAZON TECHNOLOGIES, INC.Inventor/a Haibao TANG

Disclosed herein are methods of scoring predicted immunogenicity of neoantigens from biological samples of a subject. Methods can include the steps of preparing biological samples for nucleic acid sequencing; nucleic acid sequencing; evaluating the initial sequencing results by analyzing (e.g., comparing) sequencing parameters of the results; based on an analysis (e.g., a comparison) of sequencing parameters, combining the initial sequencing results to yield union sequencing results or selecting a representative biological sample; and scoring the predicted immunogenicity of neoantigens in the biological samples based on either the union sequencing results or the sequencing results of the representative sample. Methods can further include the step of comparing sequencing parameters of union sequencing results and the initial sequencing results.

Methods can further include the steps of generating a neoantigen vaccine that contains or encodes for a neoantigen scored for predicted immunogenicity and administering the neoantigen vaccine to a subject.

26.WO/2025/129177METHODS FOR SELECTION AND COMBINATION OF SEQUENCING RESULTS FROM BIOLOGICAL SAMPLES FOR NEOANTIGEN SCORING

WO - 19.06.2025

Clasificación Internacional G16B 20/20Nº de solicitud PCT/US2024/060355Solicitante AMAZON TECHNOLOGIES, INC.Inventor/a TANG, Haibao

Disclosed herein are methods of scoring predicted immunogenicity of neoantigens from biological samples of a subject. Methods can include the steps of preparing biological samples for nucleic acid sequencing; nucleic acid sequencing; evaluating the initial sequencing results by analyzing (e.g., comparing) sequencing parameters of the results; based on an analysis (e.g., a comparison) of sequencing parameters, combining the initial sequencing results to yield union sequencing results or selecting a representative biological sample; and scoring the predicted immunogenicity of neoantigens in the biological samples based on either the union sequencing results or the sequencing results of the representative sample. Methods can further include the step of comparing sequencing parameters of union sequencing results and the initial sequencing results. Methods can further include the steps of generating a neoantigen vaccine that contains or encodes for a neoantigen scored for predicted immunogenicity and administering the neoantigen vaccine to a subject.

27.20250195640IMMUNOGENIC COMPOSITIONS OF POLYSACCHARIDE-PROTEIN PEGYLATED COMPOUNDS

US - 19.06.2025

Clasificación Internacional A61K 39/385Nº de solicitud 19070661Solicitante Inventprise, Inc.Inventor/a Subhash V. Kapre

The disclosure describes compositions containing PEGylated compounds using linkers, bivalent polysaccharide covalent PEG compounds, and methods of bivalent polysaccharide-PEG compounds in the development of multivalent vaccines. PEGylated conjugation of capsular polysaccharides to carrier proteins is carried out using homo-bifunctional and/or hetero-bifunctional linkers of specific lengths. Incorporation of bifunctional PEG linkers induces higher titers of functional antibodies with high avidity, eliciting higher immunologic memory, and reduced carrier protein effect. This provides immunochemically cross-reactive capsular polysaccharides wherein one or more cross-reactive capsular polysaccharides are covalently PEG compounded sequentially or concurrently to carrier protein using bifunctional linkers bearing the same or different functional groups. Such a linker and the size of the capsular polysaccharides provides an effective multivalent vaccine with high antibody titers and a reduced carrier effect, with a reduction in the content of the capsular polysaccharide and protein per dose of vaccine which reduces reactogenicity.

28.20250195443POLYMER NANOAGGREGATE PHARMACEUTICAL COMPOSITION AND USE THEREOF

US - 19.06.2025

Clasificación Internacional A61K 9/51Nº de solicitud 18847231Solicitante ANP Technologies, Inc.Inventor/a Ray Yin

This disclosure is directed to a pharmaceutical composition for treating or preventing a disease. The pharmaceutical composition can comprise a polymer-drug nanoaggregate having a polymer and at least one bioactive agent that is water insoluble or poorly water soluble. The polymer is water soluble and comprises at least one first terminal group modified with H or a hydrophobic moiety and a second terminal group modified with a hydrophilic moiety and can be a modified symmetrically or asymmetrically branched polymers. This disclosure is also directed to a method for treating or preventing a disease including one or more immune disorders, infectious diseases and cancers using the pharmaceutical composition disclosed herein. The pharmaceutical composition can be a vaccine or an adjuvant for a vaccine.

