# VacCiencia

FINLAY EDICIONES

## Boletín Científico

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## EN ESTE NÚMERO

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

- Eventos internacionales sobre vacunas para 2025.
- 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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CUBA

# Eventos internacionales sobre vacunas 2025

## 8th Edition of World Congress on Infectious Diseases


Este congreso a celebrarse del **9 al 11 de junio de 2025 con sede en Roma Italia**, ofrecerá participación tanto presencial como virtual para garantizar una plataforma amplia e inclusiva. Los líderes mundiales en enfermedades infecciosas se reunirán bajo el tema "Desafíos globales, impactos locales: innovaciones en la prevención, el diagnóstico y el tratamiento de enfermedades infecciosas".

Se esperan diálogos interdisciplinarios e iniciativas de colaboración destinadas a abordar de frente los desafíos de salud globales.

Ofrecerá una amplia gama de temas que se abordarán en sesiones sobre amenazas infecciosas emergentes, conocimientos epidemiológicos, avances en vacunas, terapias antimicrobianas y su impacto en campos como la neurología y la pediatría.

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## Vaccine Congress 2025

El Congreso de Vacunas 2025 se llevará a cabo del **10 al 11 de julio de 2025 en Viena, Austria** y también de manera virtual. Estará dedicado al avance de la investigación sobre vacunas, dígase tecnologías de vacunas emergentes, desafíos en el desarrollo de vacunas y promover la colaboración entre las partes interesadas. Su tema central será "Investigación, desarrollo y distribución de vacunas: hacia un futuro más saludable".

Este evento de dos días brindará una plataforma dinámica para el intercambio de conocimientos, ideas y perspectivas sobre los últimos avances en el campo de las vacunas y la inmunización.

**Aspectos clave destacados**

⇒ Investigación de vanguardia: Últimos avances en el desarrollo y la eficacia de las vacunas.

⇒ Perspectivas de expertos: obtenga información valiosa de los principales expertos en el campo.

⇒ Políticas y regulación: comprenda el panorama regulatorio que configura el acceso y la distribución de las vacunas.

⇒ Estrategias de inmunización: conozca los programas y estrategias de inmunización exitosos.

⇒ Iniciativas de salud global: descubra los esfuerzos para mejorar el acceso a las vacunas a escala global.

⇒ Seguridad de las vacunas: analice el monitoreo de la seguridad y la notificación de eventos adversos.

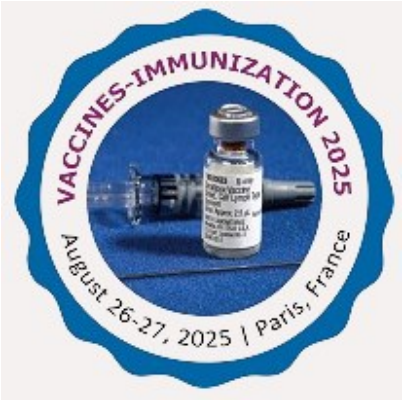
⇒ Oportunidades de networking: conéctese con profesionales y colegas en la comunidad de vacunas.

**Datos de contacto del organizador de la conferencia:**

Dr. Ryan Cooper: ryan_cooper@vaccine-congress.org Tel: +1-408-352-1010

Sitio web del evento: https://vaccine-congress.org/


## 6th International Conference on Vaccines, Vaccination and Immunization




Esta conferencia se llevará a cabo del **26 al 27 de agosto de 2024 en París, Francia**. Con un firme compromiso con el avance de la salud mundial, esta conferencia sirve como una plataforma fundamental para el intercambio de conocimientos de vanguardia, investigaciones de vanguardia y estrategias innovadoras en los campos de las vacunas, la vacunación y la inmunización. Es un evento dirigido a investigadores y científicos, médicos y profesionales de la salud, inmunólogos y virólogos, fabricantes y desarrolladores de vacunas, autoridades reguladoras y formuladores de políticas, representantes de la industria e innovadores, entre otros.

**Principales temas**

⇒ Vacunas contra el cáncer, la malaria y la tuberculosis
⇒ Vacunas contra el VIH
⇒ Vacunas combinadas y conjugadas
⇒ Vacunas contra enfermedades infecciosas
⇒ Vacunas sintéticas y de ADN
⇒ Vacunación pediátrica
⇒ Vacunas contra enfermedades inmunomediadas
⇒ Vacunas y autismo
⇒ Inmunización geriátrica
⇒ Vacunas para embarazadas y neonatos
⇒ Modelos animales y ensayos clínicos
⇒ Vacunas derivadas de animales y plantas
⇒ Vectores, adyuvantes y sistemas de administración
⇒ Producción y desarrollo de vacunas
⇒ Inmunología celular y últimas innovaciones
⇒ Anticuerpos: ingeniería y terapias
⇒ Investigación actual y desafíos futuros

**Para más información:**

Email: correlation@europemeets.com

Sitio web:

https://vaccines-immunization.vaccineconferences.com/

# Noticias en la Web

## Avanza la cobertura de vacunación contra la meningitis bacteriana en Atacama, Chile

**24 nov**. Hasta el CESFAM Pedro León Gallo de Copiapó se trasladó la Seremi de Salud de Atacama, Jéssica Rojas Gahona, para supervisar la aplicación de la vacuna meningocócica recombinante serogrupo B, que desde el 1 de noviembre de 2024 se incorporó al Programa Nacional de Inmunizaciones (PNI).

Se trata de una inmunización dirigida a lactantes de 18 meses que hayan completado su esquema de vacunación primario, correspondiente a las dosis administradas a los 2 y 4 meses de vida. Este refuerzo es fundamental para prevenir infecciones graves, hospitalizaciones e incluso muertes causadas por infecciones invasivas de la bacteria Neisseria meningitidis.

En la ocasión, la titular de Salud de Atacama, Jéssica Rojas Gahona, indicó que “la vacuna es gratuita y estará disponible en todos los establecimientos de salud públicos y privados en convenio con la SEREMI de Salud. La meta es alcanzar una cobertura del 90% de la población objetivo, que en la región de Atacama corresponde a aproximadamente 3.665 menores de 18 meses. Cabe destacar que hasta ahora hemos logrado coberturas superiores al 95% con las dos dosis iniciales: al cierre de octubre, la cobertura alcanzó un 98,5% para la primera dosis y un 96,3% para la segunda”.

Por su parte, la enfermera encargada de PNI del CESFAM Pedro León Gallo, Alejandra Gallardo Rojas, señaló que “después de la administración de cualquier vacuna, es importante seguir ciertas recomendaciones para garantizar el bienestar del menor. El equipo de salud sugiere permanecer en la sala de espera durante 30 minutos para observar cualquier reacción inmediata tras la vacunación. En tanto, una vez en la casa las madres y cuidadores deben prestar atención a los cuidados del sitio de punción”.

“Es común que la zona pueda enrojecerse, hincharse levemente o causar molestias, lo que podría hacer que el bebé esté más inquieto, lloroso o irritable durante las primeras 24 a 48 horas. Para aliviar estas molestias, se aconseja aplicar compresas frías con paños humedecidos en agua de la llave, evitando siempre el uso de hielo o productos refrigerantes directamente sobre la piel. Si el médico ha recomendado previamente un antipirético, como paracetamol, este puede administrarse respetando las indicaciones dadas. Sin embargo, es fundamental no automedicar al menor. Si se presenta alguna reacción inesperada o persisten las dudas, se debe acudir al centro de salud más cercano», agregó Gallardo.

Finalmente, el director del CESFAM Pedro León Gallo, Nino Cabib Martínez, invitó a todas “las mamitas y papitos a acercarse a los centros de salud para vacunar a los más pequeños. Tenemos una meta de alrededor de 4 mil niños y niñas que proteger en la región y contamos con vacunas que son esenciales para salvar vidas. Recuerden que este es un proceso clave para cuidar la salud de sus hijos e hijas y serán atendidos por un equipo de profesionales altamente capacitados. Si tienen dudas, no duden en acercarse a nuestros vacunatorios y consultar con nuestras enfermeras o TENS, quienes estarán encantados de orientarlos y resolver sus inquietudes”.

**Fuente**: El Zorro Nortino. Disponible en https://acortar.link/TSVpOF

# Invasive meningococcal disease alarms experts in the Philippines

**Nov 24**. HEALTH experts are alarmed by the invasive meningococcal disease (IMD), with Serogroup B identified as the leading cause, accounting for approximately 68 percent of cases over the years.

