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

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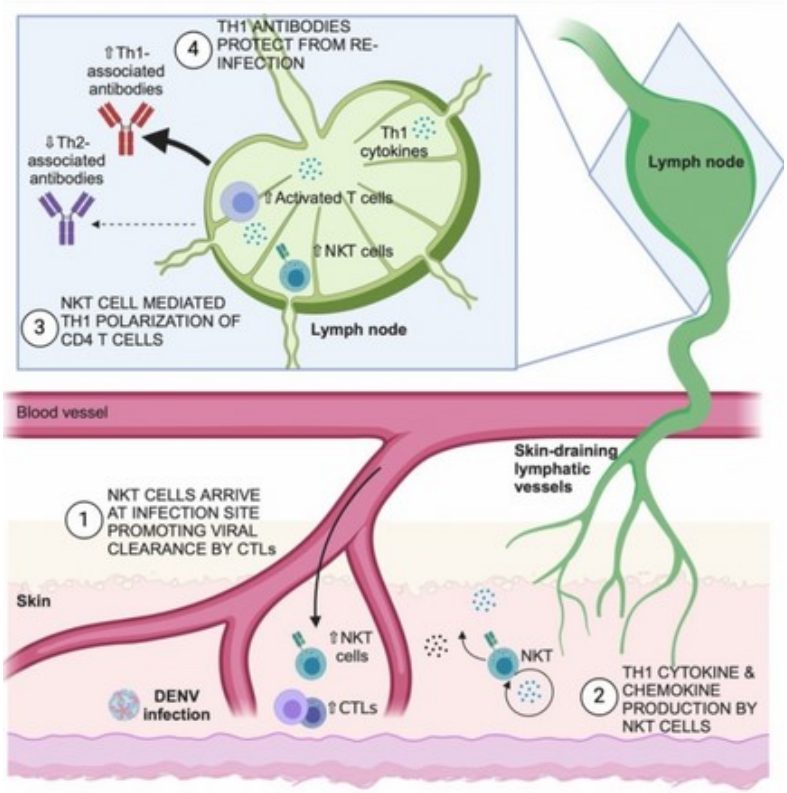
Why Are Second Dengue Infections So Severe

Oct 1. Dengue vaccines are available in over 40 countries in 2024.

As the dengue virus continues to be a grade 3 global health concern in over 100 countries in 2024, an international research team led by Duke-NUS Medical School has identified a critical link between the body's initial immune response, its defense against reinfections and secondary infections, which become risk factors for developing severe disease.



On September 20, 2024, these researchers announced that they found that natural killer T (NKT) cells influence whether the response generates protective antibodies that neutralize the virus or harmful ones that could exacerbate the disease in future infections.

They reported that an initial infection with one of dengue's four serotypes does not provide immunity against the others. This means a different serotype can reinfect a person.

These observations illustrate how early innate immune responses during primary infections can influence secondary infection outcomes.

The researchers were intrigued by the fact that people infected with dengue have high concentrations of NKT cells in their skin, where the virus initially enters the body. Although many immune cells respond to the infection, NKT cells are among the first to act.

Integrating features of natural killer T cells, these unique immune cells link the innate and adaptive immune systems and play a key role in regulating immune responses.

When NKT cells are active during the initial dengue infection, they help establish a strong immune memory that protects against subsequent infections. In other words, NKT cells recruited to the skin at the start of an infection can influence immune responses for months or even years.

In addition to combating the virus directly in the skin, NKT cells also help to establish a supportive immune environment in nearby lymph nodes. This facilitates the production of effective antibodies, essential for neutralizing the virus and providing long-term protection by other immune cells.

"Our study shows that NKT cells not only shape the immune response to an initial dengue infection but also play a pivotal role in determining the severity of future infections," stated Associate Professor Ashley St John from the Program in Emerging Infectious Diseases at Duke-NUS, is senior author of the study published in the Journal of Clinical Investigation on August 1, 2024.

"Understanding this process is crucial, as it can lead to better strategies for protecting communities, especially in dengue-endemic regions, where severe reinfections can strain healthcare systems and impact public

health," added St. John in a Duke-NUS press release.

The immune system relies on two primary types of immune responses—Th1, which focuses on destroying threats once they have infected cells, and Th2, which combats pathogens like bacteria, parasites, and toxins outside cells.

This makes Th1 responses particularly effective against viruses such as dengue. The researchers discovered that NKT cells drive dengue-specific Th1 responses, producing "good" antibodies that neutralize the virus.

In a pre-clinical model, the team found that the immune systems lacking functional NKT cells produce Th2-type antibodies, which are less effective against viruses. This leads to inadequate protection against reinfection with the same strain.

More importantly, it can also cause a phenomenon known as antibody-dependent enhancement, where "bad" antibodies from the initial infection exacerbate the disease during later infections with different strains.

This can make a secondary dengue infection more severe than the initial one.

Patients with primary dengue infections who developed Th1-associated antibodies linked to NKT cell activity had better outcomes. In contrast, those with secondary infections who produced high levels of Th2-associated antibodies were more likely to experience severe disease.

Co-senior author and Adjunct Senior Research Fellow at Duke-NUS, Dr. Abhay Rathore, who is also from the Department of Pathology at Duke University Medical Center, said, "Understanding how immune cells generate strong early responses can help us design vaccines that utilize NKT cells and Th1 responses for better antibody and memory cell production.

"This approach could enhance dengue vaccine effectiveness and safety, especially for those with prior exposure, and allow for personalized treatment by monitoring antibody levels to assess the risk of severe disease."

From a protection perspective, the United States is no longer offering dengue vaccines. The previously U.S. FDA-approved Dengvaxia was withdrawn from the market in early 2024

However, about 40 countries are in the process of offering Takeda's QDENGA® dengue vaccine, which the World Health Organization has recommended since 2023 and added to its List of Prequalified Vaccines in May 2024.

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

mRNA Sector is Growing Beyond COVID Vaccines - Here's Why

Oct 1. mRNA Decoded: The Future of Medicine in a Molecule?

Messenger RNA (mRNA) is a form of genetic material that accurately translates DNA to proteins. These proteins are essential for almost every cellular process. This act of guide the cells by showing them where to produce specific proteins that drive biological processes.

The innovative method of applying mRNA in a productive manner has gained great attention, with the most striking impact on vaccine development. Unlike traditional vaccines that make use of weakened or inactivated pathogens, mRNA vaccines simply introduce synthetic mRNA to the body, instructing cells to produce a harmless part of the

target pathogen's protein. This prepares the body to recognize and combat the very pathogen if it is encountered again in the future.

In 2020, the COVID-19 pandemic accelerated the swiftest vaccine development in history, with mRNA vaccines leading the initiative. It is now evident that mRNA vaccines can swiftly and securely safeguard individuals from infectious diseases.

The mRNA vaccines, which include the Pfizer-BioNTech and Moderna COVID-19 vaccines, have been highly effective and, in cases of symptomatic infection, have achieved an efficacy higher than 94%. They have effectively worked in real-world studies, resulting in a significant decrease in severe disease and hospitalizations. Despite discussions about boosters and new vaccines for emerging variants, the speed and flexibility of the mRNA platform have made it a key tool in controlling the pandemic. Beyond COVID-19, the prospects of mRNA technology are humongous in the personalized cancer vaccines, treatments for autoimmune diseases, and vaccines for other infectious diseases such as influenza and Zika. Ongoing research indicates that mRNA technology is set for reshaping healthcare globally.

mRNA Synthesis and Manufacturing Services Sector Analysis:

Global mRNA Synthesis and Manufacturing Services Market Size is valued at USD 854.30 million in 2023 and is predicted to reach USD 909.14 million by the year 2031 at a 0.8% CAGR during the forecast period for 2024-2031.

The mRNA synthesis and manufacturing services market focused upon the production and development of mRNA for both therapeutic and vaccine applications, which has gained quite some momentum since the reported successes of the COVID vaccines. Major processes in this market include in vitro transcription of plasmid DNA (pDNA) after purification and formulation into lipid nanoparticles (LNPs) to ensure effective cellular delivery.

Growth in demand for mRNA-based therapies in infectious diseases, cancer, and genetic disorders, coupled with sustained advancement in synthesis techniques and delivery systems, is boosting the market. Even though production costs are high, regulatory complexity, and the intrinsic instability of an mRNA molecule exist, the market still offers numerous opportunities for further growth. Further prospects for development are furthered by new therapeutic areas continuing to be expanded into, working with contract development and manufacturing organizations, and research initiatives in the emerging regions of Asia-Pacific.

Non-covid mRNA Vaccine and Therapeutics Industry Overview:

Global non-covid mRNA Vaccine and Therapeutics Market Size is valued at USD 370.0 Mn in 2024 and is predicted to reach USD 1,684.8 Mn by the year 2031 at an 24.2% CAGR during the forecast period for 2024-2031.

A non-COVID mRNA vaccine and therapeutics market is dedicated to developing-and commercializing mRNA -based therapies and vaccines for diseases other than COVID-19, including cancer, infectious diseases like HIV and flu, as well as rare genetic disorders. Now that mRNA vaccines have performed so spectacularly in this pandemic, it is turning out to be very popular and opening huge channels into a strong pipeline.

Major drive factors are increased investment in research, positive clinical results, and an increasingly progressive incidence of target diseases. The challenges facing the market include high development costs, high barriers to regulation, and challenges related to mRNA stability and delivery. Collaborative partnerships between biotech firms and academic institutions, including investments in emerging markets, carry enormous opportunities for the expansion of non-COVID mRNA therapies. Despite these challenges, the market is likely

to be very significant with new solutions available to overcome the challenges.

mRNA Extraction and Purification Sector Snapshot:

Global mRNA Extraction and Purification Market Size is valued at USD 826.0 Million in 2022 and is predicted to reach USD 3,972.2 Million by the year 2031 at a 19.6% CAGR during the forecast period for 2023-2031.

The mRNA extraction and purification market primarily revolve around the isolation and purification of mRNA from biological samples. The only growth this market finds is increased demand for high-quality mRNA in all research, diagnostic, and therapeutic applications where RNA integrity and functionality must be preserved for downstream applications such as gene expression analysis, sequencing, and vaccine development.

Key drivers for the market are it has the increasing demand for molecular diagnostics, advancing applications of biotechnology, and the growing pipeline of RNA-based therapeutics. Barriers are a high production cost, regulations or regulatory hurdles, or issues of stability with an mRNA. Growth opportunities for market are increasing due to emerging markets, research collaborative opportunities, and development of novel extraction techniques that enhance efficiency and scalability. The market is opening significantly, with innovation being the means that will allow this sector to overcome the several challenges it faces.

mRNA Synthesis Raw Materials Market Analysis:

Global mRNA Synthesis Raw Materials Market Size is valued at USD 1.6 Bn in 2023 and is predicted to reach USD 1.96 Bn by the year 2031 at a 2.6% CAGR during the forecast period for 2024-2031.

mRNA synthesis raw materials market is basically about the raw materials needed for synthesizing messenger RNA (mRNA) in vaccine development, therapeutics, and drug discovery. Some of the common raw materials and reagents used include nucleotides, special enzymes, capping agents, and plasmid DNA that are essentials in mRNA synthesis. Success in COVID-19 vaccines gave mRNA technology a new level of interest, pushing growth in the sector as demand for mRNA-based products rises.