29.WO/2025/127075SURFACE-MODIFIED IRON OXIDE NANOPARTICLES AND VACCINE AGAINST SARS-COV-2 CONTAINING SAID SURFACE-MODIFIED IRON OXIDE NANOPARTICLES

WO - 19.06.2025

Clasificación Internacional C07K 14/165Nº de solicitud PCT/JP2024/043877Solicitante TOHOKU UNIVERSITYInventor/a SATO Ko

The problem addressed is to provide surface-modified iron oxide nanoparticles for use in a vaccine exhibiting an infection preventive effect on SARS-CoV-2. The problem can be solved by surface-modified iron oxide nanoparticles comprising SARS-CoV-2 spike protein and iron oxide nanoparticles, where the spike protein of SARS-CoV-2 is bound to the surface of the iron oxide nanoparticles.

30.WO/2025/129040PORCINE CIRCOVIRUS TYPE 2 (PCV2) IMMUNOGENIC COMPOSITIONS AND METHODS OF STIMULATING AN IMMUNE RESPONSE TO PCV2

WO - 19.06.2025

Clasificación Internacional C12N 1/21Nº de solicitud PCT/US2024/060096Solicitante VETANCO USA INC.Inventor/a HALL, Jeffrey W.

Bacterial vaccine vectors, cell cultures, immunogenic compositions, and methods for stimulating an immune response against Porcine Circovirus Type 2 (PCV2) infection in a host animal susceptible to infection by PCV2. Vaccine vectors comprising a recombinant bacterium comprising a nucleic acid encoding a conserved PCV2 capsid protein, which is configured to self-assemble, after expression, into a non -infectious PCV2 virus-like particle to stimulate an immune response against PCV2 infection in a host animal susceptible to infection by PCV.

31.20250195648THERAPEUTIC COMPOSITION AND METHOD COMBINING MULTIPLEX IMMUNOTHERAPY WITH CANCER VACCINE FOR THE TREATMENT OF CANCER

US - 19.06.2025

Clasificación Internacional A61K 39/395Nº de solicitud 19065674Solicitante Rampart Health, L.L.C.Inventor/a David Granger Bostwick

This invention relates to a therapeutic composition comprising i) at least two immune checkpoint inhibitors, ii) at least one drug selected from a cytokine a cytotoxic or cytostatic chemotherapeutic drug, and combinations thereof, and iii) a cancer vaccine prepared from tumor or cancer cells, or derivatives thereof, that have been prepared through an ex vivo treatment that creates necrotic and/or necroptotic cancer cells while minimizing destruction of cancer antigens. This invention also relates to a method of treating a tumor or a cancer in a

patient comprising administering to a patient in need thereof the therapeutic composition in an amount effective to treat the tumor or cancer.

32.WO/2025/127402LIPID FOR ENHANCING IMMUNOGENICITY OF MRNA/LNP VACCINE

WO - 19.06.2025

Clasificación Internacional A61K 9/51Nº de solicitud PCT/KR2024/017009Solicitante KOREA RESEARCH INSTITUTE OF BIOSCIENCE AND BIOTECHNOLOGYInventor/a YONG, Seok Beom

The present invention relates to a lipid for enhancing the immunogenicity of mRNA/LNP vaccines and, more specifically, to a lipid nanoparticle comprising a lipid that includes propionate, butyrate, or both, and a drug delivery carrier utilizing same. The lipid nanoparticle according to the present invention can significantly enhance the immunogenicity of a nucleic acid-based vaccine contained therein.

33.20250205320METHODS OF TREATING POLYCYSTIC KIDNEY DISEASE

US - 26.06.2025

Clasificación Internacional A61K 39/00Nº de solicitud 18929349Solicitante Kai Yuan XUInventor/a Kai Yuan XU

Peptide vaccine inhibits and treats polycystic kidney disease and its complications.