This serious illness has drawn concern due to its high fatality rate and rapid progression.

In a media roundtable discussion earlier this week, pediatric infectious disease specialists Drs. Lulu Bravo and Anna Ong-Lim highlighted the life-threatening nature of IMD, especially if untreated.

Statistics show that 1 in every 2 cases (50 percent) of IMD in the Philippines results in death, underscoring the urgent need for heightened public health measures.

Ong-Lim pointed out that IMD is particularly dangerous for young children, who are among the most vulnerable groups.

Symptoms can initially appear nonspecific — such as fever, headache and fatigue — but the disease can escalate to critical stages within 24 hours, potentially causing death or severe complications such as brain damage, hearing loss, or limb amputation.

"The disease is unforgiving," said Bravo. "Its rapid progression leaves little time for intervention, which is why early detection and prevention are critical."

In the Philippines, IMD remains a significant public health challenge. While vaccines for Serogroups A, C, W, and Y are available, addressing Serogroup B poses unique difficulties.

Due to its distinct bacterial structure, Serogroup B requires a separate vaccine currently less accessible in the country.

Ong-Lim explained that the lack of comprehensive data hinders the development of targeted prevention and response strategies.

"Without robust epidemiological data, we cannot design effective programs to reduce the burden of the disease," she said.

Both experts emphasized that increasing public awareness is crucial but difficult. Meningococcal disease often flies under the radar due to its nonspecific early symptoms and the mistaken belief that vaccines for other serogroups provide complete protection.

Bravo called for strengthened collaboration between government health agencies, the private sector, and the medical community.

"Public education campaigns, improved diagnostic capabilities, and better vaccine availability are key in protecting Filipinos, especially our children," she said.

The Department of Health has vaccination programs targeting meningococcal disease. However, experts recommend expanding these initiatives to include coverage for Serogroup B and incorporating routine meningococcal vaccination into the National Immunization Program.

Research and partnerships with global health organizations are also essential to bolster local knowledge and resources.

"The fight against IMD is a shared responsibility," said Ong-Lim.

Bravo and Ong-Lim encouraged the public to recognize the early symptoms of meningococcal disease,

including fever, severe headache, nausea and rash.

They also called on parents to seek immediate medical attention for suspected cases and to stay informed about available vaccination options.

They expect that with increased awareness, robust data collection, and enhanced prevention strategies, the Philippines can mitigate the devastating impact of meningococcal disease.

**Fuente**: The Manila Times. Disponible en https://acortar.link/kVQ7ng

## iiCON supports new phase II trial of novel pneumococcal vaccine

**Nov 25**. The Infection Innovation Consortium: iiCON (Liverpool, is managing a new £3.2 million Medical Research Council funded trial to enable progress into development of a new vaccine against pneumococcal disease, which has high rates of antibiotic resistance, and is a major cause of disease worldwide.

Pneumococcal disease remains a global concern and presents a substantial global economic burden. It is the biggest preventable killer of children globally, with most deaths occurring in low and middle income countries (LMICs). This has remained the case despite successful vaccines effective against the serotypes most commonly causing invasive pneumococcal disease in developed countries.

Serotype 3 pneumococcus (SPN3) presents a particular problem as there have been limited changes in incidence of this serotype despite a decade of immunisation programmes with PCV13(1) and so SPN3 has become the dominant strain in many parts. SPN3 has become the most common cause of severe pneumonia in children in Europe (Europneumo 2023) and an increasing cause for concern owing to the high prevalence of antimicrobial resistance in SPN3 strains(2). SPN3 is the most common pneumococcal strain carried in the community in Malawi since the introduction of PCV13; prevention of carriage would prevent the resulting disease and so this is an urgent local priority.

The proposed solution is to use a protein-based pneumococcal vaccine to prevent transmission of SPN3. This product would be given to people at risk of disease and those with a high risk of transmitting infection to others. The highest transmitting populations in high-risk areas are children and adults with immunocompromise particularly HIV. These populations are also exposed to high levels of antibiotic and so prevention of carriage in these people will reduce the emergence of antimicrobial resistance in pneumococcal isolates.

iiCON is working with small vaccine company ImmBio who developed the vaccine (PnuBioVax) and have already successfully conducted phase I safety and immunogenicity studies. This next stage phase II study will recruit young heathy adults to a controlled human infection model (CHIM) trial in Malawi. The sample group will be vaccinated and then inoculated in their nose to understand if they establish carriage of the bacteria or not. This will be compared to the existing PCV13 vaccine and a placebo. CHIM trials for pneumococcal

disease have been well established at the Liverpool School of Tropical Medicine for many years and this trial will build on the current £4.5m MARVELS programme at the Malawi Liverpool Wellcome Programme in Malawi. MARVELS (Malawi Accelerated Research in Vaccines by Experimental and Laboratory Systems) is a programme to develop CHIM studies in pneumococcus, salmonella and TB of which the leading project is the now well-established pneumococcal CHIM. Following the trial, it is envisaged that the low-cost vaccine may offer potential to be both manufactured and distributed in Africa.

Professor Stephen Gordon, Director of Experimental Medicine at iiCON, said: "iiCON is delighted to receive this funding from the MRC in order to tackle this urgent health priority/public health issue in Malawi. Not only will it save lives, it will help to upskill and boost the local economy as we very much hope that the vaccine will eventually be manufactured and distributed locally. This way, we can ensure the communities that really need this vaccine will be receiving it. In the development of the vaccine we hope to cover multiple serotypes at low cost and effectively block community transmission."

Graham Clarke, ImmBio Chairman, said "ImmBio is delighted to be working with iiCON on this project, combining ImmBio's innovative approach to vaccines with iiCON's unique ability to progress it with novel clinical studies. Multi-protein based vaccines have the potential to address pathogen diversity but like all new vaccines, needs a clinical pathway acceptable to regulatory authorities, to successfully address major unmet healthcare needs."

**About iiCON**: Infection Innovation ConsortiumA global collaborative infectious disease R&D programme, iiCON was established in 2020. Founded with government funding provided through UK Research and Innovation's flagship Strength in Places Fund, it brings together industry, academia, and the NHS in a concerted effort with a clear aim: to combat the growing global threat posed by infectious diseases and save lives through collaborative innovation.Led by Liverpool School of Tropical Medicine, our consortium partners Unilever, LifeArc, Liverpool University Hospitals Foundation Trust, University of Liverpool, Evotec, and Infex Therapeutics are working on number of innovative and ambitious programmes across iiCON's eleven specialist research platforms.www.infectioninnovation.com or email: iicon@lstmed.ac.uk

**Fuente**: Pharmaceutical Manufacturer. Disponible en https://acortar.link/lklYSo

## GSK gains approval in Japan for extended indication of RSV vaccine

**Nov 25**. GlaxoSmithKline (GSK) has received approval from Japan's Ministry of Health, Labour and Welfare (MHLW) for its regulatory application to extend the indication of its respiratory syncytial virus (RSV) vaccine, Arexvy, for individuals aged 50 to 59 at increased risk.


The regulatory approval marks an expansion of the vaccine's use. It was previously authorised for senior citizens (aged 60 and above) in September 2023.

The decision by the MHLW is based on the Phase III trial outcomes, which demonstrated non-inferior immunogenicity in individuals aged 50 to 59 compared to those aged 60 and above.

The global trial included four clinical sites in Japan. Safety and reactogenicity profiles in the newly approved age group were consistent with the outcomes observed in the initial Phase III programme for older adults aged 60 and above.

Arexvy, the first RSV vaccine approved in the country for this age group, is currently authorised in the US and a further 35 countries.

The vaccine's active ingredient is a recombinant RSV glycoprotein F stabilised in the prefusion conformation (RSVPreF3), combined with GSK's AS01E adjuvant.

This adjuvant system includes STIMULON QS-21, licensed from Antigenics, a subsidiary of Agenus.

In November 2024, GSK secured approval for the vaccine in Canada for the prevention of lower respiratory tract disease caused by RSV in adults aged 50 to 59 at increased risk.

GSK chief scientific officer Tony Wood stated: "This approval reflects our ambition to protect people at increased risk from the severe consequences of RSV infection.

"Adults aged 50 to 59 with certain underlying medical conditions can face debilitating consequences from RSV, so we are pleased to offer those in Japan a vaccine for the first time."