Major drivers come in the form of increasing demand for mRNA technologies, advancement in biotechnology in terms of efficiency, and increased funding from the public and private sectors to support research. However, issues of producing at relatively high costs, regulatory issues, and stability issues of mRNA when stored and transported could pose a limiting factor in terms of market access and potential timelines in mass production.

mRNA Treatment Industry Analysis:

Global mRNA Treatment Market Size is estimated to be valued at USD 8.03 billion in 2024 and is predicted to reach USD 1.05 billion by the year 2031 at a 9.0% CAGR during 2028-2031.

The mRNA treatment market is developing and marketing mRNA therapies for different diseases, including infectious diseases, cancers, and genetic disorders. The momentum of this market has been highly driven by the success of mRNA technology in COVID-19 vaccines, reflecting its potential for fast therapeutic responses. mRNA treatments introduce genetic instructions to cells, which causes cells to start producing proteins for facilitating immune responses or fighting mechanisms of disease.

Important drivers are the prevalence of chronic diseases, technology in the synthesis of mRNA, clinical success, and high investments in this area. Challenges include high production costs, regulatory hurdles, and instability of the mRNA in tissues. Opportunities for growth include expanding into application of mRNA in other therapeutic areas, developing collaboration among players, and capturing opportunities in emerging markets such as the Asia-Pacific region, where investments in biotechnology are emerging at a rapid pace.

Despite these challenges, the global market for mRNA treatment is rightly poised to grow at a tremendous rate in the years ahead.

In summary, the mRNA vaccine has demonstrated therapeutic efficacy in various applications, such as immunotherapy, infectious disease, genetic disorders, regenerative medicine, and cancer. Numerous mRNA vaccines have advanced to clinical trials, and a few have been granted FDA approval. safety, efficacy, adaptability, cost-effectiveness, and bulk production are among the numerous benefits of this emergent therapeutic approach compared to traditional methods.

Fuente: BioSpace. Disponible en https://acortar.link/kLRDD2

Bulgaria sees 30% increase in HPV vaccination after fight against anti-vax propaganda

Oct 1. Bulgaria recorded a 30% increase in the number of girls vaccinated against human papillomavirus (HPV) in 2024 compared to last year - according to data released by the Ministry of Health. However, a change in pace is still needed.

Speaking to Euractiv, epidemiologist Dr Hristiana Batselova confirmed an increase in demand for vaccines due to a successful crackdown on anti-vaccine propaganda on social media.

"There has been an increase in interest among young people and parents. Anti-vaccine propaganda has not disappeared in Bulgaria; it is even increasing.

The successes are due to the information campaign of the Ministry of Health and the activists of the HPV Coalition," Batselova said.

She added that one of the most common fake news stories is that the vaccine, which protects against various forms of cancer, can cause cancer in humans.

Campaign hits mark

The information campaign, carried out simultaneously by the state and activists, has succeeded in dispelling fears caused by mass propaganda in parts of the population. "Some of the training is also aimed at giving additional information to medical professionals," says Batselova.

Health Ministry numbers show that for the whole of 2023, 2,892 girls were vaccinated against HPV with the first dose of the vaccine, and in just eight months of 2024, the number rose to 3,661. This means an increase in annual vaccination coverage from 14% to nearly 18%. Even better results are expected by the end of the year.

"The population of girls to be immunised against HPV under the national programme is 20,000 per year," said Prof. Stefan Kovachev, head of the Clinic of General and Oncological Gynaecology at the Military Medical Academy.

Fake news

Since the HPV programme started in 2012, 23.83% of immunisation coverage was achieved, and 19.6% was completed in 2014. The following year, the rate dropped to 2.68% for 12-year-old girls, while for 13-year-olds, it was only 0.75%.

This sharp decline is related to a broad anti-vaccination campaign, as Euractiv reported in November 2023. The campaign alleged that HPV immunisation caused a 12-year-old girl to develop a severe autoimmune disease. Despite specialists concluding that there is no proven cause-and-effect relationship between HPV vaccination and the resulting disease, mistrust and refusal of immunisation persist in society.

Bulgaria also experienced serious problems with mass vaccination during the COVID-19 pandemic, when only 30% of the population asked to be vaccinated. Many of the nearly 40,000 deaths, which represented 0.65% of the country's population, ranking Bulgaria second in the world in Covid deaths per capita after Peru, could have been avoided through vaccination.

Cervical cancer

Increasing HPV vaccine coverage in Bulgaria is also key to reducing the country's high cervical cancer mortality.

Cervical cancer is also characterised as 'cancer of the young' as it has the second highest incidence among women aged 15 to 44.

According to the National Statistical Institute (NSI), the incidence of cervical cancer in Bulgaria has been increasing in recent years – 15,691 cases in 2017 and 16,006 cases in 2019. Every day, two women lose their lives from cervical cancer, the cause of death of 8-10 per 100,000 women annually in the country. This makes cervical cancer the second cause of death in young women after breast cancer.

However, HPV doesn't just affect women; it also affects men. The Ministry of Health has pledged to greenlight free vaccinations for boys starting in 2025.

To raise parents' awareness about HPV-related diseases, the pharmaceutical company that produces the government-funded vaccine is organising a mass awareness campaign with the slogan "You are a hero for your child, today and forever".

They want to remind parents of children aged 10-13 that they are the ones their children rely on to make the right and timely choices for their health. As part of the campaign, an information website has been created where people can learn more about HPV-related cancers, how they can protect themselves and where they can get vaccinated.

Fuente: Euractiv. Disponible en https://acortar.link/OTGELK

Favorecerá convenio desarrollo de nuevo candidato vacunal

2 oct. Con el fin de evaluar la inmunogenicidad, seguridad y eficacia del candidato vacunal conjugado 11-valente contra neumococos en lactantes, desarrollado en el país, el Instituto Finlay de Vacunas (IFV) y la Dirección General de Salud de Santiago de Cuba establecieron un convenio de colaboración.

En exclusiva a la Agencia Cubana de Noticias, Meiby Rodríguez, directora de Investigaciones Clínicas y Evaluación de Impacto en el centro, significó la posibilidad de registrar la inyección preventiva tras realizar las fases II y III del ensayo clínico, en aras de proporcionarla al Programa Nacional de Inmunización.

Destacó el propósito de impulsar también estudios epidemiológicos relacionados con la enfermedad neumocócica invasiva y no invasiva, y de colonización nasofaríngea por la bacteria en menores de dos años de edad, previa a la introducción de la vacuna.

Santiago de Cuba, junto a La Habana y Cienfuegos, forman parte de la Red de Vigilancia Centinela del IFV, y resulta estratégico para la ciencia su inclusión en este ensayo clínico por la densidad poblacional y la positiva y responsable respuesta ante cada estudio, explicó Rodríguez.

Miguel Ángel Díaz, titular del sector sanitario en el territorio, apuntó la selección de los policlínicos José Martí, 28 de Septiembre, 30 de Noviembre, Ramón López Peña y Josué País para el desarrollo de las fases correspondientes al ensayo clínico, dadas las características demográficas e índices de natalidad.

Destacó el establecimiento de relaciones directas de trabajo entre el prestigioso instituto y el Centro de Higiene, Epidemiología y Microbiología de la provincia como parte del convenio, con el objetivo de garantizar la adecuada conservación, procesamiento y preparación de las muestras.

Calificó de relevante la participación de la Universidad de Ciencias Médicas, pues garantizará la capacitación a los profesionales santiagueros que intervendrán en el proceso investigativo, cuyo avance beneficiará también la formación de posgrado.

Con el desarrollo exitoso de los nuevos estudios y el registro del candidato vacunal de 11 valencias como inoculación eficaz contra neumococos, la isla perfeccionará su sistema de inmunización a la población pediátrica y evitará la compra del medicamento en el extranjero.

Fuente: CubaSí. Disponible en https://acortar.link/ahptdk

Vuelven a subir los casos de COVID-19 y descubren que la vacuna argentina logra una protección extra

2 oct. El termómetro social no miente. En los últimos días no son pocas las personas que entre charlas y posteos acusan haber tenido COVID-19. No sólo ellos, sino que el virus se ha instalado en su círculo familiar. Los datos del último Boletín Epidemiológico Nacional (BEN) de la semana 38 -15 al 21 de septiembre- así lo confirman: se detectaron 300 casos en siete días -más del doble que un mes antes-, además de haberse registrado una víctima fatal.

Según datos oficiales posteriores, recopilados la semana pasada pero aún no difundidos por el Gobierno, la curva iría en aumento. Son cifras relativamente bajas comparadas con los tiempos de pandemia, pero que marcan una tendencia fuera de agenda cuando la gente está más preocupada por darse la vacuna contra el dengue, de cara al verano que se aproxima.

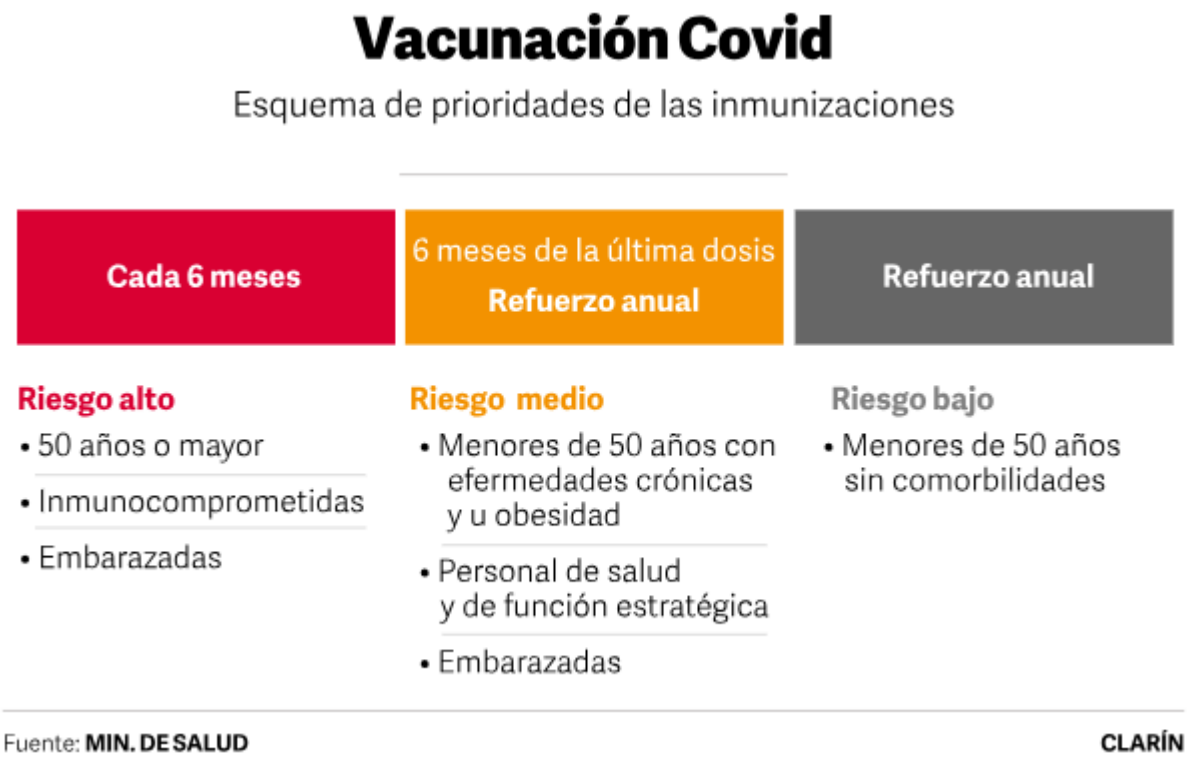
La aplicación de los refuerzos contra el COVID-19, en cambio, viene en baja: la adherencia a la inmunización contra el SARS-CoV-2 ha caído de manera dramática en los últimos meses, al punto que actualmente hay en promedio apenas unas 1.500 aplicaciones diarias a nivel nacional, y el stock en las provincias ronda los 13 millones de dosis.