34.WO/2025/125252METHODS FOR PRODUCTION OF VACCINATION SITE INFILTRATING LYMPHOCYTES AND USES THEREOF

WO - 19.06.2025

Clasificación Internacional A61K 39/00Nº de solicitud PCT/EP2024/085547Solicitante DEUTSCHES KREBSFORSCHUNGSZENTRUM STIFTUNG DES ÖFFENTLICHEN RECHTSInventor/a EICHMÜLLER, Stefan

The present invention relates to a method for producing a preparation comprising T cells recognizing at least one epitope of a disease antigen (disease epitope), the method comprising (a) incubating T cells from a sample of a site of vaccination of a subject with the disease epitope (vaccination site) under conditions suitable for proliferation of said T cells; and (b) thereby producing a preparation comprising T cells recognizing at least one disease epitope. The present invention also relates to a disease vaccine for use in improving an immune response of a subject to a disease epitope, to a preparation comprising T cells recognizing at least one cancer epitope, to a method of identifying a TCR binding to a disease epitope, a method of providing a T cell recognizing a cell presenting a disease epitope, and to a T cell recognizing a cell presenting a disease epitope related thereto.

35.WO/2025/137448T CELL-BASED SARS-COV-2 VACCINE

WO - 26.06.2025

Clasificación Internacional A61K 39/215Nº de solicitud PCT/US2024/061281Solicitante GEORGIA STATE UNIVERSITY RESEARCH FOUNDATION, INC.Inventor/a DU, Lanying

The present disclosure relates to coronavirus vaccines and methods for use thereof.

36.4568695ZUSAMMENSETZUNGEN, VERFAHREN UND VERWENDUNGEN VON EXTRAZELLULÄREN VESIKELN VON GIARDIA SPP

EP - 18.06.2025

Clasificación Internacional A61K 39/002Nº de solicitud 22764460Solicitante UNIV DE COIMBRAInventor/a RODRIGUES DE SOUSA MARIA DO CÉU

The present disclosure relates to extracellular vesicles of Giardia spp, preferably Giardia lamblia, for use in medicine or veterinary. The present invention also relates to a composition and vaccine comprising a therapeutically effective amount of extracellular vesicles of Giardia spp, as is or encapsulated in a capsule comprising polysaccharide particles, preferably glucan.

37.20250197809ALPHA-HERPESVIRUS INSENSITIVE MONOCLONAL CELL STRAIN, AND PREPARATION METHOD THEREFOR AND USE THEREOF

US - 19.06.2025

Clasificación Internacional C12N 5/09Nº de solicitud 18964018Solicitante Harbin Veterinary Research Institute, Chinese Academy of Agricultural Sciences (China AnimalInventor/a Xin YIN

The present disclosure discloses an α-herpesvirus insensitive monoclonal cell strain, and a preparation method therefor and use thereof, belonging to the technical field of biomedicine. In order to perform targeted research of intercellular transmission of an α-herpesvirus and an action mechanism thereof, the present disclosure discloses the α-herpesvirus insensitive monoclonal cell strain. The cell strain is named as a human liver cancer continuous cell line Huh7-C10 and has a potential of being applied to developing a new generation of enhanced oncolytic herpesvirus and single-round infection attenuated live vaccine.

38.WO/2025/137654ALLERGY VACCINE PLATFORM BASED ON SUPRAMOLECULAR MATERIALS

WO - 26.06.2025

Clasificación Internacional A61K 39/35Nº de solicitud PCT/US2024/061596Solicitante DUKE UNIVERSITYInventor/a COLLIER, Joel

Embodiments are directed to a conjugate peptide including a self-assembling peptide and at least one allergen epitope. Allergen epitopes may include peanut allergens. The conjugate peptide may self-assemble into a nanofiber or fibril. Compositions including the conjugate peptide may be used to treat allergies.

39.4574982REKOMBINANTE POLYPEPTIDE ZUR PROGRAMMIERUNG VON EXTRAZELLULÄREN VESIKELN

EP - 25.06.2025

Clasificación Internacional C12N 15/87Nº de solicitud 25158938Solicitante UNIV MCMASTERInventor/a ILKOW CAROLINA SOLANGE

Herein is provided a recombinant tumor-selective viral particle comprising a nucleic acid encoding a recombinant polypeptide for directing an extracellular vesicle (EV) to at least one target cell, said recombinant polypeptide comprising: at least one targeting moiety for directing said EV to said at least one target molecule expressed by said at least one target cell; at least one EV-anchoring polypeptide; and at least one intravesicular polypeptide. The viral particle may be from an oncolytic viruses. Recombinant polypeptides for

programming EVs to target particular molecules are also provided. Also described are therapeutic EVs for delivering payload polypeptides (and/or cargo molecules) to target cells, e.g., in vaccine or cell-free "CAR-T"-like applications, along with EVs for recruiting immune cells to target cells in EV-mediated BiTE -like applications. Oncolytic viruses may also be engineered to infect tumor cells and shed programmed EVs, yielding additional therapeutic effects.