**Fuente**: Pharmaceutical Technology. Disponible en https://acortar.link/4mqu5h

## Vacuna contra neumococo estará disponible en México para 2025

**26 nov**. La farmacéutica Pfizer aseguró que su nueva vacuna contra el neumococo podría estar disponible en México para 2025, así lo dio a conocer este martes la doctora Yéssika Moreno, directora médica de Pfizer México, durante una conferencia de prensa en la ciudad de Cancún, Quintana Roo.

Esta nueva vacuna contra la bacteria de neumococo fue aprobada por la Comisión Federal para la Protección contra Riesgos Sanitarios (Cofepris) en octubre de 2024, y según Moreno, se espera que en 2025 pueda estar disponible de forma gratuita dentro del Plan Nacional de Vacunación.

> **"De acuerdo con los procesos regulatorios [...], en México ya está aprobada por Cofepris, estamos en este momento conversando con el gobierno para hacer el cambio de la vacuna de 13 serotipos a la de 20 y esperamos que esté disponible comercialmente en el país a inicios del siguiente año".**
>
> Yéssika Moreno, directora médica de Pfizer México

**Características de la nueva vacuna contra neumococo de Pfizer**

La nueva vacuna contra neumococo de Pfizer, llamada PCV20, se caracteriza por proteger de hasta 20 variables distintas de esta enfermedad, siete más en comparación con el biológico actual que se aplica en México, y que únicamente protege contra 13 serotipos. De ahí que se busque sustituir ésta última por la nueva vacuna en las Cartillas de Vacunación.

Además, indicó que esta vacuna está diseñada para ser aplicada en cualquier persona, sin importar la edad o género. Aunque, principalmente se sugiere su uso en niños y adultos mayores.

"Cualquiera de nosotros puede ponerse la vacuna contra el neumococo porque en México la incidencia de fumadores, personas con obesidad, hipertensión y diabetes es alta". Agregó Yéssika Moreno, directora médica de Pfizer México.

En cuanto a las dosis recomendadas, la representante de Pfizer en México dijo que sólo es necesaria una única aplicación, para cualquier adulto.

**¿Qué nivel de seguridad y eficacia tiene la vacuna?**

Moreno aseguró que la vacuna de Pfizer contra el neumococo que llegará a México es completamente segura, dado que se ha aplicado en otras partes del mundo desde el año 2000.

En cuanto a la eficacia, indicó que esta ronda alrededor del 86% en la reducción de hospitalizaciones, casos de neumonía y enfermedad neumocócica invasiva.

**¿Qué efectos adversos puede causar?**

Según la experta, los efectos adversos que se pueden presentar tras la aplicación de esta vacuna "son los mismos que con cualquier vacuna".

"Se puede presentar dolor en el sitio de aplicación, porque al fin y al cabo es una inyección y genera molestias en el brazo. También se puede presentar dolor posterior a la aplicación porque requiere cadena de frío, lo que quiere decir que, entra al cuerpo líquido frío que puede molestar" agregó la doctora.

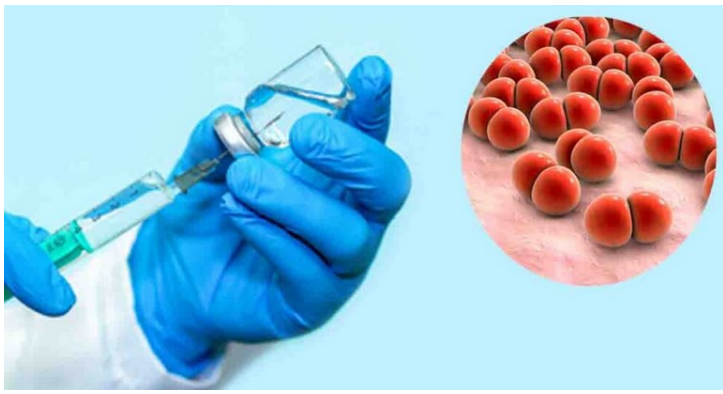
También agregó que "algunas personas han manifestado fiebre y malestar general en las 24 horas siguientes a la aplicación".

**¿Qué es el neumococo?**

El neumococo es un tipo de bacteria estreptocócica llamada *Streptococcus pneumoniae*, que se disemina a través del contacto con personas que están infectadas o con personas que no están enfermas pero que portan la bacteria en la parte posterior de su nariz, indicaron los Institutos Nacionales de Salud de los Estados Unidos (NIH por sus siglas en inglés).

Las infecciones neumocócicas pueden ser leves o graves, y entre las más comunes se encuentran:

- ⇒ Infecciones del oído
- ⇒ Sinusitis
- ⇒ Neumonía
- ⇒ Sepsis
- ⇒ Meningitis



**¿A quiénes afecta?**

La enfermedad neumocócica es frecuente en los niños pequeños, ya que su sistema inmunológico no está preparado para combatir el neumococo, por esta razón es una de las principales causas de mortalidad infantil en el mundo, aseguró la Asociación Mexicana de Vacunología.

Sin embargo, los adultos mayores y las personas con condiciones especiales como enfermedades del corazón, pulmonares, diabetes o que se encuentran con su sistema inmunológico debilitado; también pueden enfermar gravemente y morir.

De igual forma, las personas consumidoras de alcohol y tabaco en cantidades excesivas también están en riesgo.

Las enfermedades provocadas por el neumococo son un problema importante de salud pública en todo el

mundo. En 2005, la Organización Mundial de la Salud (OMS) estimó que cada año morían 1,6 millones de personas por enfermedades neumocócicas.

**Neumococo en México, cifras de la enfermedad en el país**

Datos de la Secretaría de Salud señalan que la incidencia de neumonías y bronconeumonías en México durante 2017 fue de 773.80 por cada 100 mil habitantes en niños menores de un año, y de 256.22 en niños de uno a cuatro años, aproximadamente.

**Fuente**: UNO TV. Disponible en https://goo.su/vzaVg3

## HPV vaccine makers eye growth overseas

**Nov 28**. Companies make notable inroads abroad amid near market saturation in domestic sector.

As the domestic market approaches a potential saturation point and intensified price competition becomes more of a challenge, China's human papillomavirus vaccine manufacturers are seeking to expand incremental markets and explore overseas opportunities to secure further growth.

According to its latest financial report, in the first three quarters, Beijing-based Wantai Biopharm, a major HPV vaccine producer in China, reported revenue of 1.95 billion yuan ($269 million), down 60.8 percent year-on-year, while net profit stood at 267 million yuan, a significant decline of 85.25 percent.

***A medical staff member injects domestically produced bivalent HPV vaccine to a girl in Lianyungang, Jiangsu province, in May 2023. ZHU HUANAN/FOR CHINA DAILY***

Wantai Biopharm in its statement attributed the sharp decline in performance to factors including extended market impact of nine-valent HPV vaccines, intensified competition and inventory adjustments, which have all added up to sales declines.

Similarly, over the same period, another major player in the country's HPV vaccine market — Kunming, Yunnan province-based Walvax Biotechnology — also recorded revenue of 2.14 billion yuan, a decrease of 32.2 percent year-on-year, with a net profit of 256 million yuan, down 53.7 percent, which points to sustained sales pressure on vaccine companies in the sector.

Currently, five HPV vaccines have been approved for use in China — three bivalent, one quadrivalent, and one nine-valent. Among these, domestic manufacturers account for two bivalent HPV vaccines produced by Wantai and Walvax. By the end of August, 18 clinical trial approvals had been granted for domestically developed HPV vaccines from 10 companies.

Wantai's bivalent vaccine, the first domestically approved HPV vaccine, had previously driven substantial growth for the company.

Launched in May 2020, its batch release volume reached over 2 million doses that year, generating nearly 700 million yuan in annual revenue and accounting for 80 percent of the company's vaccine business. The vaccine's release volume surpassed 10 million doses in 2021 and rocketed to 25 million doses in 2022, said the National Institutes for Food and Drug Control.

However, with more players entering the market and intensified government procurement competition, sales performance of the bivalent vaccine has been greatly impacted.

In 2023, its annual sales plummeted to about 13 million doses, with the price dropping significantly from the original release level of over 300 yuan to around 110 yuan per dose that year.

A historical point came when earlier this year, Wantai's bivalent HPV vaccine was priced at 86 yuan per dose in Jiangsu province's government procurement project, marking the official entry of domestic bivalent HPV vaccines into the "below 100 yuan" era. Yet, price reductions did not stop there.