En este contexto de fantasmas del pasado de regreso en el escenario epidemiológico local, también hay buenas noticias: se supo que la vacuna argentina contra el Covid, la Arvac, no sólo cubre contra una amplia variedad de cepas de la variante Ómicron, sino que acaba de ser testeada contra el SARS-CoV-1 con resultados satisfactorios. Los expertos que trabajaron en la investigación lo consideran un paso clave hacia una vacuna "pancoronavirus", como posible herramienta para enfrentar futuras pandemias.

Refuerzos vacunales en baja

Los refuerzos vacunales, como se dijo, siguen en niveles bajos, a pesar de las nuevas alternativas de inmunización. Por un lado sigue el acceso gratuito a la vacuna de ARN mensajero de Pfizer, a través de la campaña del Estado; por otro, se sumó la mencionada Arvac, de proteínas recombinantes, disponible en farmacias y vacunatorios privados.

La introducción al calendario nacional de la Arvac -cuyo estudio clínico de fase III ganó el último fin de semana el primer premio del Congreso de la Sociedad Argentina de Infectología (SADI)- fue recomendada en abril por la Comisión Nacional de Inmunizaciones (CoNaIn), aunque el Gobierno por ahora no se pronunció al respecto.



En el marco del congreso de la SADI, se conoció un nuevo dato sobre la Arvac. Según información a la que tuvo acceso Clarín de los investigadores del proyecto, el fármaco no sólo "induce un aumento significativo de anticuerpos neutralizantes contra las variantes Wuhan, Ómicron BA.5, XBB.1.18 y JN.1 del SARS-CoV-2", sino "también contra el virus SARS-CoV-1".

Karina Pasquevich, investigadora del equipo de trabajo de la Arvac en la Universidad de San Martín, explicó a este medio: "La vacuna tiene una respuesta amplia, según las muestras que mandamos a analizar a Italia, y vimos que también están aumentando los anticuerpos contra el SARS-CoV-1, lo que nos da una idea de que tiene ese potencial como vacuna "pancoronavirus", o al menos como un punto de partida en ese camino. La idea sería mejorar esta vacuna para que genere esa respuesta bien amplia".

Cómo su número lo indica, el SARS-CoV-1 surgió antes que el 2, y fue el primer llamado de atención de que un síndrome respiratorio agudo grave podía provocar una pandemia, lo que terminaría ocurriendo luego a fines de 2019 con la COVID-19. El SARS-CoV-1 surgió en noviembre de 2002 en la provincia china de Cantón y hasta agosto de 2003 infectó a 8.422 personas en unos treinta países, además de causar 916 muertes, para luego desaparecer.

¿Hay chances de que esa primera versión del SARS-CoV reaparezca? "Sí", respondió categórica Pasquevich, para agregar: "De ahí la importancia de que una misma vacuna pueda proteger contra todos los coronavirus, no solamente el que circula actualmente, sino también el que ya ha circulado de manera acotada y los que puedan venir".

Fuente: Clarín. Disponible en https://acortar.link/LwgEOw

More than 107,000 children are vaccinated in Africa thanks to the collaboration of 78 companies in La Coruña

Oct 3. The Alliance for Child Vaccination of the 'la Caixa' Foundation has managed to immunise 107,467 especially vulnerable children in Africa thanks to the contributions of 78 companies in La Coruña that have collaborated with this solidarity action since 2008. In Galicia as a whole these figures have risen to 190,876 children vaccinated and 125 collaborating companies.

This Tuesday an event was held to commemorate the Child Vaccination Alliance, which was attended by the director of the International Area of the 'la Caixa' Foundation, H.R.H. Infanta Doña Cristina; the director of the Northern Territory of CaixaBank, Pedro Badiola; Magdalena Robert, Deputy Director of Advocacy and Communication of the Bill & Melinda Gates Foundation; the head of Donor Relations and Campaigns of Gavi the Vaccine Alliance, Eduard Molnar, as well as representatives of companies collaborating with the alliance, such as Belén Lago, shareholder of Grupo Oca - Obras Civiles del Atlántico.

The meeting was an opportunity to highlight the more than 16 years of this initiative, which fights against preventable diseases that pose a great risk to the lives of children in their countries of origin due to the difficulties of access to health care.

The initiative, promoted by the 'la Caixa' Foundation together with Gavi, the Vaccine Alliance in Africa, has the support of the Bill and Melinda Gates Foundation, as well as the collaboration of the Barcelona Institute for Global Health (ISGlobal). Together they have managed to immunise more than 10 million children against pneumonia, a lung infection that is still the leading cause of infant mortality in the world today, and to protect them against diseases such as tetanus and diphtheria, among others, thanks to the pentavalent vaccine.

To this end, the child vaccination programme relies on contributions from the 'la Caixa' Foundation, donations received from 5,000 companies throughout Spain and customers of the financial institution and contributions from the Bill and Melinda Gates Foundation.

In total, 10 million children in 10 countries in Africa and Latin America have been vaccinated. Countries such as Mozambique, Cameroon, Ethiopia, Honduras, Mauritania, Nicaragua, Central African Republic, Sudan, Bolivia and Tanzania.

'At the Foundation we are very proud that this Alliance has the confidence of so many companies and so many customers who renew their support year after year. All of them are key players in this process and jointly responsible for the great impact achieved,' said the Director of the International Area of the "la Caixa" Foundation, H.R.H. Princess Cristina.

Renewed commitment to the fight against infant mortality

With the aim of boosting the support of the private sector of Companies and Customers for this Alliance for Child Vaccination, all donations received are multiplied by four through the Matching Fund initiative. This is because, for every euro donated, the 'la Caixa' Foundation adds another euro and the Bill & Melinda Gates Foundation adds another two euros.

Pneumonia is still the leading global cause of infant mortality today. In the last five years, all the funds raised by the 'la Caixa' Foundation have made it possible to finance 100% of the cost of vaccination programmes against this disease in Mozambique and 25% in Ethiopia in 2021 and 2022.

In 2024, the 'la Caixa' Foundation, the first private partner of Gavi, the Vaccine Alliance in Europe, has renewed its commitment to the international organisation to double all contributions received to this alliance up to a limit of two million euros. Thus, the initiative receives donations from companies as part of its corporate social responsibility and also extends to CaixaBank customers, as a philanthropic initiative in the fight against infant mortality.

For its part, the Bill & Melinda Gates Foundation, which launched the Matching Fund initiative in 2011, also maintains its commitment to double the sum of all funds contributed to Gavi by 2024 to a limit of four million euros, while ISGlobal, a Gavi Board member since 2016, joined this business alliance as a strategic partner in 2014, continues to contribute its scientific and academic expertise to the project.

All financial contributions made by private companies and clients are intended to expand the funds used to support the immunisation of children in 10 countries in Africa and Latin America. The main focus is on the distribution of the pneumococcal vaccine in Mozambique to combat pneumonia, a lung infection that is still the leading cause of infant mortality worldwide.

Fuente: Atalayar. Disponible en https://acortar.link/RV918p

PATH welcomes WHO global recommendation on RSV immunization

Oct 3. RSV immunization is a long-awaited intervention that could improve infant respiratory health around the world.

PATH applauds the announcement on Tuesday that the World Health Organization's Strategic Advisory Group of Experts on Immunization (WHO SAGE) recommends that all countries introduce maternal vaccination and/or long-acting monoclonal antibody (mAb) administration for the prevention of severe respiratory syncytial virus (RSV) disease in young infants.

It is the first WHO global recommendation on RSV immunization and is a historic milestone toward defeating the world's top cause of severe respiratory illness and hospitalization in infants.

RSV causes more than 30 million severe respiratory infections, 3.5 million hospitalizations, and 100,000 deaths among children less than five years of age worldwide each year. Nearly half of RSV deaths occur before 6 months of age. Almost all RSV deaths are in low- and middle-income countries where many children die never making it to the hospital—underscoring the urgency of preventing severe RSV disease before it starts in these contexts.

"WHO's recommendation is welcome progress on the road to improving infant respiratory health," says Dr. Deborah Atherly, Global Head of Policy, Access, and Introduction within PATH's Center for Vaccine Innovation and Access. "Preventing RSV disease is critical in early life when infants are at risk of severe infections, which can cause hospitalizations and deaths. A WHO SAGE recommendation is a necessary step in the policy pathway to scale and support use of immunization products, especially in low- and middle-income markets where need is greatest."

Two products are currently licensed to prevent severe RSV disease in infants in the first, highest-risk 6 months of life. A maternal RSV vaccine, given in pregnancy, directly enhances a pregnant individual's immunity and increases natural antibody transfer to the baby for protection that lasts months after birth. A long-acting RSV mAb is an antibody given directly to a newborn at or soon after birth. Both products confer passive immunity, whereby the infant is given protective antibodies rather than making them through his or her own immune system—a powerful way to protect in early life.

"Product rollouts are already ongoing in high- and upper-middle-income markets," adds Dr. Atherly. "The new recommendation is an opportunity to catalyze preparations for putting these products to lifesaving use more broadly, overcoming barriers to access and implementation, enabling informed product choice, and shortening the timeline for product availability in low- and middle-income markets."

Fuente: PATH. Disponible en https://acortar.link/dYjq0d

World's first ovarian cancer vaccine being developed in UK 'could wipe out the disease'

Oct 4. The world's first ovarian cancer vaccine could wipe the disease out, researchers have said.

OvarianVax is a vaccine that teaches the immune system to recognise and attack the earliest stages of ovarian cancer.

It's being developed by scientists at the University of Oxford.

The hope is that women could receive the jab preventatively on the NHS with the goal of eradicating the disease.

Experts have suggested it could work in a similar way to the human papillomavirus (HPV) jab, which is on track to stamp out cervical cancer.

Professor Ahmed Ahmed and his team at the ovarian cancer cell laboratory at MRC Weatherall Institute of Molecular Medicine at the university are working to identify cellular targets for the vaccine.

They will establish which proteins on the surface of early-stage ovarian cancer cells are best recognised by the immune system and how effectively the vaccine kills models of the disease in a lab.

Then they can take it to human clinical trials with people who have BRCA gene mutations - which massively increase the risk of ovarian cancer - and healthy women too.

Professor Ahmed Ahmed Pic: PA

Cancer Research UK is funding the study with up to £600,000 over the next three years.

Asked if ovarian cancer could be wiped out with the new jab, Professor Ahmed said: "Absolutely - that would be the aim.

"We still have a long way to go but it is a really exciting time. I'm very optimistic myself."

Presently, there is no screening test for ovarian cancer, which is often diagnosed late because symptoms like bloating and no appetite can be vague.

Women with BRCA mutations, such as actress Angelina Jolie, are known to be at high risk.

Almost 45% of people with an altered BRCA1 gene and almost 20% with an altered BRCA2 gene will develop ovarian cancer by the age of 80, compared with just 2% in the general population.