40.WO/2025/129174COMPOSITIONS AND METHODS FOR TREATING MYCOBACTERIAL INFECTION

WO - 19.06.2025

Clasificación Internacional A61K 39/04Nº de solicitud PCT/US2024/060348Solicitante BETH ISRAEL DEACONESS MEDICAL CENTER, INC.Inventor/a BAROUCH, Dan H.

Tuberculosis (TB) remains a leading cause of death from infectious disease worldwide, in part due to the limited efficacy of currently available vaccine. Disclosed herein are compositions and methods for providing immunogenic protection against TB.

41.20250205326COMPOSITIONS OF VACCINES AGAINST CLOSTRIDIAL DERMATITIS AND METHODS OF USE THEREOF

US - 26.06.2025

Clasificación Internacional A61K 39/08Nº de solicitud 18941161Solicitante NORTH CAROLINA STATE UNIVERSITYInventor/a Raveendra Rangarao Kulkarni

The present disclosure provides vaccine compositions, kits, and/or vectors for preventing, decreasing, reducing, and/or ameliorating spread of bacterial pathogens causing Clostridial dermatitis/Gangrenous dermatitis/Cellulitis in poultry animals, and methods of use thereof.

42.20250195637VACCINE COMPOSITION AGAINST TWO RESPIRATORY VIRUSES

US - 19.06.2025

Clasificación Internacional A61K 39/155Nº de solicitud 18843041Solicitante VAXXELInventor/a Julia DUBOIS

The present invention relates to a viral strain derived from the human metapneumovirus (hMPV) strain having a genome sequence represented by sequence SEQ ID NO. 1, wherein said genome sequence comprises the following genetic modifications: (i) inactivation of the endogenous gene coding for the SH protein and/or for the G protein, and (ii) presence of an exogenous nucleotide sequence coding for at least one extracellular domain of the F protein of the human respiratory syncytial virus (hRSV), said domain being wild-type or mutated.

43.3028345HETEROLOGOUS EXPRESSION CASSETTE, DNA CONSTRUCT AND VACCINE COMPOSITION FOR IMMUNIZING AGAINST FLAVIVIRUS AND/OR OTHER PATHOGENS

ES - 18.06.2025

Clasificación Internacional C12N 15/86Nº de solicitud 17838234Solicitante Fundação Oswaldo CruzInventor/a BONALDO, Myrna Cristina

44.202502081 36PEPTIDES AND COMBINATIONS OF PEPTIDES FOR USE IN IMMUNOTHERAPY AGAINST OROPHARYNGEAL SQUAMOUS CELL CARCINOMA (OPSCC) AND OTHER CANCERS

US - 26.06.2025

Clasificación Internacional G01N 33/569Nº de solicitud 19039730Solicitante Eberhard Karls Universität Tübingen Medizinische FakultätInventor/a Simon Laban

The present invention relates to peptides, proteins, nucleic acids and cells for use in immunotherapeutic methods. In particular, the present invention relates to the immunotherapy of cancer, in particular of oropharyngeal squamous cell carcinoma (OPSCC). The present invention furthermore relates to tumor-associated T-cell peptide epitopes that can for example serve as active pharmaceutical ingredients of vaccine compositions that stimulate anti-tumor immune responses, or to stimulate T cells ex vivo and transfer into patients. Peptides bound to molecules of the major histocompatibility complex (MHC), or peptides as such, can also be targets of antibodies, soluble T-cell receptors, and other binding molecules.

45.WO/2025/129186CLOSTRIDIOIDES DIFFICILE VACCINE AND METHODS OF USE

WO - 19.06.2025

Clasificación Internacional A61K 39/08Nº de solicitud PCT/US2024/060394Solicitante THE TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIAInventor/a ALAMEH, Mohamad

The present disclosure provides compositions (e.g., pharmaceutical compositions, e.g., RNA-LNP vaccines) for delivery of C. *difficile* antigens and related technologies (e.g., components thereof and/or methods relating thereto).