In August, Shandong province's online procurement platform revealed that Walvax's bivalent HPV vaccine was priced at just 27.5 yuan per dose — about the same price as a cup of coffee.


*A view of bivalent HPV vaccine of Wantai Biopharm in Chongqing on Nov 8. SUN KAIFANG/FOR CHINA DAILY*

"Eyeing a higher public health level, a lot of local governments have beefed up efforts to provide free bivalent HPV vaccines for females under 15 through government procurement. And reasonable price reductions happening in this progress are a good thing, as they enhance vaccine accessibility, accelerate domestic substitution and promote a higher vaccination rate, benefiting the industry's healthy development," said Tao Ran, CEO of Beijing Health Guard Biotechnology Inc, an innovative vaccine producer.

According to the National Health Commission, as of mid-October, the free HPV vaccination policy had covered about 40 percent of women of eligible age nationwide.

Tao suggested that as competition intensifies in the lower-valent vaccine market, breakthroughs may lie in the higher-valent vaccine segment and the development of vaccines for male indications.

Health Guard's nine-valent HPV vaccine, covering both male and female indicators, is currently in phase-III clinical trials. Nine-valent products of other players, such as Jiangsu Recbio Technology Co Ltd and Shanghai -based Bovax Biotechnology, are also in advanced clinical stages. Notably, Wantai's application for market entry of its nine-valent HPV vaccine was accepted in August, marking the first such domestic application.

"Lower and higher-valent vaccines may complement each other in meeting different market needs," Tao said, adding that the former, being cost-effective, meet basic prevention needs, while the latter provide more comprehensive protection and may be chosen by more and more consumers as life quality has been largely improved during recent years.

Tao also said with the sequential approval of domestic nine-valent vaccines, competition is expected to gradually extend from the female market to the male market and eventually boost overall immunization levels worldwide.

"China's HPV market still holds tremendous potential. To date, only five HPV vaccines for females have been approved in the country, without anything of the same category for males," he said.

Data from consultancy Frost & Sullivan showed that in 2020, the number of males in China eligible for HPV vaccination (aged 9 to 45) reached 344 million, requiring about 980 million doses for full vaccination coverage. To date, there are merely three HPV vaccines designed for male use that have entered phase-III clinical trials in China.

"Many women are already well-informed about cervical cancer and HPV vaccines. With the expansion of indicators to include males in the future, more people are expected to gain awareness of this topic, which will further aid in educating the public about cervical cancer prevention and eradication efforts," said Sun Xiaodong, deputy director of the Shanghai Municipal Center for Disease Control and Prevention.

For many Chinese vaccine manufacturers, tapping the expanding overseas markets has also become a key step to counter fierce domestic competition and achieve broader growth.

For example, Health Guard said it is conducting phase-III trials for its nine-valent HPV vaccine in Indonesia and plans to submit a market application to relevant departments by 2025. The company also seeks broader market expansion in other ASEAN countries, it said.

Wantai's bivalent HPV vaccine has also gained market access in 18 countries, primarily in Asia and Africa, with registration applications underway in 10 additional countries across Asia, Africa and Latin America, the company said.

In addition, Recbio announced earlier this year a comprehensive strategic partnership with Saudi pharmaceutical company Spimaco, authorizing it to develop, register, and commercialize a nine-valent HPV vaccine in 15 countries in the Middle East and North Africa.

"There is still significant demand in many developing countries, offering new opportunities for Chinese manufacturers," said Yang Huaiyu, a consumer industry analyst.

"Southeast Asia, with its large population and low vaccination coverage, presents a promising direction for exports and a vast potential market," said Liu Lihe, executive director at China Insights Consultancy.

However, the diverse income levels and healthcare systems in Southeast Asian countries mean Chinese manufacturers must adopt tailored sales and consumer education strategies, while also engaging extensively with local public health systems, Liu said.

**Fuente**: China Daily. Disponible en https://goo.su/YevJ

## Abbott launches 14 valent pneumococcal conjugate vaccine with broad protection for children

**Nov 28**. Abbott has launched its pneumococcal conjugate vaccine, PneumoShield 14, for children over 6 weeks of age. Its PCV-14 valent (pneumococcal conjugate vaccine), offers broad protection, covering the highest number of serotypes, or strains, as compared to existing PCV-10 and PCV-13 vaccines.

A strain refers to a genetic or structural variant or subtype of a microorganism. The PCV-14 terminology in Abbott's PneumoShield 14 vaccine refers to the fact that this vaccine offers protection against 14 different strains of pneumococcal bacteria. A conjugate vaccine is a distinct type of vaccine that combines a part of the bacteria with a protein to make it work better. This helps the immune system recognize and fight off the

bacteria more effectively, making it stronger against certain infections, which can result in severe diseases, especially among children.

Children under five years of age, especially those aged two years or under, face a high risk of pneumococcal disease, which is caused by a bacterial infection. Pneumococcal infections can result in a range of conditions, including pneumonia, meningitis (inflammation of the tissues surrounding the brain and spinal cord), or blood infections, collectively known as invasive pneumococcal disease (IPD). Vaccination can protect against some of these infections and can prevent complications in children.

IPD is associated with high mortality in children under five years of age, resulting in 14% of deaths in India. Pneumococcal vaccines are part of the government's national immunization program to reduce childhood mortality in the country.

The PCV-14 vaccine protects against five more strains than the PCV 10, and two more strains than the PCV 13 vaccines that are currently used in India, in private clinics and hospitals. The recommended immunization schedule for PneumoShield 14, which is administered via intramuscular injections, is at 6, 10, and 14 weeks.

Swati Dalal, managing director, Abbott India, said "Children, especially those under two years old, are at a higher risk of having pneumococcal disease. This can hinder their healthy growth and development and increase the risk of complications. This innovation offers broader protection potential against 14 pneumococcal strains in circulation, which cause the majority of pneumococcal-related diseases in India. Introducing this vaccine is another step in our commitment to further strengthen our paediatric portfolio, to help children stay healthy."

**Fuente**: PHARMABIZ. Disponible en https://goo.su/3UPHUR8

## Hungary to receive new coronavirus vaccines

**Nov 29**. From the beginning of December, free Covid vaccines will be available at GPs and children will be able to get the vaccine at major health facilities, while vaccination points will not be reopened in Hungary. There are 100,000 doses available for children over 12 years of age and 800 multi-dose vaccines for children under 12 years of age, but in case of greater demand, additional doses can be ordered, Ágnes Galgóczi, head of the epidemiological department of the National Centre for Public Health and Pharmacy (NNGYK), told InfoRadio late on Thursday.

The vaccine that will be delivered to Hungary is the WHO-recommended vaccine containing the JN.1 subvariant and is of the mRNA type produced by Moderna, said Ágnes Galgóczi, head of epidemiology at the NNGYK.

The JN.1 variant is a descendant of BA.2.86 that has acquired the ability to transmit efficiently through an additional one or two mutations. It has the immune evasion of its parent but has now mutated to transmit more efficiently.

Moderna's Spikevax JN.1 contains SARS-CoV-2 JN.1 mRNA, an mRNA molecule with instructions for producing a protein from the Omicron JN.1 subvariant of SARS-CoV-2. Spikevax and its adapted vaccines do not contain the virus itself and cannot cause COVID-19.

"It is available for all ages, so everyone from the age of six months can get the Covid-19 vaccine. The vaccines will be stored in the county hospitals and distributed to GPs through the government offices. And for children, it will be available mainly in the large paediatric centres," she added.

So the rumour that the vaccine is not available for children under 12 is not true. As an explanation, she noted that it is the dosage of this type of vaccine that is different depending on whether the shot is given to people over 12 or under 12.

Everyone over the age of 12 gets the adult dose, and for those under 12 there is the child dose, so everyone from the age of six months is covered in Hungary.

"Currently, 100,000 doses are available for those over 12 and 800 doses for those under 12," Galgóczi clarified.

As to whether the available quantity could be sufficient, she said that the quantity of vaccine was determined taking into account the number of people who requested vaccination last year, but there is still the possibility of calling down an option for more, so if there is a greater demand, they can provide more vaccine.

On the choice of Moderna vaccine, Ágnes Galgóczi said that after the WHO recommendation, not all vaccine manufacturers have updated and adapted their vaccines to the recommended variant, and only vaccines that are licensed by the authorities can be used in Hungary, and Moderna is one of the manufacturers that has obtained the official authorisation from the European Medicines Agency (EMA) for the updated vaccine.