Currently, women with BRCA1/2 mutations are recommended to have their ovaries removed by the age of 35, which means they go through early menopause and cannot have children in the future.

There are around 7,500 new ovarian cancer cases every year in the UK, with BRCA mutations accounting for around 5-15% of these.

Professor Ahmed said BRCA mutation carriers could benefit greatly from the new vaccine because "they wouldn't then have to have their ovaries removed".

Fuente: Sky News. Disponible en https://acortar.link/0UyEYt

New data shows the importance of vaccination against Invasive Pneumococcal Disease

Oct 4. It is encouraging to see rates of Invasive Pneumococcal Disease (IPD), a disease linked with severe forms of pneumonia and meningitis, decreasing among children under 2, following the reintroduction of the PCV13 vaccine in early 2023, Deputy Director of Public Health, Dr Harriette Carr says.

“New data from ESR shows that in the past year, rates of the most common strain of IPD (serotype 19A) have more than halved among children under 2.

“IPD is a serious disease for all age groups, but it is preventable. Infants and elderly people, in particular, are at a higher risk."

“The PCV13 vaccine is fully funded as part of the childhood immunisation schedulenorth_east. A pneumococcal vaccine is also free for older children and adults with certain medical conditions that increase their risk of IPD.”

New Zealand has used different IPD vaccines in the past, and in 2023, switched back to the PCV13 vaccine.

“Purchasing vaccines is a complex area. The disease profile of illnesses can change over time, and vaccines which work well at one point in time will not always match the serotypes which become the most prevalent in New Zealand,” Harriette Carr says.

“This data demonstrates the importance of monitoring IPD serotypes to inform vaccination policy and funding decisions. 18 months after the change, we can already see a decrease in case rates which is consistent with the PCV13 vaccine being reintroduced to the childhood immunisation schedule."

“This is promising step in the right direction. Vaccination is a key way of reducing the overall levels of Strep pneumoniae, the bug that causes the disease, circulating in the community. Over time, the falling rates in under-twos is expected to have a positive flow on effect on decreasing IPD cases rates for all age groups."

“The good news is the data demonstrating the effectiveness of the recently changed vaccine. There’s still more work to be done in lifting vaccination rates. We know that vaccination rates in general tend to be lower for Māori and Pacific communities. IPD is a preventable disease, and this data reinforces the importance of getting vaccinated.”

Fuente: Ministry of Health Manatu Hauora. Disponible en https://acortar.link/RBx35W

WHO approves Cecolin® for HPV vaccination in cervical cancer prevention

Oct 5. The World Health Organization (WHO) has prequalified Cecolin®, a Human Papillomavirus (HPV) vaccine, for use in a single-dose regimen to help prevent cervical cancer.

In a statement released on Friday, WHO announced that Cecolin® met the criteria set out in its 2022 recommendations for the alternative, off-label use of HPV vaccines in single-dose schedules.

According to WHO, this approval will contribute to a more sustainable supply of HPV vaccines, potentially enabling more girls to be vaccinated and protected against cervical cancer. “This important milestone will contribute to improving sustainable supply of HPV vaccines, allowing more girls to be reached with the vaccines that prevent cervical cancer,” the WHO statement read.

Cervical cancer elimination

Dr. Tedros Ghebreyesus, WHO’s Director-General, highlighted the importance of this development in the

global fight against cervical cancer. He emphasized that cervical cancer, unlike most other cancers, can be eliminated with the right interventions.

“By adding another option for a one-dose HPV vaccination schedule, we have taken another step closer to consigning cervical cancer to history,” Ghebreyesus stated.

He pointed out that more than 95% of the 660,000 cervical cancer cases reported annually are caused by HPV, with 90% of the deaths occurring in low- and middle-income countries.

In addition to Cecolin®, WHO prequalified a fifth HPV vaccine, Walrinvax®, on August 2, 2024. This vaccine adds to the global market and provides another critical tool in the fight against cervical cancer. While Walrinvax® is currently approved for use as a two-dose schedule, further research may allow its future use in a single-dose schedule.

Impact of the HPV vaccine supply shortage

Dr. Kate O’Brien, Director of WHO’s Department of Immunization, Vaccines, and Biologicals, noted that supply shortages have hindered the introduction of HPV vaccines since 2018. She said production challenges earlier this year worsened the situation, impacting millions of girls in Africa and Asia.

“Having 90% of girls fully vaccinated with the HPV vaccine by 15 years of age was the target for the first pillar of the WHO global strategy for cervical cancer elimination,”

“Given the continuing supply challenges, this addition of a single-dose vaccine product means countries will have greater choice of vaccines to reach more girls.” O’Brien explained.

According to WHO, the number of countries implementing the single-dose HPV vaccination schedule has grown significantly. In 2023, 37 countries had adopted the schedule, but by September 2024, the number had increased to 57. WHO estimates that the adoption of the single-dose schedule has enabled an additional 6 million girls to receive HPV vaccines in 2023 alone.

Global data released in July 2024 also showed that one-dose HPV vaccine coverage among girls aged 9 to 14 years increased from 20% in 2022 to 27% in 2023.

Additional funding to boost coverage

Earlier in 2024, countries and global health partners committed nearly $600 million in new funding to support the elimination of cervical cancer.

This funding includes $180 million from the Bill & Melinda Gates Foundation, $10 million from UNICEF, and $400 million from the World Bank. These investments are expected to accelerate the introduction and coverage of HPV vaccines by 2030.

Fuente: nairametrics. Disponible en https://acortar.link/clCPh4

Día Mundial de la Meningitis: síntomas y consejos de prevención

5 oct. El 5 de octubre se celebra el Día Mundial de la Meningitis, una fecha clave para generar conciencia sobre una enfermedad que puede ser mortal y que, a pesar de los avances en su prevención, sigue siendo un desafío de salud pública a nivel mundial.

La meningitis es una inflamación de las meninges, las membranas que rodean el cerebro y la médula espinal, y puede tener consecuencias graves si no se trata de manera adecuada y a tiempo.

La Organización Mundial de la Salud (OMS) destaca que esta enfermedad, en su forma bacteriana, puede ser letal en menos de 24 horas, y aquellos que sobreviven enfrentan, en muchos casos, secuelas a largo plazo. Estas incluyen pérdida de audición, problemas neurológicos e incluso amputaciones en casos donde la enfermedad se complica con septicemia.

A nivel global, la meningitis sigue siendo una importante causa de muerte y discapacidad, que afecta principalmente a los niños pequeños y a los adolescentes. Según la OMS, uno de cada cinco sobrevivientes de meningitis bacteriana sufrirá secuelas permanentes, lo que resalta la urgencia de generar conciencia sobre las medidas de prevención.

Entre estas medidas, la vacunación es la herramienta más efectiva, ya que protege contra los principales tipos de meningitis bacteriana, como las causadas por el meningococo, neumococo y el *Haemophilus influenzae*.

Actividades por el día de la meningitis

En Buenos Aires, este sábado habrá actividades de la campaña “Momentos de posibilidades”, que busca proteger momentos clave en la vida de los niños, como sus primeros pasos y su primer día de escuela. Una serie de actividades interactivas y educativas se desarrollarán en el Dot Baires Shopping y el Abasto Shopping, dirigidas a las familias, con el objetivo de resaltar la importancia de la prevención a través de la vacunación. La campaña es impulsada por el laboratorio GSK.

En el marco de esta campaña, tanto niños como adultos tendrán la oportunidad de aprender de manera lúdica sobre la meningitis y su impacto, y sobre las acciones preventivas más efectivas.

Desde las 12 hasta las 20 horas, las familias que visiten los centros comerciales podrán participar en dos actividades principales. La primera, la “Carrera hacia el Futuro”, es una competencia en cuatriciclos donde los niños podrán simbolizar, a máxima velocidad, su carrera hacia un futuro lleno de posibilidades. La segunda, “Pintá tu Futuro”, invita a los más pequeños a dibujar las profesiones con las que sueñan. Mientras los niños disfrutan de estas actividades, los adultos recibirán información de profesionales de la salud sobre la importancia de la vacunación para prevenir esta enfermedad devastadora.

Los tipos de meningitis y su impacto en Argentina

En Argentina, la meningitis bacteriana es una de las mayores preocupaciones en términos de salud infantil. De acuerdo con los últimos datos del Instituto Malbrán, el serogrupo B del meningococo es actualmente el más prevalente. Este tipo de meningitis es particularmente peligroso debido a su rápida progresión y a la dificultad para detectarla en las primeras etapas, ya que sus síntomas iniciales —fiebre, rigidez en el cuello, dolor de cabeza— se confunden fácilmente con otras afecciones.

En 2022, la incidencia de la Enfermedad Meningocócica Invasiva (EMI), causada por el meningococo, aumentó en más de 100% Argentina en comparación con el año anterior, y la tendencia se ha mantenido en 2023. La OMS advierte que la meningitis meningocócica no solo afecta a los países en desarrollo, sino que

puede presentarse en cualquier lugar, aunque el cinturón africano de la meningitis, una franja de países en el África subsahariana, es particularmente vulnerable a epidemias masivas.

Vacunas: la principal defensa contra la meningitis

La meningitis puede ser causada por diversos microorganismos, como bacterias, virus, hongos y parásitos. Sin embargo, el tipo más peligroso y con mayor tasa de letalidad es la meningitis bacteriana.

Entre las bacterias que la causan, las más comunes son el meningococo (*Neisseria meningitidis*), el neumococo (*Streptococcus pneumoniae*) y el *Haemophilus influenzae*. Cada una de estas bacterias puede desencadenar brotes, especialmente en lugares donde las personas conviven en cercanía, como campamentos, centros estudiantiles o militares, lo que facilita su transmisión a través de gotículas respiratorias y secreciones de la garganta.

La buena noticia es que existen vacunas eficaces contra los principales tipos de meningitis bacteriana. En Argentina, las vacunas contra el meningococo B y otros serogrupos, así como contra el neumococo y el *Haemophilus influenzae* tipo B, están incluidas en el Calendario Nacional de Vacunación, siendo obligatorias para todos los niños menores de 5 años.

La vacunación no solo reduce el riesgo de contraer la meningitis, sino que también salva vidas al evitar las complicaciones graves que pueden resultar de esta enfermedad.

En un mundo donde las enfermedades prevenibles aún representan una amenaza significativa, la conciencia y el acceso a las vacunas son las principales herramientas para asegurar que los niños puedan vivir un futuro lleno de posibilidades, sin el temor de perder lo más valioso: su salud.

Fuente: Diario Panorama. Disponible en https://acortar.link/tAKWdR

Los casos de meningitis crecen un 13% en España tras la relajación de las medidas anticovid

5 oct. La meningitis sigue siendo la primera causa de infección grave en niños y adolescentes. Y, en algunas situaciones, puede ser "devastadora", según alerta la Sociedad Española de Neurología (SEN) con motivo de la celebración, el 5 de octubre, del Día Mundial contra la meningitis, efeméride impulsada por la OMS como parte de la estrategia para derrotar la enfermedad en 2030.

La Organización Mundial de la Salud calcula que la meningitis, que causa una infección de las meninges, las membranas que cubren el cerebro y la médula espinal, debido a diferentes agentes, como virus o bacterias, afecta a unos 2,5 millones de personas al año y provoca 300.000 defunciones en el mundo, dado que un 10% de los infectados acaban falleciendo y un 30% tiene secuelas graves. Por ello, "sigue siendo un gran desafío de salud pública", según la doctora Marta Guillán, secretaria del grupo de neurología crítica e intensivista de la SEN.