46.3030310SARS-COV-2 SUBUNIT VACCINE

ES - 27.06.2025

Clasificación Internacional A61K 39/12Nº de solicitud 22725738Solicitante Hipra Scientific, S.L.U.Inventor/a BARREIRO VAZQUEZ, Antonio

47.4569515VERFAHREN UND SYSTEME ZUR VORHERSAGE VON HLA-EPITOPEN

EP - 18.06.2025

Clasificación Internacional G16B 30/00Nº de solicitud 23853557Solicitante BIONTECH US INCInventor/a ADDONA THERESA A

Methods for preparing a personalized cancer vaccine and a method to train a machine-learning HLA-peptide prediction model.

48.WO/2025/128700CELL-BASED VACCINES

WO - 19.06.2025

Clasificación Internacional A61K 39/02Nº de solicitud PCT/US2024/059570Solicitante ARKEA BIO CORP.Inventor/a HSU, Alexander

The present invention relates to cell-based vaccine compositions and methods that reduce methane and/or hydrogen production in animals. The present invention relates to the treatment of diseases that are associated

with methanogens. The present invention also relates to methods of growing hydrogenotrophs in safe anaerobic conditions.

49.2036454INACTIVATED FIVE-PATHOGEN-PREVENTING TETRAVACCINE FOR PREVENTING AND TREATING CONTAGIOUS CAPRINE PLEUROPNEUMONIA AND PREPARATION METHOD THEREFOR

NL - 19.06.2025

Clasificación Internacional A61P 31/04Nº de solicitud 2036454Solicitante Inner Mongolia Academy of Agricultural & Animal Husbandry SciencesInventor/a Fan Bai

The present invention provides an inactivated five-pathogen-preventing tetravaccine for preventing and treating contagious caprine pleuropneumonia and a preparation method therefor, which belong to the technical field of vaccines. The inactivated five-pathogen-preventing tetravaccine includes an inactivated bacterial solution of Mycoplasma Ovipneumonia MOiNA/IOI, Mycoplasma mycoides subsp.capri MmciGXOI, an inactivated bacterial solution of Pasteurella multocida PM—NA/II, Pasteurella multocida P<-Nl\/12, an inactivated bacterial solution of Mannheimia haemolytica MS—NA/IZ, and an immunologic adjuvant. Compared with an inactivated vaccine of Mycoplasma Ovipneumonia sold in the market, the inactivated fivepathogen-preventing tetravaccine of the present invention has basically the same immune protection force of corresponding pathogens, but can achieve the purposes of multiple prevention with one injection, cost reduction and stress reduction of sheep.

50.4568645IONISIERBARE LIPIDE AUF STEROLBASIS UND LIPIDNANOPARTIKEL DAMIT

EP - 18.06.2025

Clasificación Internacional A61K 8/63Nº de solicitud 23853283Solicitante ADVANCED RNA VACCINE ARV TECH INCInventor/a XU JIANGSHENG

Described are compounds, compositions, and methods for delivery of therapeutic, diagnostic, or prophylactic agents (for example, a nucleic acid).

51.WO/2025/132735A FREEZE-DRIED COMPOSITION CONTAINING LIVE ATTENUATED PATHOGENS, A PROCESS FOR PREPARING A FREEZE-DRIED COMPOSITION, A VACCINE, AND A METHOD OF VACCINATING A HOST ANIMAL

WO - 26.06.2025

Clasificación Internacional A61K 39/102Nº de solicitud PCT/EP2024/087327Solicitante INTERVET INTERNATIONAL B.V.Inventor/a ANDERSON, Alyssa

In order to provide a composition which has retained a relatively high antigenic activity during freeze-drying, a freeze-dried composition is provided comprising live attenuated pathogens, and a bulking agent that comprises in combination (i) polyvinylpyrrolidone with a weight-averaged molecular weight between 1000 and 7000 Da in an amount of at least 1 wt/vol%, based on the composition before freeze drying, and (ii) a sugar.

52.20250197905LEGIONAMINIC ACID GLYCOSYLTRANSFERASES FOR CHEMOENZYMATIC SYNTHESIS OF GLYCANS AND GLYCOCONJUGATES

US - 19.06.2025

Clasificación Internacional C12P 19/04Nº de solicitud 18848017Solicitante The Regents of the University of CaliforniaInventor/a Xi CHEN

Provided herein are methods for preparing a glycan product containing legionaminic acid moieties and other nonulosonic acids. Also provided herein are legionaminic acid transferase fusion proteins and vaccine compositions containing glycan products prepared according to the described methods.