Note that the EMA has authorised three coronavirus vaccines adapted for JN.1. These are

Comirnaty JN.1 (adapted), developed by BioNTech and Pfizer, and authorised on 03/07/2024;

Nuvaxovid JN.1 (adapted), developed by Novavax and the Coalition for Epidemic Preparedness Innovations, and authorised on 08/10/2024;

Spikevax JN.1 (adapted), developed by Moderna, and authorised on 10/09/2024.

In the current respiratory season, as with influenza, vaccine uptake is recommended for risk groups that might otherwise be at risk of more severe Covid-19 infection: people with cardiovascular, respiratory or metabolic disease, or immunosuppressed individuals.

**Fuente**: Portfolio. Disponible en https://goo.su/C7sOL7A

## GSK granted EC approval for meningococcal disease vaccine Menveo

**Nov 29**. GSK's fully liquid presentation of its meningococcal vaccine Menveo has been approved by the European Commission (EC) to protect individuals aged two years and older against invasive meningococcal disease (IMD).

The single-vial presentation is designed to simplify the vaccination process by offering healthcare providers an option that does not require reconstitution before use.

IMD is an uncommon but serious illness caused by the bacterium Neisseria meningitidis. It is a major cause of

meningitis and septicaemia, and can result in long-term consequences such as neurological damage, amputations, hearing loss and nervous system problems.

Although anyone can contract IMD, babies, young children and those who are in their late teens and early adulthood are among those at the highest risk.

Menveo is designed to help protect IMD caused by bacterial groups A, C, W, and Y and has already been approved in the EU as a powder and solution that are mixed together to make a solution for injection.

The EU regulator's decision on the new presentation follows a recent recommendation from the European Medicines Agency's human medicines committee and was supported by positive results from two phase 2b trials, which showed that the fully liquid form of the vaccine had comparable immunogenicity, tolerability and a comparable safety profile to the existing formulation.

The original presentation of Menveo, which is also approved for use in individuals aged from two years, is unaffected by the approval.

Philip Dormitzer, head of global vaccines research and development at GSK said the company is "dedicated to finding innovative solutions that simplify immunisation and support vaccine uptake".

"We remain committed to safeguarding individuals from bacterial meningitis, and we will persist in our efforts to prevent this devastating disease among at-risk populations in the EU," he said.

GSK also has an investigational five-in-one meningococcal vaccine in its pipeline which combines the antigenic components of Menveo and its approved meningococcal group B vaccine Bexsero.

The candidate, MenABCWY, was accepted for regulatory review by the US Food and Drug Administration in April, following positive results from a phase 3 trial involving individuals aged ten to 25 years.

**Fuente**: PMLiVE. Disponible en http://surl.li/edqhda

## Con la IA, las nuevas vacunas mejoran su puntería y esta es la razón

**30 Nov**. Uno de los hechos más sorprendentes de la pandemia de COVID-19 fue el rápido desarrollo de unas vacunas eficaces contra un coronavirus del que prácticamente se desconocía todo. En este logro resultaron esenciales el trabajo en común de científicos de todo el mundo, una importante inyección de fondos públicos y privados, así como todos los estudios previos sobre las vacunas de ARN mensajero. Pero también fue básico la gestión y análisis de todos los datos con el uso de la inteligencia artificial (IA).

**"El poder de la inteligencia artificial es tal que su ayuda es imprescindible en muchos campos, como la sanidad, donde ayuda a luchar contra enfermedades presentes y futuras".**

La base fue la capacidad de aprendizaje de la IA a través de la redes neuronales profundas, utilizando el

sistema AlphaFold2 de la empresa DeepMind, para predecir la estructura de proteínas desconocidas y revelar los secretos de las células y las enfermedades que las afectan, algo que se reveló esencial para el desarrollo de las vacunas que sirvieron para inmunizar a la población mundial.

**IA y vacunología**

Dentro del ámbito sanitario, la IA ha llegado para revolucionar la manera de trabajar y desarrollar muchos campos, uno de ellos el de la vacunología. Así, puede ayudar a los profesionales en tareas que van desde predecir mutaciones de virus, analizar las estrategias de vacunación para implementar mejoras en el campo de la salud pública o cotejar distintos los calendarios de vacunación y poder coordinarlos.

En el reciente Congreso de la Asociación Española de Vacunología (AEV) celebrado en Málaga, los expertos anunciaron que la inteligencia artificial ha llegado para quedarse y que los profesionales ya la están utilizando, por ejemplo y en su vertiente más sencilla, en sus consultas, para facilitar tareas como actualizar calendarios de vacunación o elaborar documentos informativos para los pacientes.

Además, puede ayudar a los sanitarios a actualizar la vacunación de migrantes que quizá no tengan puestas todas las vacunas, cotejando distintos calendarios y a traducirlos, así como dar respuesta a cuestiones relacionadas con la administración simultánea o interacciones entre vacunas y otros medicamentos

Tanto es así que Ignacio Salamanca, coordinador médico de la Unidad de Investigación del Grupo IHP Pediatría y miembro del comité de expertos del Plan de Vacunas de Andalucía afirma que “es la evolución. Los hospitales tienen departamentos de programación y pronto los habrá de IA”.

Además, puede ayudar a los sanitarios a actualizar la vacunación de migrantes que quizá no tengan puestas todas las vacunas, cotejando distintos calendarios y a traducirlos, así como dar respuesta a cuestiones relacionadas con la administración simultánea o interacciones entre vacunas y otros medicamentos.

**Fuente**: Noticias de Navarra. Disponible en http://surl.li/mkkrlh

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

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# Patentes registradas en Patentscope

Estrategia de búqueda: (Vaccine) AND DP:([23.11.2024 TO 01.12.2024]) *as the publication date 34 records.*

1.4466015VERSTÄRKUNG DER SARS-COV-2-IMMUNITÄT MIT EINEM NASALEN IMPFSTOFF AUF LENTIVIRALER BASIS

EP - 27.11.2024

Clasificación Internacional A61K 39/12Nº de solicitud 23701288Solicitante PASTEUR INSTITUTInventor/a CHARNEAU PIERRE

The invention relates to the field of immunity against coronaviruses. In this respect, the invention provides a lentiviral-based immunogenic agent that is suitable for use in boost or target immunization treatment in a subject, in particular a human subject, who had previously developed an immunity against Severe Acute Respiratory Syndrome coronavirus 2 (SARS- CoV-2) based on: (i) vaccination with the first generation of vaccines against SARS-CoV-2 infection or disease such as a protein, an mRNA, an adenovirus, an inactivated virus or a protein subunit vaccine composition against SARS-CoV-2 infection or disease, in particular a protein- or an mRNA-based vaccine, or (ii) SARS-CoV-2-induced or correlated disease. The invention accordingly concerns a lentiviral-based immunogenic agent that in particular may help overcome the deficiencies of available vaccines against SARS-CoV-2, especially may be efficient in overcoming the waning immune response or insufficient cellular memory response observed after immunization with available first generation of vaccines such as a protein, an mRNA, an adenovirus, an inactivated virus or a protein subunit vaccine, in particular protein or mRNA vaccine, by triggering a mucosal humoral and cellular immune response against coronaviruses, including a long-lasting immune response.

2.WO/2024/241233PROTEIN BASED CHIMERIC VACCINE FOR DYSLIPIDEMIA & ATHEROSCLEROSIS

WO - 28.11.2024

Clasificación Internacional A61K 38/17Nº de solicitud PCT/IB2024/054972Solicitante ZYDUS LIFESCIENCES LIMITEDInventor/a MAITHAL, Kapil

The present invention provides novel chimeric protein or combination vaccine with different combinations of individual components, comprising of ApoC-III, PCSK9 and ANGPTL3. The chimeric protein of the present invention act as an immunogen. In one aspect, present invention provides polypeptide comprising ApoC-III, PCSK9 and ANGPTL3 that are conjugated with suitable immunogenic carriers. In one aspect, present invention provides a vaccine comprising the chimeric protein of the present invention. In further aspects, present invention provides vaccine formulations and its use in the treatment or prevention of dyslipidemia and/or atherosclerosis and/or other cardiovascular diseases.