En España, cada año se detectan unos 1.000 casos, el 10% de ellos graves. En 2017 las infecciones

iniciaron una senda descendente, gracias a mejoras en la prevención y a ampliaciones en el calendario de vacunación, pero en los dos últimos años se ha producido un repunte, del 10% en 2022 y del 13% en 2023, que la SEN achaca a la relajación de las medidas de protección, una vez superada la fase más dura de la pandemia. Aun así, en 2012 se notificaron el doble de casos y en 2016, el cuádruple, respecto a las cifras actuales.

No obstante, a nivel mundial la previsión es que se duplique el número de casos anuales, aunque con una reducción de las defunciones, debido a las mejoras que se han introducido en la identificación de la enfermedad, la prevención y el tratamiento. Pero puede producirse un aumento de personas con secuelas, porque la meningitis puede provocar pérdida de audición, discapacidad visual y física y disfunciones cognitivas, a lo que se une la afectación a nivel mental del paciente y sus familiares.

La meningitis más grave

De hecho, un reciente estudio realizado por la Asociación Española contra la Meningitis estimaba que la carga económica de la enfermedad suponía, de media, más 11.000 euros por paciente y año.

La meningitis de origen bacteriano es la más peligrosa y se calcula que alrededor del 20% de la población puede ser portadora de alguna cepa. La mayoría de estas personas no tendrá síntomas, pero sí puede transmitir la bacteria a personas más vulnerables, a través de la saliva o las secreciones respiratorias.

Y el problema añadido es que los primeros síntomas se confunden con los procesos infecciosos comunes, especialmente en adolescentes y jóvenes. Pero hay que consultar ante la aparición de los primeros síntomas, porque "los casos bacterianos pueden ser fatales en cuestión de días si no se tratan adecuadamente", según advierte la doctora Guillán.

Rigidez en el cuello y manchas

Una pista que puede indicar que se trata de meningitis es que los síntomas aparezcan de forma brusca, con fiebre alta, dolor de cabeza intenso, rigidez en el cuello, náuseas, sensibilidad a la luz y confusión, que pueden progresar rápidamente.

En niños, "otro de los signos que pueden ser indicativos de esta enfermedad son la aparición de petequias, es decir, de pequeñas manchas de color rojo o morado que normalmente aparecen primero en el torso y, en poco tiempo, se extienden por el resto del cuerpo", indica la doctora.

La vacunación

Ante ello, a SEN recalca la importancia de vacunar a los niños según el calendario de vacunación acordado por el Ministerio de Sanidad y las comunidades -ahora mismo se administran contra el neumococo, '*Haemophilus influenzae*' tipo b, virus de la parotiditis, virus del sarampión, virus de la varicela y meningococo de los serogrupos A, C, W e Y a diferentes edades-.

Fuente: El Día. Disponible en https://acortar.link/RJ1S48

UNICEF airlifts more lifesaving vaccines to Sudan to fight concurrent outbreaks

Oct 5. A UNICEF-chartered plane carrying 1.4 million doses of oral cholera vaccines arrived in Port Sudan, Sudan, early this morning, to bolster efforts to protect children from the ongoing cholera outbreak affecting the country.

Since the current outbreak began in July 2024, over 18,000 cases of cholera and approximately 550 deaths

have been reported in 10 states across the country.

The new batch of vaccines adds to the 404,000 doses UNICEF delivered to Sudan last month and will be used in the ongoing immunization campaigns. The campaigns aim to vaccinate 1.81 million people against cholera in the hardest-hit states: Gedaref, Kassala and River Nile.

Besides cholera, concurrent outbreaks of other diseases – such as dengue, malaria and measles – are taking hold in at least 12 of Sudan's 18 states. Earlier this week, UNICEF delivered nearly 190,000 doses of malaria vaccines to the country to help protect children from malaria.

Cholera vaccines in refrigerated trucks outside a warehouse in Port Sudan, ready to be transported to Kassala, Gedarif and River Nile states, 5 October 2024.

"Coming on the heels of war, displacement and famine, the impact of these epidemics could be catastrophic for children," said Sheldon Yett, UNICEF Representative to Sudan. "Delivery of the vaccines to health authorities in Sudan and into the arms of communities most at risk is essential for stopping the spread of these deadly diseases."

Ongoing disease outbreaks are pushing Sudan's already fragile healthcare system to a breaking point and exacerbating weaknesses in the sanitation and hygiene infrastructure. Limited access to safe water and adequate sanitation, especially in overcrowded displacement sites and camps increases the risk of transmission. Children who have never been vaccinated and those suffering from malnutrition are particularly at risk.

"We need all hands on deck now to scale up our response, halt the cholera outbreak and other diseases, and protect the most vulnerable children," said Mr Yett.

To step up its efforts to prevent famine and disease outbreaks in the next six months, UNICEF is appealing US$40 million to provide assistance in the affected áreas.

Fuente: UNICEF. Disponible en https://acortar.link/97REl1

Congo finally begins mpox vaccinations in a drive to slow outbreaks

Oct 6. Congolese authorities Saturday began vaccinations against mpox, nearly two months after the disease outbreak that spread from Congo to several African countries and beyond was declared a global emergency by the World Health Organization.

The 265,000 doses donated to Congo by the European Union and the U.S. were rolled out in the eastern city of Goma in North Kivu province, where hospitals and health workers have been overstretched, struggling to contain the new and possibly more infectious strain of mpox.

Congo, with about 30,000 suspected mpox cases and 859 deaths, accounts for more than 80% of all the cases and 99% of all the deaths reported in Africa this year. All of the Central African nation's 26 provinces have recorded mpox cases.

Although most mpox infections and deaths recorded in Congo are in children under age 15, the doses being administered are only meant for adults and will be given to at-risk populations and front-line workers, Health

Minister Roger Kamba said this week.

"Strategies have been put in place by the services in order to vaccinate all targeted personnel," Muboyayi Chikayal, the minister's chief of staff, said as he kicked off the vaccination.

At least 3 million doses of the vaccine approved for use in children are expected from Japan in the coming days, Kamba said.

Mpox, also known as monkeypox, had been spreading mostly undetected for years in Africa before the disease prompted the 2022 global outbreak that saw wealthy countries quickly respond with vaccines from their stockpiles while Africa received only a few doses despite pleas from its governments.

However, unlike the global outbreak in 2022 that was overwhelmingly focused in gay and bisexual men, mpox in Africa is now being spread via sexual transmission as well as through close contact among children, pregnant women and other vulnerable groups, Dr. Dimie Ogoina, the chair of WHO's mpox emergency committee, recently told reporters.

More than 34,000 suspected cases and 866 deaths from the virus have been recorded across 16 countries in Africa this year. That is a 200% increase compared to the same period last year, the Africa Centers for Disease Control and Prevention said.

But access to vaccines remains a challenge.

The continent of 1.4 billion people has only secured commitment for 5.9 million doses of mpox vaccines, expected to be available from October through December, Dr. Jean Kaseya, head of the Africa CDC, told reporters last week. Congo remains a priority, he said.

Fuente: Midland Daily News. Disponible en https://acortar.link/QLlLbD

NBM-funded vaccine to ramp up Kerala's fight against dengue, chikungunya

Oct 7. Annually, the rainy season in Kerala brings with it a host of ailments caused by deadly viruses, creating a huge burden on the state's already strained healthcare system as well as the public exchequer.

Now, the National Biopharma Mission (NBM) has some good news for the state that often runs out of ideas to tackle the heavy downpours and the accompanying phenomenon of the outbreak of vector-borne diseases.

The NBM, an industry-academia collaborative mission for accelerating biopharmaceutical development in the country, is currently supporting the development of indigenous vaccines for dengue and chikungunya that have emerged as two of Kerala's major health challenges of late.

They are expected to considerably mitigate the spread of tropical diseases and reduce the challenges before the state's public health system, said NBM's Mission Director Dr Raj K Shirumalla. He was speaking at the recently concluded Bioconnect 2.0 event here.

"Development of both the vaccines is progressing well. The dengue vaccine is entering phase-II clinical trials while the chikungunya vaccine is moving into phase-III. We hope that they can be made available in another two years," he said.

The mission is supporting their development to make them accessible and affordable to the people.

"These are seasonal diseases and hence the market size of vaccines may be limited. Understanding the situation, the mission is funding their development. We are sure that the vaccines would reduce the burden

on the health infrastructure, especially in states like Kerala. So far, the development of 12 vaccine candidates has been supported under the Mission. They include the Corbevax and ZyCoV D against Covid-19," he said.

The big projects supported by the Mission in the medical device sector include the development of an indigenous MRI machine and an endoscope. India's first indigenously developed MRI machine from Voxelgrids Innovations Pvt Ltd was launched last year. It is expected to reduce the cost of scanning by 40 per cent.

The innovation is a big leap for Aatmanirbhar Bharat as it reduces our dependence on the international market. Low capital costs will make the scanning accessible to more people, he said.

The NBM also funds the development of a mobile MRI device. The technology has been developed and the device's stability is being checked. The machine is expected to be commercially available by next year.

This also holds tremendous potential in giving MRI access to more people, especially those in rural and remote areas.

Lirafit, a novel and cost-effective biosimilar of Liraglutide, was developed with Mission's support. It is the first biosimilar of the widely used anti-diabetic medication Liraglutide. It reduced the daily cost of therapy by approximately 70 per cent. and hence became more accessible to patients with type 2 diabetes mellitus.

The NBM is currently supporting the development of eight biosimilars. A notable one is Aflibercept for the treatment of age-related macular degeneration, he said.

Fuente: The New Indian Express. Disponible en https://acortar.link/UQaVaY

Falling Vaccinations Contribute to Rising Pertussis Numbers

Oct 7. New data from the Centers for Disease Control and Prevention (CDC) show significant spikes in pertussis cases compared with last year, especially in several urban areas including New York, Illinois, Florida, and Colorado. Cases are rising at the same time that rates of vaccination have been on the decline.

Notably, the current pertussis case count in Illinois as of September 21, 2024, was five times higher than the total cases in 2023 (1058 vs 50). New York City alone had reported 624 cases as of September 21, compared with 38 cases in 2023.

Additional data from the CDC on vaccination coverage and exemptions of school-aged children showed an increase from 3.0% last year to 3.3% in 2024 of children who were exempted from recommended vaccination requirements. Although nearly 93% of kindergarteners in the United States received recommended vaccines (including Tdap), similar to last year, this number shows a steady decline from 94% in the 2020-2021 school year and 93% in the 2021-2022 school year, according to previous CDC reports.

What's Happening in the Clinic

Clinical experience and the most recent CDC data point to under vaccination as a driver of the increased pertussis cases this year, said David J. Cennimo, MD, associate professor of medicine & pediatrics in the division of infectious disease at Rutgers New Jersey Medical School, Newark, New Jersey, in an interview.

Although the pertussis vaccination rates in infancy are still very good, clinicians are seeing a drop-off in school-aged children and adults, and the lingering antivaccine efforts from the COVID-19 pandemic period are undoubtedly playing a part, said Cennimo. "Unfortunately, pertussis is contagious, and the vaccine effectiveness wears off. Having decreased numbers of people protected results in more rapid spread," he said.