53.4573182BAKTERIELLE ZUSAMMENSETZUNG, INOKULUM FÜR BRASSICACEAE-PFLANZENBIOTISIERUNG MIT DIESER ZUSAMMENSETZUNG UND DARIN ENTHALTENE BAKTERIENSTÄMME

EP - 25.06.2025

Clasificación Internacional C12N 1/20Nº de solicitud 23790753Solicitante UNIV JAGIELLONSKIInventor/a ROZPADEK PIOTR

The vaccine disclosed herein enhances the growth parameters of Brassicaceae plants and can be used for biotization of Brassicaceae plants and for production of fully developed plant seedlings, e.g. for their direct sale.

54.4570264IMPFSTOFF GEGEN SCHWEINEPARVOVIRUS

EP - 18.06.2025

Clasificación Internacional A61K 39/00Nº de solicitud 25160238Solicitante BOEHRINGER INGELHEIM VETMEDICA GMBHInventor/a VAUGHN ERIC MARTIN

The present invention relates i.a. to a porcine parvovirus (PPV) viral protein 2 (VP2) having at amino acid position 228 a glutamic acid residue or a glutamate residue, and/or at amino acid position 414 a serine residue, and/or at amino acid position 419 a glutamine residue, and/or at amino acid position 436 a threonine residue. Further, the present invention relates to immunogenic compositions comprising said PPV viral protein 2 (VP2). Furthermore, the present invention relates to methods for immunizing a subject comprising administering to such subject the immunogenic composition of the present invention. Moreover, the present invention relates to methods of treating or preventing clinical signs caused by PPV infection in a subject of need, the method comprising administering to the subject a therapeutically effective amount of an immunogenic composition according to the present invention.

55.WO/2025/124295IMMUNOLOGIC ADJUVANT COMPOSITION, PREPARATION METHOD THEREFOR AND USE THEREOF

WO - 19.06.2025

Clasificación Internacional A61K 39/39Nº de solicitud PCT/CN2024/137326Solicitante GRAND THERAVAC LIFE SCIENCES (NANJING) CO., LTD.Inventor/a GE, Jun

Provided are an immunologic adjuvant composition, a preparation method therefor and a use thereof. The immunologic adjuvant composition comprises an immune activator and a liposome used for loading the immune activator, wherein the immune activator comprises a saponin and a CpG oligodeoxynucleotide. The immunologic adjuvant composition can induce an immune response of a mammal against a human herpesvirus and/or hepatitis B virus, and can induce a strong level of cellular immune response. By using the liposome to simultaneously load a QS21 and the CpG oligodeoxynucleotide, the two have a better synergistic

effect in the aspect of promoting cellular immunity, and can induce a stronger level of cellular immune response compared to a commercially available Shingrix vaccine.

56.3030145SARS-COV-2 SUBUNIT VACCINE

ES - 26.06.2025

Clasificación Internacional A61K 39/12Nº de solicitud 22725737Solicitante Hipra Scientific, S.L.U.Inventor/a BARREIRO VAZQUEZ, Antonio

57.WO/2025/134046METHODS AND VACCINE COMPOSITIONS FOR LYME DISEASE

WO - 26.06.2025

Clasificación Internacional A61K 39/02Nº de solicitud PCT/IB2024/063013Solicitante PFIZER INC.Inventor/a FERNANDES, Christopher Thomas

Described are compositions and methods for prevention of Lyme disease. Also described are methods for production of an RNA molecule comprising an open reading frame encoding a structural domain polypeptide and an open reading frame encoding an outer surface protein A (OspA) lipoprotein polypeptide, including structural domain polypeptides from an influenza neuraminidase structural domain polypeptide, a PIV5 structural domain polypeptide and a RSV- G structural domain polypeptide.

58.4574167INAKTIVIERTER IMPFSTOFF GEGEN TOXOPLASMA GONDII-TACHYZOIT- UND BRADYZOIT-NATURPROTEINEN

EP - 25.06.2025

Clasificación Internacional A61K 39/012Nº de solicitud 23383323Solicitante SALUVET INNOVA S LInventor/a REGIDOR CERRILLO JAVIER

The present invention relates to new protein compositions, methods for producing said protein compositions, pharmaceutical compositions comprising said protein compositions and methods for treating infections caused by Toxoplasma gondii. In particular, the present invention provides a protein composition comprising native T. gondii tachyzoite-specific proteins and native T. gondii bradyzoite and/or cyst specific proteins.