3.20240390472VACCINE INCLUDING NONENCAPSULATED STRAIN AS ANTIGEN

US - 28.11.2024

Clasificación Internacional A61K 39/09Nº de solicitud 18693646Solicitante NATIONAL AGRICULTURE AND FOOD RESEARCH ORGANIZATIONInventor/a Atsushi WATANABE

It is an object of the present invention to provide a vaccine effective for protection against infection by *Streptococcus* species that causes mastitis in livestock and other animals. Specifically, the present invention provides a vaccine comprising a non-encapsulated strain of *Streptococcus* species as an antigen, and in particular, a vaccine for preventing mastitis developed by infection by *Streptococcus uberis.*

4.20240390483MUCOSAL MESSENGER RNA VACCINE

US - 28.11.2024

Clasificación Internacional A61K 39/215Nº de solicitud 18691448Solicitante iNtRON Biotechnology, Inc.Inventor/a Seong Jun YOON

The present invention is related to a mucosal mRNA vaccine. More specifically, the present invention relates to novel mucosal mRNA vaccine based on a peptide-conjugated, mRNA loaded nanoparticle with enhanced vaccine efficacy, and a method of preparing the same.

5.20240390474COMPOSITIONS AND METHODS FOR THERAPEUTIC OR VACCINE DELIVERY

US - 28.11.2024

Clasificación Internacional A61K 39/12Nº de solicitud 18646575Solicitante GenVivo, Inc.Inventor/a Jacqueline FISCHER-LOUGHEED

Described herein are compositions comprising recombinant viral vectors, e.g., recombinant retroviral vectors, for delivering a therapeutic or a vaccine. The recombinant retroviral vectors described herein are modified for safer application of therapeutic or vaccine delivery. Also described herein are methods for using the compositions comprising recombinant viral vectors for delivering a therapeutic or a vaccine.

6.4466706VERFAHREN ZUM IMPFSTOFFDESIGN

EP - 27.11.2024

Clasificación Internacional G16B 5/20Nº de solicitud 22702628Solicitante NEC LABORATORIES EUROPE GMBHInventor/a GRAZIOLI FILIPPO

A computer-implemented method of selecting one or more amino acid sequences for inclusion in a neoantigen vaccine from a set of candidate neoantigen amino acid sequences, the method comprising: retrieving a set of input data related to a patient; simulating a plurality of cancer cells based on the set of input data, wherein simulating each cancer cell comprises predicting the cell surface presentation of said cancer cell; for each candidate neoantigen amino acid sequence, predicting a likelihood of said candidate neoantigen amino acid sequence eliciting an immune response to the cancer cells based on the predicted cell surface presentation of each cancer cell; and selecting the one or more amino acid sequences for inclusion in the vaccine that maximise a likelihood of the vaccine eliciting an immune response to the cancer cells based on the predicted likelihood of each candidate neoantigen amino acid sequence eliciting an immune response to the cancer cells.

7.WO/2024/243249STABILIZED HEMAGGLUTININ (HA) TRIMERS AS INFLUENZA VACCINE ANTIGENS

WO - 28.11.2024

Clasificación Internacional C07K 14/005Nº de solicitud PCT/US2024/030454Solicitante THE SCRIPPS RESEARCH INSTITUTEInventor/a HE, Linling

The present invention provides novel engineered influenza hemagglutinin (HA) proteins, related polynucleotide sequences, and vaccine compositions including nanoparticle compositions. Relative to a wildtype HA protein, the engineered HA proteins are stabilized via substitutions of one or more conserved residues in the HA2 ectodomain with hydrophobic residues. The invention also provides methods of using such vaccine compositions in various therapeutic applications, e.g., for preventing or treating influenza viral infections.

8.20240390469TARGETED TRADITIONAL CHINESE MEDICINE IN-SITU TUMOR VACCINE, AND PREPARATION METHOD AND APPLICATION THEREOF

US - 28.11.2024

Clasificación Internacional A61K 39/00Nº de solicitud 18795981Solicitante NANJING UNIVERSITY OF CHINESE MEDICINEInventor/a Jinao DUAN

Disclosed are a targeted traditional Chinese medicine in-situ tumor vaccine, a preparation method thereof and an application thereof in resisting pancreatic cancer. In the invention, PLGA nanospheres are used to carry *Lycium barbarum* polysaccharide and Brusatol, and subjected to surface modification with a macrophage membrane and a c-RGD peptide. The invention can be targeted at a tumor site in vivo, so that the tumor undergoes immunogenic cell death and releases tumor antigens, and can also regulate immune cells at the same time, so as to remodel the tumor microenvironment, and achieve robust anti-pancreatic cancer effect. In the invention, the preparation method is simple, and the tumor vaccine is suitable for carrying a cancer therapeutic drug, especially a drug for treating pancreatic cancer.

9.20240390478VACCINATION IN ELDERLY PATIENTS

US - 28.11.2024

Clasificación Internacional A61K 39/145Nº de solicitud 18792314Solicitante CureVac SEInventor/a Karl-Josef KALLEN

The present invention relates to vaccines comprising at least one mRNA encoding at least one antigen for use in the treatment of a disease in an elderly patient preferably exhibiting an age of at least 50 years, more preferably of at least 55 years, 60 years, 65 years, 70 years, or older, wherein the treatment comprises vaccination of the patient and eliciting an immune response in said patient. The present invention is furthermore directed to kits and kits of parts comprising such a vaccine and/or its components and to methods applying such a vaccine or kit.

10.20240390571ANTI-VIBRATION DEVICE FOR TRANSPORTING A SUBSTANCE SUCH AS A MESSENGER RNA VACCINE

US - 28.11.2024

Clasificación Internacional A61M 5/00Nº de solicitud 18694548Solicitante CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUEInventor/a Jean-Jacques SANTIN

A case for transporting a substance such as a messenger RNA vaccine, including a container, a damping material contained in the container and a storage structure immersed in the damping product, the storage structure forming cavities for receiving syringes containing said substance.

11.20240394821SYSTEMS AND METHODS FOR MULTIDIMENSIONAL ACCESS SYSTEM FOR DISTRIBUTED SITES

US - 28.11.2024

Clasificación Internacional G06Q 50/26Nº de solicitud 18752115Solicitante Morgan Stanley Services Group Inc.Inventor/a Ankit PANDYA

Systems and methods for remote badging and/or computer access, automatic individual verification, automatic vaccine verification and/or automatically remotely determining an individual's physical presence at a site are provided. The systems and methods include automatic vaccine proof verification.

12.WO/2024/243332NOVEL ADENOVIRUS VACCINE THERAPY FOR THE TREATMENT OF RECURRENT RESPIRATORY PAPILLOMATOSIS

WO - 28.11.2024

Clasificación Internacional Nº de solicitud PCT/US2024/030607Solicitante PRECIGEN, INC.Inventor/a BROUGH, Douglas E.

Multi-antigenic human papilloma virus (HPV) molecular vaccine constructs for use and treatment of HPV-associated disorders and pathologies, such as HPV molecular vaccines targeting HPV6- and HPV11-associated recurrent respiratory papillomatosis (RRP).

13.WO/2024/242545CANCER VACCINE COMPOSITION COMPRISING CALCIUM LACTATE AS ACTIVE INGREDIENT AND USE THEREOF

WO - 28.11.2024

Clasificación Internacional A61K 33/06Nº de solicitud PCT/KR2024/095840Solicitante METIMEDI PHARMACEUTICALS CO., LTD.Inventor/a KIM, Hwan Mook

The present invention relates to a pharmaceutical composition comprising, as active ingredients: a) calcium lactate; and b) at least one substance selected from the group consisting of a phosphate, stem cell, cytokine, cancer cell line, antigen derived from the cancer cell line, polynucleotide encoding the antigen, antigen gene construct in which the polynucleotide is operably linked to a promoter, and expression vector comprising the gene construct. The composition of the present invention has an anti-tumor immunological memory effect, induces apoptosis of cancer cells, and thus can be used as an effective immunotherapy candidate for solid cancers, a vaccine candidate for in-situ treatment of solid cancers, and a cancer-treating agent administered into tumors.

14.20240391962RESPIRATORY SYNCYTIAL VIRUS (RSV) VACCINE

US - 28.11.2024

Clasificación Internacional C07K 14/005Nº de solicitud 18800440Solicitante CureVac SEInventor/a Thomas KRAMPS

The present invention relates to an mRNA sequence, comprising a coding region, encoding at least one antigenic peptide or protein of RSV infections Respiratory syncytial virus (RSV) or a fragment, variant or derivative thereof. Additionally the present invention relates to a composition comprising a plurality of mRNA sequences comprising a coding region, encoding at least one antigenic peptide or protein of RSV infections Respiratory syncytial virus (RSV) or a fragment, variant or derivative thereof. Furthermore it also discloses the use of the mRNA sequence or the composition comprising a plurality of mRNA sequences for the preparation of a pharmaceutical composition, especially a vaccine, e.g. for use in the prophylaxis or treatment of RSV infections Respiratory syncytial virus (RSV) infections. The present invention further describes a method of treatment or prophylaxis of RSV infections using the mRNA sequence.