Cennimo agreed that the number of cases in the United States is underreported, and even higher than the data suggest. "I'm sure of it; the initial clinical presentation may be mistaken for a viral upper respiratory tract infection (common cold)," he told Medscape Medical News.

Many older children and adults with pertussis do not manifest the classic "whooping cough" seen in infants and young children, so making a clinical diagnosis can be difficult, he said. "One classical component of the illness is a prolonged cough. I have wondered if some people now reporting a lingering cough had pertussis that was missed," Cennimo noted.

"Clinicians should stress the value of boosters in a vaccine-preventable illness where we know immunity wanes overtime," Cennimo said. "We have a great remedy in the Tdap vaccine, which we should all be getting very 10 years," he said.

He also emphasized that clinicians remind pregnant women of the current recommendations to receive the Tdap vaccine for every pregnancy. "Vaccination during pregnancy is the best way to protect both the pregnant person and the newborn. Even for the vaccine hesitant, this vaccine has a long track record of safety, so should not be a significant concern," he said.

The ultimate take-home message is not a new one, and applies to all illnesses, Cennimo told Medscape Medical News. Simply put, "Stay home if you are sick. Social distancing is not just for COVID-19," he said.

Fuente: Medscape. Disponible en https://acortar.link/yBOoBw

GSK's Arexvy Vaccine Demonstrates Strong Efficacy Against RSV in Older Adults

Oct 9. GSK has announced promising results for Arexvy, its respiratory syncytial virus (RSV) vaccine, showing a cumulative efficacy of 62.9% against RSV-related lower respiratory tract disease (RSV-LRTD) over three full RSV seasons in adults aged 60 years and older. This vaccine is the only one with efficacy and safety data available through three full seasons, including in individuals at increased risk due to underlying medical conditions.

The findings were presented at the CHEST 2024 Annual Meeting, indicating 67.4% efficacy against severe RSV-LRTD. In the third season, the vaccine's efficacy was 48% against RSV-LRTD (95% CI, 8.7-72). The safety profile is consistent with previous phase 3 results, where the most frequently reported side effects included injection site pain, fatigue, myalgia, headache, and arthralgia within four days of vaccination.

GSK plans to continue providing long-term efficacy and immune response data to help inform revaccination schedules. RSV impacts an estimated 64 million people globally each year and can lead to severe outcomes, causing over 465,000 hospitalizations and 33,000 deaths annually among adults aged 60 and older in high-income countries.

Tony Wood, chief scientific officer at GSK, said: “We are excited by these new data which show that a single dose of Arexvy could help protect millions of older adults at risk of RSV disease over three seasons to benefit public health. This is the only RSV vaccine with efficacy and safety data available through three full seasons. We will continue to provide data on longer term follow-up to help recommending bodies determine future revaccination schedules.”

Arexvy was approved by the FDA in May 2023 for preventing RSV-LRTD in individuals aged 60 and older. Since then, it has received approvals in 50 countries, including Europe and Japan. This approval was based

on the US phase 3 trial data that showed 82.6% efficacy against RSV related lower respiratory tract disease and 94.6% efficacy in patients with comorbidities. Arexvy combines the preF fusion protein with the AS01 adjuvant to enhance immune response in aging populations.

The ongoing research aims to provide further insights into the vaccine's long-term effectiveness and the necessity for potential revaccination.

Fuente: Contagion Live. Disponible en https://acortar.link/Tfy7gg

CanSino Receives Another Strong Boost

Oct 9. CanSino Biologics Inc. ("CanSinoBIO" or "the Company") has announced a milestone in its fight against polio. The company has received an additional financial boost, securing a grant exceeding US$17 million to propel its recombinant poliovirus vaccine ("VLP-Polio") project forward. This new funding, which builds on the initial funding received in October 2023, also encompasses potential related combined vaccine candidates.

In addition to the grant, CanSinoBIO has also obtained approval to start phase I/II clinical trials for the VLP-Polio vaccine in Indonesia, focusing on infants and toddlers in certain ages. This marks an important step forward in ensuring VLP-Polios safety and efficacy for the most vulnerable population.

Dr. Xuefeng Yu, Chairman and CEO of CanSinoBIO, expressed his gratitude for the continued support, stating, We are deeply honored by the foundation's ongoing trust and support. This recognition not only supports our innovation and production capabilities but also advances our commitment to improving global public health. We believe our innovative VLP-Polio vaccine will play a pivotal role in the global effort to eradicate polio.

Receives Over US$17 Million from Bill & Melinda Gates Foundation to Accelerate VLP-Polio Vaccine Development

This funding will further accelerate the clinical progress of the VLP-Polio vaccine, while the introduction of this vaccine candidate is expected to fill a gap in the market.

Leveraging the Company's profound expertise in protein structure design and virus-like particle (VLP) assembly technology, the VLP-Polio vaccine stands as a non-infectious alternative which eliminates the need for live viruses. This pioneering approach promises superior safety with comparable or superior immunogenicity, earning recognition from the World Health Organization ("WHO") as a pivotal tool for future polio eradication, particularly in the post-eradication era. This vaccine candidate holds immense significance in the global endeavor to control and eliminate polio, safeguarding millions of children and families from this devastating condition.

CanSinoBIO has been an avid participant in the WHO's polio eradication strategy, attentively tracking global disease prevention requirements. The funding received will further bolster CanSinoBIO's capacity to deliver innovative, high-quality, and affordable vaccines worldwide, aligning with the ambition of making advanced vaccine products accessible to all.

Fuente: Market Screener. Disponible en https://acortar.link/PXMQS5

EU approves Novavax's updated COVID-19 vaccine

Oct 10. Novavax , Inc. (NASDAQ: NASDAQ:NVAX) has announced that its updated Nuvaxovid COVID-19 vaccine, designed to target the JN.1 variant and its lineages, has received Marketing Authorization from the European Commission for individuals aged 12 and older within the European Union (EU). The authorization follows a positive assessment by the European Medicines Agency's (EMA) Committee for Medicinal Products for Human Use.

The decision was informed by non-clinical data demonstrating that the updated vaccine, NVX-CoV2705, produces cross-reactivity against several JN.1 lineage viruses. The clinical trials of Novavax's prototype vaccine, NVX-CoV2373, reported common adverse reactions such as headache, muscle and joint pain, and injection site pain and tenderness.

The vaccine is also authorized for emergency use in the United States and aligns with recommendations from the U.S. Food and Drug Administration (FDA), EMA, and the World Health Organization to target the JN.1 lineage for the current season.

Novavax's NVX-CoV2705 is a protein-based vaccine utilizing the company's recombinant nanoparticle technology and Matrix-M adjuvant to enhance the immune response. It is stored between 2° to 8°C, which allows for the use of existing vaccine supply chains.

The vaccine's safety information includes contraindications for individuals with a history of severe allergic reactions to any of its components. It also lists potential risks of myocarditis and pericarditis and advises caution for immunocompromised individuals due to possibly diminished vaccine effectiveness.

Healthcare providers are required to report adverse events to the Vaccine Adverse Event Reporting System (VAERS). The vaccine's Emergency Use Authorization (EUA) in the U.S. will remain valid as long as the COVID-19 EUA declaration is in effect, or until it is revoked.

Novavax is a biotechnology company focused on developing vaccines against infectious diseases, with a portfolio including its COVID-19 vaccine and candidates for COVID-19-Influenza Combination and standalone influenza vaccines.

This news is based on a press release statement from Novavax, Inc.

In other recent news, Novavax has been the focus of several positive analyst notes, with Jefferies maintaining a Buy rating on the company's stock. The firm highlighted Novavax's strong COVID-19 vaccine sales outlook and the potential for growth due to favorable product presentation and logistics. Jefferies also noted that Novavax is on track to meet its revenue guidance for the 2024/2025 season, mirroring the approximately $3 to $5 billion total market seen in the previous season.

Novavax has also seen significant developments in its team, with the appointment of Ruxandra Draghia-Akli, MD, PhD, as its new Executive Vice President and Head of Research & Development. In addition, the company has rolled out an updated COVID-19 vaccine targeting the JN.1 variant across U.S. pharmacies, following Emergency Use Authorization from the U.S. Food and Drug Administration for individuals aged 12 and older.

Financially, Novavax reported a Q2 2024 revenue of $415 million, largely due to a significant partnership with Sanofi (NASDAQ:SNY). The company also anticipates a total revenue of between $700 million and $800 million for the full year 2024. In an effort to reduce costs, Novavax is exploring strategies such as renegotiating or exiting Advance Purchase Agreements for vaccine distribution and considering the sale of its Czech Republic manufacturing facility.

InvestingPro Insights

As Novavax (NASDAQ: NVAX) secures Marketing Authorization for its updated COVID-19 vaccine in the European Union, investors may be keen to understand the company's financial position and market performance. According to InvestingPro data, Novavax's market capitalization stands at $2.09 billion, reflecting its significant presence in the biotechnology sector.

Despite the positive news on vaccine authorization, Novavax faces some financial challenges. An InvestingPro Tip indicates that the company is not profitable over the last twelve months, with a negative operating income of $286.23 million for the same period. This aligns with another tip suggesting that analysts do not anticipate the company will be profitable this year.

However, it's worth noting that Novavax holds more cash than debt on its balance sheet, which could provide some financial flexibility as it continues to develop and market its vaccine portfolio. This strength is particularly important given the company's revenue of $987.67 million in the last twelve months, representing a decline of 38.17% year-over-year.

The stock's performance has been volatile, with a significant 195.02% price increase over the last six months, despite a recent 11.17% drop in the past week. This volatility is consistent with the InvestingPro Tip indicating that Novavax's stock price movements are quite volatile.

For investors seeking a more comprehensive analysis, InvestingPro offers 11 additional tips for Novavax, providing deeper insights into the company's financial health and market position.

Fuente: Investing.com. Disponible en https://acortar.link/r5OPhI

Lowering the Age for Pneumonia Vaccines. A Vital Step for Public Health

Oct 10. The CDC's Advisory Committee on Immunization Practices (ACIP) plays a pivotal role in safeguarding the health of Americans. By continuously reviewing the latest scientific evidence and making vaccine recommendations, ACIP helps protect the public from a variety of infectious diseases. Their decisions not only shape individual vaccination protocols but also have profound impacts on public health outcomes, reducing preventable illnesses, hospitalizations, and healthcare costs.

Vaccines are among the most powerful tools we have to prevent disease. They save millions of lives every year, prevent long-term complications, and reduce the burden on our healthcare system. Among these, pneumonia vaccines have saved millions of lives since they were introduced and have prevented life-threatening complications related to pneumonia.

ACIP will revisit and adjust the age-based recommendations for pneumonia vaccines at its October meeting. Currently, the routine recommendation for adults to receive pneumonia vaccines begins at age 65, but there is compelling evidence to support lowering that age to 50. Doing so would not only make good public policy sense but would also help protect millions of Americans from preventable illness.

Why Lowering the Age-Based Recommendation Makes Sense

Lowering the routine recommendation for pneumonia vaccines from age 65 to 50 reflects a proactive approach to public health. By age 50, many individuals have already experienced a decline in immune function and are increasingly susceptible to infections like pneumonia.

Moreover, many in this age group are living with chronic conditions—such as heart disease, diabetes, and COPD—that make them even more vulnerable to severe pneumococcal disease. The cost of treating pneumonia, especially when it leads to hospital stays or intensive care, far outweighs the cost of preventing the disease. By expanding the routine vaccination recommendation to adults aged 50 and older, we could significantly reduce healthcare expenditures, avoid preventable illnesses, and increase overall life expectancy in this population.