59.20250195914METHOD FOR ENHANCING ANTIBODY FORMATION FUNCTION BY USING BIO INFORMATIVE ENERGY LIGHT

US - 19.06.2025

Clasificación Internacional A61N 5/06Nº de solicitud 19071022Solicitante BIOLIGHT CORP.Inventor/a Mi Jung PARK

To implement the objects described above, a method for enhancing an antibody-forming function using bio-informative energy light according to various embodiments of the present invention is disclosed. The method includes administering a vaccine to a mammal, and irradiating the vaccinated mammal with bio-informative energy light, wherein the bio-informative energy light has an intensity of 10^{-18} to 10^{-13} W/cm^2.

60.4574169HERPES SIMPLEX VIRUS VEKTOR ENTHALTENDE PHARMAZEUTISCHE ZUSAMMENSETZUNG

EP - 25.06.2025

Clasificación Internacional A61K 39/215Nº de solicitud 23854891Solicitante TODO TOMOKIInventor/a TODO TOMOKI

An object is to provide a virus vector that can be used as a vaccine. A pharmaceutical composition for producing an exogenous polypeptide and inducing an immune response thereto, comprising a herpes simplex virus vector containing a region encoding the exogenous polypeptide and having two or more characteristics selected from the following characteristics (a) to (c):(a) the ICP6 gene is deleted or inactivated,(b) the γ34.5 gene is deleted or inactivated, and(c) the α47 gene is deleted or inactivated.

61.WO/2025/133010TOXOPLASMA GONDII TACHYZOITE AND BRADYZOITE NATIVE PROTEINS INACTIVATED VACCINE

WO - 26.06.2025

Clasificación Internacional A61K 39/012Nº de solicitud PCT/EP2024/087742Solicitante SALUVET-INNOVA S.L.Inventor/a REGIDOR CERRILLO, Javier

The present invention relates to new protein compositions, methods for producing said protein compositions, pharmaceutical compositions comprising said protein compositions and methods for treating infections caused by Toxoplasma gondii. In particular, the present invention provides a protein composition comprising native T. gondii tachyzoite-specific proteins and native T. gondii bradyzoite and/or cyst specific proteins.

62.20250206785ANTIGEN DELIVERY PLATFORMS

US - 26.06.2025

Clasificación Internacional C07K 14/005Nº de solicitud 18952185Solicitante GLAXOSMITHKLINE BIOLOGICALS SAInventor/a Michael FRANTI

This disclosure provides platforms for delivery of herpes virus proteins to cells, particularly proteins that form complexes in vivo. In some embodiments these proteins and the complexes they form elicit potent neutralizing antibodies. Thus, presentation of herpes virus proteins using the disclosed platforms permits the generation of broad and potent immune responses useful for vaccine development.

63.20250195631ANTIGEN DELIVERING SALMONELLA FOR USE AS A TUMOR HOMING BEACON TO REFOCUS PREEXISTING, VACCINE GENERATED T CELLS TO COMBAT CANCER

US - 19.06.2025

Clasificación Internacional A61K 39/00Nº de solicitud 18851628Solicitante University of MassachusettsInventor/a Neil S. Forbes

To make an immunotherapy that is effective for a larger group of cancer patients, *Salmonella* have been genetically engineered to deliver proteins from prior vaccines into the cytoplasm of tumor cells.

64.WO/2025/137258DEVELOPMENT OF PNAG-BASED VACCINES

WO - 26.06.2025

Clasificación Internacional A61K 39/385Nº de solicitud PCT/US2024/061006Solicitante BOARD OF TRUSTEES OF MICHIGAN STATE UNIVERSITYInventor/a HUANG, Xuefei

Provided herein are vaccine composition comprising poly-β-(l-6)-7*N*-acetylglucosamine (PNAG) antigen conjugated to capsid protein carrier, wherein said capsid comprises wild type or native sequence, or at least one mutation, and wherein the PNAG antigen comprises at least 2, 3, 4, 5, 6, 7, 8, 9, or 10 glucosamine monomers, wherein at least one glucosamine monomer is acetylated.

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