15.4466014LEBENDES ABGESCHWÄCHTES SARS-COV-2 UND DARAUS HERGESTELLTER IMPFSTOFF

EP - 27.11.2024

Clasificación Internacional A61K 39/12Nº de solicitud 22702643Solicitante UNIV BERLIN FREIEInventor/a TRIMPERT JAKOB

The invention relates to a polynucleotide encoding a) severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) spike protein; and/or b) at least one non-structural SARS-CoV-2 protein selected from the group consisting of non-structural protein (7), non-structural protein (8), non-structural protein (9), non-structural protein (10), non-structural protein (11), non-structural protein (12), an endoribonuclease, and a 2'-O-methyltransferase, wherein the polynucleotide comprises or consists of at least one sequence part comprising codon-pair deoptimizations in comparison to the SARS-CoV-2 genome. The invention further relates to a live attenuated SARS-CoV-2 comprising this polynucleotide, to a vaccine comprising this live attenuated SARS-CoV-2, as well as to associated methods.

16.WO/2024/243200T CELL RECEPTORS GENERATED AS A RESULT OF HPV VACCINE THERAPY AND METHODS OF TREATING PATIENTS WITH SAME

WO - 28.11.2024

Clasificación Internacional Nº de solicitud PCT/US2024/030357Solicitante PRECIGEN, INC.Inventor/a BROUGH, Douglas E.

T cell receptors (TCRs) generated as a result of HPV vaccine therapy, including TCRs generated from any known HPV vaccines (*e.g.*, HPV6/11 vaccines), engineered cells comprising such TCRs, and methods of treating patients with the same.

17.WO/2024/239063MODIFIED STREPTOCOCCAL IMMUNOGEN AND USES THEREOF

WO - 28.11.2024

Clasificación Internacional A61K 39/09Nº de solicitud PCT/AU2024/050524Solicitante GPN VACCINES PTY LTDInventor/a GATES, Chloe

The present disclosure relates to an immunogenic composition comprising an attenuated and/or killed streptococcal bacterial strain comprising a modification that attenuates, reduces or prevents functional expression of LytC (or a homologue thereof). Such a composition may be utilised in a vaccine composition. The immunogenic composition and/or the vaccine composition may be utilised in methods of inducing an immune response to at least one target streptococcal species and/or serotype thereof and/or preventing or reducing an infection and or disease or condition in a subject by at least one target streptococcal species and/or serotype thereof.

18.20240390470NON-TOXIN ANTIGENS FOR CLOSTRIDIOIDES DIFFICILE VACCINE

US - 28.11.2024

Clasificación Internacional A61K 39/08Nº de solicitud 18671007Solicitante Vanderbilt UniversityInventor/a D. Borden LACY

Disclosed herein are *C. difficile* surface proteins that can serve as antigens in a vaccine to prevent *C. difficile* infection. While many trials have been focused on the use of the *C. difficile* toxins as antigens, the neutralization of toxins does not prevent colonization by the organism.

19.20240390484RNA FORMULATIONS AND LIPIDS

US - 28.11.2024

Clasificación Internacional A61K 39/25Nº de solicitud 18667934Solicitante Immorna (Hangzhou) Biotechnology Co., Ltd.Inventor/a Zihao Wang

The disclosure relates to the method of lyophilizing RNA and mixing with a liquid LNP solution, e.g., to make an RNA vaccine or therapeutic. Included are methods for preparing and administering the vaccine or therapeutic.

20.20240390487TLR AGONISTS FOR REDUCING ACTIVATION-INDUCED PD-1 EXPRESSION ON T CELLS AND METHODS OF USE

US - 28.11.2024

Clasificación Internacional A61K 39/39Nº de solicitud 18602985Solicitante WISCONSIN ALUMNI RESEARCH FOUNDATIONInventor/a Douglas G. McNeel

The present invention is directed toward methods of increasing the immune response to an antigen using TLR1/2 agonist and/or TLR7 agonist in combination with a T cell activating treatment, for example, a vaccine. In some aspects, the present invention provides methods of enhancing an anti-tumor response comprising administering at least one TLR1/2 agonist and/or at least one TLR7 agonist in combination with an immunotherapeutic agent.

21.20240392255METHODS FOR PROVIDING PURIFIED VIRAL PARTICLES OF SEMLIKI FOREST VIRUS (SFV), PREPARATIONS OBTAINABLE THEREBY, AND USES THEREOF

US - 28.11.2024

Clasificación Internacional C12N 7/00Nº de solicitud 17425535Solicitante ViciniVax Holding B.V.Inventor/a Catharina Arnoldine Hubertina Henrica DAEMEN

The invention relates to purified vaccine preparations and methods for providing them. Provided is a method for providing purified viral particles of SFV. comprising the steps of i) providing a preparation of SFV replicon particles: ii) subjecting said preparation to an endonuclease treatment under conditions allowing for degradation of exogenous/host cell DNA and RNA: iii) bringing said endonuclease-treated preparation with a zwitterionic buffer solution to a conductivity of up to about 5.5 mS/cm: iv) contacting the preparation obtained in step (iii) with a strong anion exchange resin: v) eluting the bound SFV replicon particles from said anion exchange resin: vi) bringing the eluted SFV particles to a conductivity in the range of 7.0 to 9.0 mS/cm: vii) contacting the preparation obtained in step (vi) with a strong cation exchange resin under conditions and for a time sufficient to bind to said resin: viii) eluting the bound SFV replicon particles from said cation exchange resin with a zwitterionic buffer solution and collecting at least one fraction containing purified SFV replicon particles: and ix) stabilizing the at least one purified fraction by adding human serum albumin (HSA) to a final concentration in the range of about 0.5-2 w/v %. preferably about 1 w/v %.

22.4466005AKTIVE IMMUNISIERUNG ZUR VERMINDERUNG VON OSTEOARTHRITISCHEN, NEUROPATHISCHEN UND KREBSSCHMERZEN

EP - 27.11.2024

Clasificación Internacional A61K 38/16Nº de solicitud 23702907Solicitante INST PASTEUR DE MONTEVIDEOInventor/a TRIAS TEJERÍA EMILIANO

A recombinant fusion protein used for active immunization or vaccine in the treatment of pain in a subject and a method thereof. The recombinant fusion protein includes: a nerve growth factor (NGF); and substance P (SP) or a calcitonin gene-related peptide (CGRP). The pain can be associated with osteoarthritis (OA), neurogenic inflammation, neuropathy, rheumatoid arthritis, post-surgery or cancer. The invention is particularly useful for treating OA pain in animals.

23.4466025OPTIMIERTER IMPFSTOFF AUF AAV-BASIS

EP - 27.11.2024

Clasificación Internacional A61K 48/00Nº de solicitud 22922427Solicitante MASSACHUSETTS EYE & EAR INFIRMARYInventor/a VANDENBERGHE LUC H

The present application relates to compositions and methods for eliciting an immune response in a subject using an Adeno-Associated Virus (AAV) AAV11 vector comprising an AAV11 capsid protein and a nucleic acid encoding a transgene operably linked to a promoter, wherein the transgene encodes an immunogenic polypeptide. Further disclosed are immunogenic polypeptides that are used for the compositions and methods.

24.20240390588SYSTEMS AND METHODS FOR BLOW-FILL-SEAL (BFS) INTRADERMAL (ID) INJECTION

US - 28.11.2024

Clasificación Internacional A61M 5/28Nº de solicitud 18693719Solicitante Jeff PriceInventor/a Marc Andrew Koska

A pre-filled blow-fill-seal (BFS) IntraDermal (ID) medical agent injection system assembled and configured to allow delivery of a single dose of a therapeutic agent (e.g., vaccine, drug, medicament, etc.) from a BFS vial to a patient in an auto-disable fashion.