ACIP Should Not Choose One Vaccine Over Another

In lowering the adult age to 50, ACIP should not choose one vaccine over all others for several reasons.

First, of the most compelling reasons to advocate for lowering the age-based recommendation is the need for sequential use of pneumonia vaccines in at-risk individuals. For example, adults aged 50-65 with chronic health conditions, such as chronic obstructive pulmonary disease (COPD) or diabetes, are at an increased risk for serious pneumococcal infections.

Take, for instance, a 55-year-old patient with COPD. This patient's compromised lung function puts them at higher risk for pneumonia and its complications. In such cases, a sequential approach to vaccination is critical.

This sequential use of vaccines ensures that individuals like the COPD patient receive comprehensive protection against both common and more unusual strains of pneumococcal bacteria. The combination of these vaccines helps reduce the risk of severe infections, hospitalizations, and potentially fatal outcomes.

By lowering the routine recommendation to age 50, we can ensure that at-risk individuals begin receiving these vital vaccines earlier, offering them sequentially when necessary to provide the best possible protection when they need it most.

Second, recommending both vaccines reduces the risk of shortages during disease outbreaks or supply chain disruptions. In recent years, we've witnessed how fragile medical supply chains can be, as seen during the COVID-19 pandemic.

When a single vaccine is favored over others, the risk of shortages increases in times of heightened demand, leaving vulnerable populations without access to life-saving protection. By recommending both vaccines, we create redundancy in the system, ensuring that if one manufacturer faces supply chain issues, the other can step in to fill the gap.

The diversification of vaccine supply mitigates the impact of production slowdowns and ensures continuous protection for the population. This is especially important during respiratory illness outbreaks when demand for pneumonia vaccines can spike. With both vaccines available and recommended, healthcare providers have more flexibility to vaccinate patients without delays due to potential shortages.

Furthermore, endorsing both vaccines will encourage continued innovation in vaccine development. When multiple vaccine options are supported, pharmaceutical companies have incentives to improve their products, compete for market share, and explore new ways to enhance vaccine efficacy, safety, and delivery methods. If ACIP were to favor one vaccine exclusively, it could stifle this competitive drive, leading to slower progress

in future vaccine advancements.

Multiple options also promote pandemic readiness by maintaining a robust pipeline of vaccine manufacturing, research, and distribution networks. By fostering competition and supporting both types of vaccines, the ACIP would contribute to a more dynamic vaccine industry that is better equipped to handle future public health emergencies.

Why a Clearer, Broader Recommendation Benefits Public Health

Finally, providing a clearer, broader recommendation for pneumonia vaccination starting at age 50 has far-reaching benefits beyond preventing disease. It builds goodwill among the public, healthcare providers, and public health professionals by showing that the agency is focused on protecting health in the most comprehensive way possible.

A broader recommendation simplifies the decision-making process for both healthcare providers and patients. When recommendations are clear, consistent, and based on strong evidence, providers can confidently advise their patients without having to navigate complex vaccine choices. This clarity reduces vaccine hesitancy and ensures higher uptake among patients, particularly in high-risk groups.

Further, the move will help the CDC and ACIP build trust with the American public. In an era where vaccine skepticism has grown, clear, consistent, and proactive public health measures signal to the public that their well-being is a priority. By expanding access to pneumonia vaccines and making evidence-based decisions, the ACIP will send a message that they are committed to protecting everyone, especially those at risk of severe disease.

Lastly, by avoiding favoritism toward one vaccine over the other, the ACIP preserves flexibility for healthcare providers. Different vaccines may be more appropriate depending on an individual's health history, age, or risk factors. Offering the full range of vaccine options ensures that providers can tailor recommendations to their patients' needs, ultimately leading to better health outcomes.

Conclusion

The CDC's Advisory Committee on Immunization Practices has a crucial opportunity to make a profound impact on public health by lowering the age-based recommendation for pneumonia vaccines to 50. Such a decision would protect millions of people, reduce preventable illness, and ease the burden on our healthcare system.

At the same time, moving forward with a broader, more inclusive approach to vaccine recommendations—without favoring one vaccine over the other—ensures that healthcare providers can deliver the best possible care for their patients. It will build goodwill by ensuring that the supply chain remains resilient, innovation continues to flourish, and the public can trust that their health is in good hands. In doing so, ACIP will pave the way for a healthier, more resilient future for all Americans.

Fuente: Real Clear Health. Disponible en https://acortar.link/joT4Qz

Panacea Biotec surges 4% on reports of launching dengue vaccine in two yrs

Oct 11. Shares of Panacea Biotec surged up to 4.48 per cent at Rs 319.40 on the BSE in Friday's intraday trade. This came after the company disclosed its plans to develop a dengue vaccine within the next two years.

According to a report by CNBC TV 18, Panacea Biotec Chairman and Managing Director, Dr Rajesh Jain said that its dengue vaccine, developed in collaboration with ICMR, is progressing well in phase three trials across 19 sites in India, covering over 10,000 adults.

Upon completion of the trials, the company will submit efficacy data to the Drug Controller General of India (DCGI) to seek manufacturing approval.

Per the report, the chairman of Panacea Biotec expressed optimism about the vaccine's launch, stating that the company expects to bring it to India and other countries within the next two years. However, he emphasised that the company must adhere to the approved protocols, trial formalities, and ethical guidelines set by the drug authorities.

Panacea Biotec, India's second-largest vaccine manufacturer, boasts a portfolio of prescription products across key therapeutic areas, including pain management, diabetes care, renal disease, osteoporosis, tuberculosis, gastrointestinal health, and vaccines.

The company has established collaborations with leading research organisations both in India and internationally. Panacea Biotec operates cutting-edge production facilities in Himachal Pradesh, Punjab, and Delhi, adhering to global regulatory standards such as US-FDA, UK-MHRA, SAMCC, and WHO-cGMP. It also operates four research and development centres and holds 24 product patents valid across more than 60 countries.

Fuente: Business Standard. Disponible en https://acortar.link/JVRA9B

Trabaja ciencia cubana para dar respuesta integral y eficaz ante el Oropouche

11 oct. En su constante empeño de salvaguardar la salud de la población, la ciencia cubana se ha trazado nuevos retos, ante el creciente número de personas infectadas con el virus de Oropouche reportadas en los últimos meses en América Latina y su presencia en la nación caribeña.

Esta situación llevó a que en agosto pasado la OPS, Organización Panamericana de la Salud, emitiera una alerta epidemiológica, e instara a los Estados miembros a redoblar la vigilancia del virus, transmitido fundamentalmente por la picadura de jejenes infectados y por el mosquito Culex.

En Cuba los primeros casos se detectaron en mayo pasado en las provincias de Santiago de Cuba y Cienfuegos, pero se ha ido extendiendo a todo el país, aunque no se han registrado fallecimientos.

Ante este panorama la comunidad científica cubana ha redoblado sus esfuerzos para obtener un test rápido de la enfermedad, tarea en la que está enfrascado el destacado Centro de Inmunoensayos.

Por otra parte, el reconocido Instituto Finlay de Vacunas investiga sobre la viabilidad o no de un inmunógeno para proteger contra esa arbovirosis.

Pero además, según se conoció en la reciente reunión de expertos y científicos sobre temas de salud, encabezada por el presidente cubano, Miguel Díaz Canel, las investigaciones efectuadas por el prestigioso Instituto de Medicina Tropical "Pedro Kouri" han posibilitado un mayor conocimiento del virus para un tratamiento más efectivo.

El trabajo realizado ha permitido detectar el virus en muestras clinicas de orina y líquido cefalorraquídeo, y brindar una rápida atención a los enfermos.

Los avances registrados en las investigaciones han sido compartidos con la comunidad científica internacional y la OPS para ampliar los conocimientos sobre el Oropouche.

Mientras se continúan los estudios en diversos aspectos como el vínculo entre el medio ambiente, la enfermedad y el vector.

Cuba se mantiene atenta, y su comunidad científica que en innumerables ocasiones ha demostrado su alta preparación y compromiso con la salud de los cubanos, trabaja incansablemente para dar una respuesta integral y eficaz ante la dolencia.

Fuente: Radio Habana Cuba. Disponible en https://acortar.link/MsdVil

Vietnam Launches Dengue Vaccinations

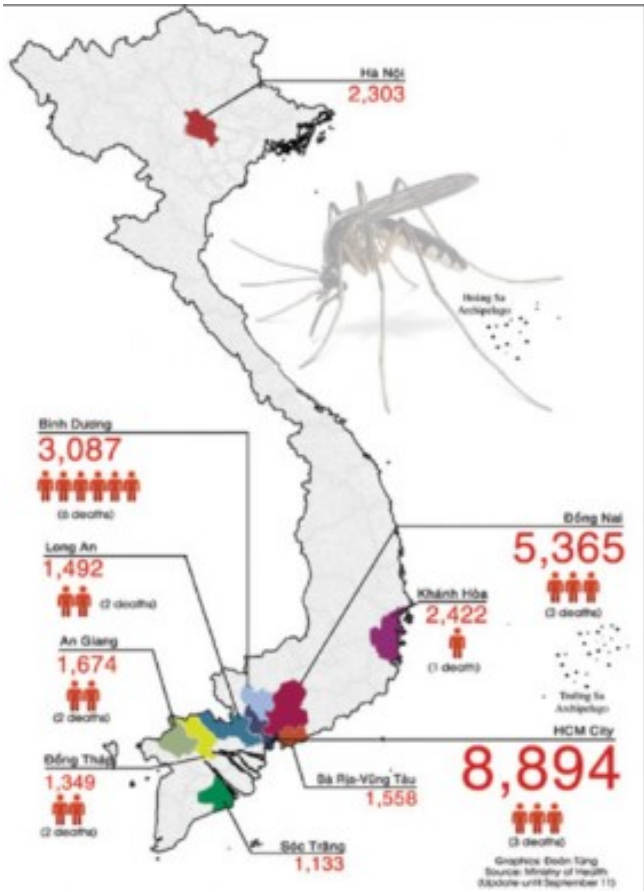
Oct 11. Dengue is a mosquito-borne viral infection rapidly emerging as a pandemic-prone viral disease across the globe. The World Health Organization (WHO) says the incidence of dengue has increased 30-fold over the last 50 years, especially during rainy seasons.

In 2023, over 500,000 dengue cases and 750 deaths were reported from eight countries/territories/areas in the WHO Western Pacific Region, which includes Vietnam.

The WHO reported on October 3, 2024, Vietnam confirmed 76,838 dengue cases, including 12 deaths this year.

According to local news published on September 21, 2024, Vietnam launched its dengue vaccination program in mid-September 2024.

In a media article, Dr. Bach Thi Chinh, Medical Director of VNVC Vaccination System, said that the Ministry of Health approved Takeda's QDENGA dengue vaccine in May 2024 for children from 4 years old and adults.



'The vaccine is particularly effective in preventing reinfection in individuals who have previously contracted dengue fever, which is crucial for Vietnam due to the high prevalence of such cases. Subsequent infections are often more severe than initial ones. Therefore, timely vaccination is essential for safeguarding patients' health and lives.'

This second-generation dengue vaccine will help Vietnam reduce the disease burden and minimize the number of hospitalizations.

Takeda's dengue vaccine is offered in about 40 countries in 2024.