25.WO/2024/242174SINGLE-ROUND INFECTIOUS ROTAVIRUS AND USE THEREOF

WO - 28.11.2024

Clasificación Internacional C12N 15/46Nº de solicitud PCT/JP2024/019050Solicitante OSAKA UNIVERSITYInventor/a KOBAYASHI Takeshi

The present invention provides a single-round infectious rotavirus characterized by having a mutation in at least one viral protein of the rotavirus, which is selected from the group consisting of VP1, VP2, VP3, VP4, VP6, VP7, NSP2, NSP3, and NSP4. The single-round infectious rotavirus according to the present invention can be used in a rotavirus vaccine, a rotavirus neutralization test method, and the like.

26.WO/2024/241964COMPLEX, PHARMACEUTICAL COMPOSITION, VACCINE, AND APPLICATIONS THEREOF

WO - 28.11.2024

Clasificación Internacional C07K 2/00Nº de solicitud PCT/JP2024/017786Solicitante ENU PHARMA, INC.Inventor/a NISHIMURA Shin-Ichiro

The present invention addresses the problem of providing a complex which is used for obtaining a monoclonal antibody capable of simultaneously and specifically recognizing both a sugar chain and a peptide both constituting a glycopeptide that is a dynamic epitope. The present invention relates to a complex represented by formula (1). (In formula (1), $R^1$ represents a neuraminic acid group or a neuraminic acid derivative group; DE represents an antigenic moiety selected from a glycoprotein and a glycopeptide; CP represents a carrier moiety; and $X^1$ and $X^2$ each independently represent a single bond or a linking group.)

27.20240392010IMMUNOTHERAPY TARGETING TUMOR NEOANTIGENIC PEPTIDES

US - 28.11.2024

Clasificación Internacional C07K 16/28Nº de solicitud 18316628Solicitante INSTITUT CURIEInventor/a Sebastian AMIGORENA

The present disclosure relates to a method for selecting a tumor neoantigenic peptide wherein said method comprises:

- 
  - a step of identifying, among mRNA sequences from cancer cells of a subject, a fusion transcript sequence comprising a transposable element (TE) sequence and an exonic sequence, and including an open reading frame (ORF), and
  - a step of selecting a tumor neoantigenic peptide of at least 8 amino acids, encoded by a part of said ORF of the fusion transcript sequence,
- wherein said ORF overlaps the junction between the TE and the exonic sequence, is pure TE and/or is non-canonical, and
- wherein said tumor neoantigenic peptide binds to at least one Major Histocompatibility Complex (MHC) molecule of said subject.

The present disclosure also relates to tumor neoantigenic peptide obtained according to the present method, vaccine or immunogenic composition, antibodies and immune cells derived thereof and their use in therapy of cancer.

28.WO/2024/243286HUMAN PAPILLOMAVIRUS VACCINES AND USES OF THE SAME

WO - 28.11.2024

Clasificación Internacional Nº de solicitud PCT/US2024/030524Solicitante PRECIGEN, INC.Inventor/a BROUGH, Douglas E.

Multi-antigenic human papilloma virus (HPV) molecular vaccine constructs for use and treatment of HPV-associated disorders and pathologies, such as HPV molecular vaccines targeting HPV16-, HPV18-, and HPV-45-associated pathologies.

29.WO/2024/239890RESPIRATORY SYNCYTIAL VIRUS VACCINE AS WELL AS PREPARATION METHOD THEREFOR AND USE THEREOF

WO - 28.11.2024

Clasificación Internacional C07K 14/135Nº de solicitud PCT/CN2024/089467Solicitante LIVERNA THERAPEUTICS INC.Inventor/a LI, Jianglong

Provided is an immune composition, the immune composition comprising or encoding a human respiratory syncytial virus antigen, and the immune composition being selected from a nucleic acid immune composition, a polypeptide immune composition or a virus immune composition.

30.20240390475HUMAN PAPILLOMAVIRUS VACCINES AND USES OF THE SAME

US - 28.11.2024

Clasificación Internacional A61K 39/12Nº de solicitud 18671275Solicitante PRECIGEN, INC.Inventor/a Douglas E. BROUGH

Multi-antigenic human papilloma virus (HPV) molecular vaccine constructs for use and treatment of HPV-associated disorders and pathologies, such as HPV molecular vaccines targeting HPV16-, HPV18-, and HPV-45-associated pathologies.

31.WO/2024/240267RESPIRATORY SYNCYTIAL VIRUS (RSV) POLYPEPTIDE HAVING IMMUNOGENICITY

WO - 28.11.2024

Clasificación Internacional C07K 14/135Nº de solicitud PCT/CN2024/095548Solicitante JIANGSU RECBIO TECHNOLOGY CO., LTDInventor/a HU, Yingsong

Provided is a respiratory syncytial virus (RSV) polypeptide having immunogenicity, relating to the technical field of biomedicine. By using a recombinant extracellular domain of an RSV F protein, a stable pre-fusion F protein is successfully constructed and expressed; the stability of a pre-fusion conformation F protein is enhanced by means of mutation design of different disulfide bonds; and an obtained antigen and a vaccine prepared from the antigen have a high expression level, good stability, and high immunogenicity.

32.WO/2024/242637A NOVEL SELF-AMPLIFYING RNA

WO - 28.11.2024

Clasificación Internacional C12N 15/86Nº de solicitud PCT/SG2024/050350Solicitante NANYANG TECHNOLOGICAL UNIVERSITYInventor/a LUO, Dahai

The present disclosure relates to a Rubivirus, such as a Rubella virus, based novel self-amplifying RNA (saRNA) comprising: a 5'-untranslated region (5' -UTR); a polynucleotide encoding a full length p200 polypeptide; a polynucleotide comprising a subgenomic promoter; a polynucleotide encoding a full length capsid protein; a polynucleotide encoding at least the first 10 amino acids of the E2 protein; a polynucleotide encoding a first protein of interest; a polynucleotide comprising at least the last 53 nucleotides of the E1 coding sequence; and a 3 -UTR, wherein the saRNA has an improved safety profile and capable of effectively expressing a protein of interest. The disclosure also relates to the use of the saRNA in vaccine and cancer therapy.

33.WO/2024/241085PREASSEMBLED WEAKLY SUPERVISED MACHINE LEARNING

WO - 28.11.2024

Clasificación Internacional G06N 20/00Nº de solicitud PCT/IB2023/058211Solicitante NEC LABORATORIES EUROPE GMBHInventor/a SOLMAZ, Gurkan

A computer-implemented method for generation of a machine learning model using weak supervision includes generating a labeling matrix of labeling function outputs by applying labeling functions to data features, and preassembling the labeling function outputs together with the data features for each data point to generate a training dataset. The machine learning model is trained using the training dataset. The invention can be applied to a number of use cases including, but not limited to use cases in digital medicine and automated or personalized healthcare, AI-assisted drug development (AIDD) or vaccine development, material or composition development, smart factories, smart industry, smart districts, market segmentation, recommender systems, predictive maintenance and energy control.

34.444927METHOD OF PRODUCING A BIOPOLYMER CARRIER OF MYCOBACTERIUM BOVIS BCG VACCINE BACILLI FOR COMBATING HELICOBACTER PYLORI INFECTION

PL - 25.11.2024

Clasificación Internacional A61K 47/36Nº de solicitud 444927Solicitante UNIWERSYTET ŁÓDZKIInventor/a WERONIKA GONCIARZ

Przedmiotem zgłoszenia jest sposób otrzymywania biopolimerowego nośnika prątków szczepionkowych Mycobacterium bovis BCG do zwalczania zakażenia bakteriami Helicobacter pylori w jakim do roztworu chitozanu wprowadza się niejonowy kopolimerowy środek powierzchniowo czynny (C3H6O.C2H4O)x [5] i/lub N-acetylglucozaminy (GlcNAc), korzystnie dodaje się cukier oraz polimer, a następnie poddaje się procedurze suszenia rozpyłowego w wodnym roztworze kwasu octowego (od 0,5 do 3 % v/v), przy czym masa cząsteczkowa chitozanów zawarta jest w przedziale od 50,000-190,000 g/mol (lmm), 190.000-310.000 g/mol (mmm) lub 310.000-375.000 g/mol (hmm), stężenie roztworu polimerów wykorzystane do przygotowania mikrocząstek chitozanu w przedziale od 0,25% do 2% (w/v), natomiast stężenie niejonowego kopolimerowego środka powierzchniowo czynnego (C3H6O.C2H4O)x wynosi 12600 g/mol oraz GlcNAc 221,21 g/mol zawarte jest w przedziale 0,1% do 0,5% (w/v).

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