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

WHO report shows vaccines can reduce antibiotic use, fight resistance

Oct 12. Every year, misuse and unnecessary use of antibiotics leads to antimicrobial resistance(AMR), resulting in millions of avoidable deaths globally. In a new study, the World Health Organization (WHO) stresses that widespread use of existing and new vaccinations can play a vital role in curbing this growing threat.

The report analyzed 24 common infectious diseases and found that vaccinations against them could potentially reduce global antibiotic usage by approximately 2.5 billion doses per year – a reduction of 22%. Diseases like pneumonia, meningitis, typhoid and malaria often lead to inappropriate antibiotic prescription even when not warranted. However, effective vaccination drives can prevent a large number of such infections itself.

For example, currently available pneumococcal, Hib and typhoid vaccines alone can help avert over 100,000 AMR-linked deaths annually. Development of new TB and Klebsiella pneumoniae jabs can further avoid 543,000 deaths each year in the future. Additionally, ensuring 90% immunization coverage targeted at children and elders will lessen Streptococcus pneumonia antibiotic use by 33 million doses per year. Typhoid shots can cut 45 million doses while malaria vaccines may reduce inappropriate prescriptions by 25 million.

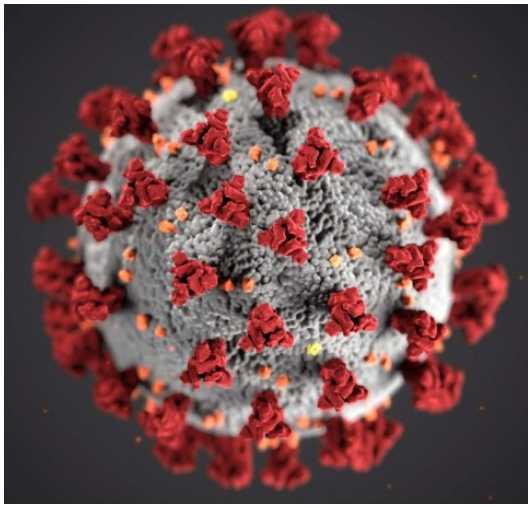
Most significantly, prospective TB vaccines – when available – have the capability to curb 1.2 to 1.9 billion antibiotic consumption globally, as per the analysis. This will undoubtedly support global commitments to reduce annual fatalities from drug-resistant bacterial infections by 10% before 2030. The study underlines immunization as a foremost solution to simultaneously battle the impending AMR crisis and associated healthcare costs. It calls for augmenting availability of existing protective shots and speeding up novel vaccine R&D for critical pathogens.

Fuente: The North Lines. Disponible en https://acortar.link/td4mNY

This is the new Covid variant that could take hold in Spain this winter

Oct 12. A NEW coronavirus variant called XEC has begun to spread across Europe and other parts of the world. It was first detected in Germany in June and has reached Spain as well as the UK, France, Ireland, and the US. The new variant is a combination of subvariants of Omicron- a highly publicised variant of COVID-19 a year or so into the pandemic.

There are fears it could become dominant during the winter when coronavirus infections and hospitalisations normally rise but medics say the majority of cases will be mild- and vaccination will be effective.



Over a thousand cases have been reported in 29 countries and around half of the 50 US states.

Dr. Scott Roberts, an infectious disease expert at Yale Medicine said that 'the increase in respiratory infections globally coincides with the spread of the variant, whose speed of transmission seems to be greater compared to previous strains in some parts of Europe'.

The World Health Organisation(WHO) has not yet classified XEC as a 'variant of concern', but confirmed that it is 'under surveillance'.

That's a term used by the WHO warn public health authorities that the SARS-CoV-2 strain might may require attention and surveillance.

The main aim of this category is to investigate whether it may pose an additional threat to global public health compared to other variants that are circulating.

Dr. William Schaffner, of the Vanderbilt University Medical Center in Tennessee, noted that XEC shares many of the characteristics of previous Omicron strains.

In article in New Scientist, he said: "You can think of these new variants as their great-grandchildren or grandchildren."

The new strain can spread easily but crucially causes less severe problems than early SARS-CoV-2 variants, which means that most cases are likely to be mild.

There is however a risk of complications amongst older people or those who have weakened immune systems.

The good news is that current vaccines should continue to offer good protection.

The updated versions fight the Omicron subvariants, and since XEC is part of that group, the jabs should be effective against the new strain.

So despite its quick spread, experts stress that there is no reason to be alarmed.

Fuente: The Olive Press. Disponible en https://acortar.link/8dgWR7

Inicia la vacunación antineumocócica con el inmunógeno cubano Quimi-Vio

13 oct. La segunda etapa de la estrategia de vacunación antineumocócica en Cuba inicia con la administración de una dosis única de la vacuna cubana Quimi-Vio 7 Valente.

La segunda etapa de la estrategia de vacunación antineumocócica en Cuba inicia hoy con la administración de una dosis única de la vacuna cubana Quimi-Vio 7 valente, informó a Granma Lena López Ambrón, directora del Programa Nacional de Inmunización, del Ministerio de Salud Pública.

Añadió que la campaña de vacunación con Quimi-Vio, que se extenderá hasta el próximo 31 de diciembre, está dirigida a los niños nacidos en 2022, a partir de haber cumplido los dos años de edad.

López Ambrón especificó que la acción de inmunización se llevará a cabo en los vacunatorios de las áreas de Salud de todo el país.

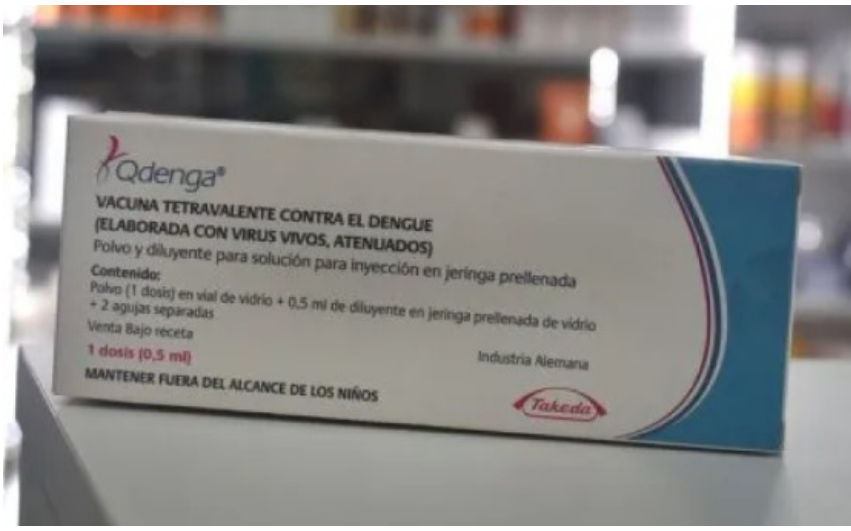
Darielys Santana Medero, líder del proyecto de Neumococo, del Instituto Finlay de Vacunas, explicó que esta vacuna protege a los infantes contra siete de los serotipos más infecciosos y prevalentes de la bacteria

neumococo, causante de la mayoría de las neumonías y meningitis bacteriana en niños, así como de otras infecciones del torrente sanguíneo, como la otitis media aguda, sinusitis y bronquitis.

La vacuna cubana antineumocócica Quimi-Vio 7 valente fue desarrollada por el Instituto Finlay de Vacunas y ahora producida a gran escala por el Centro Nacional de Biopreparados, luego de que le fuera otorgado por el Centro para el Control Estatal de Medicamentos, Equipos y Dispositivos Médicos (Cecmed) el registro sanitario, en julio pasado, para su empleo en niñas y niños de uno a cinco años.

Fuente: Granma. Disponible en https://acortar.link/hGRA9Y

La ANMAT aprobó una vacuna contra el dengue para niños



13 oct. Es un tipo de vacuna aplicable desde los 4 años. Se puede adquirir en forma privada pero son pocos lo padres que llevan a vacunar a sus hijos.

Con el aumento de la temperatura y la humedad empezaron a aparecer los mosquitos, entre ellos, los Aedes aegypti que transmiten el dengue y que fueron identificados por Salud provincial en diez localidades santafesinas.

La prevención para evitar complicaciones frente al nuevo brote, que se espera para el verano, incluye la colocación de la vacuna Qdenga. Sin embargo, en forma gratuita solo está destinada para adolescentes y personal esencial.

En la Argentina, la ANMAT la aprobó para personas desde los 4 años. ¿Deben vacunarse los chicos? ¿Por qué los menores no fueron incluidos en la campaña? ¿Hay contraindicaciones?

La vacuna

Excepto quienes tienen entre 15 y 19 años, y el personal de salud, bomberos y policías (de 20 a 39 años), que están incluidos en el programa provincial de vacunación gratuita, para acceder a la inoculación hay que abonar a 90.600 pesos por dosis.

En cuanto a la inoculación de los más pequeños, la mayoría de las personas que se la colocan de manera particular son adultas, y muchas de ellas ya tuvieron dengue, por lo que temen una segunda infección que podría ser más severa o la pasaron tan mal que no quieren repetir la situación.

El dengue sigue siendo uno de los temas centrales en materia de salud en Argentina. La mejor forma de "pelear" contra esta enfermedad es eliminar todos los criaderos de mosquitos tanto dentro como fuera de la casa. Por otro lado, para evitar cuadros graves de dengue, la vacuna denominada comercialmente Qdenga, del laboratorio Takeda está aprobada en el país para adultos y niños a partir de los 4 años, aunque en este momento haya dificultades para conseguirla.

Frente a la posibilidad de la vacunación, los pediatras recomiendan ante todo hay que recordar la eficacia. “La vacuna posee una eficacia en la prevención del 62% para cualquier tipo de dengue, de leve a grave, y asciende a más de 80% para los casos que requieren hospitalización”, dijo Cecilia Avancini, médica pediatra.

La especialista explicó que se trata de una vacuna recombinante, a virus vivo atenuado, tetravalente elaborada a partir del "esqueleto" del virus del dengue serotipo 2, y que genera anticuerpos para los cuatro tipos de dengue.

"Qdenga puede aplicarse en niños y adultos que hayan o no padecido una infección previa por cualquiera de los serotipos del virus dengue. Es fundamental completar el esquema de dos dosis para lograr una adecuada inmunización", sostuvo.

Fuente: Rafaela Noticias. Disponible en https://acortar.link/lrFbsa

India reaffirmed its role as the pharmacy of the world during COVID: JP Nadda at International Conference of Drug Regulatory Authorities

Oct 14. Union Minister of Chemicals and Fertilisers JP Nadda, during his address at the 19th International Conference of Drug Regulatory Authorities (ICDRA), hailed India's crucial role during the Covid-19 pandemic and how the country is emerging as a global leader in health resilience and innovation, thereby reaffirming its position as the 'pharmacy of the world.'

The Union Minister welcomed the participants of the event, highlighting its importance as a platform for experts and leaders from over 120 countries.

"It is an honour and privilege to welcome you all to the 19th ICDRA. This prestigious platform reflects our shared commitment to enhancing global healthcare standards and safeguarding public health," Nadda said.

Speaking about India's role during the Covid-19 pandemic, he said, "During the unprecedented Covid-19 pandemic, India emerged not only as a global leader in health resilience and innovation but also reaffirmed its role as the pharmacy of the world." He noted how India quickly expanded its healthcare infrastructure and increased vaccine production to meet both domestic and international demands.

Nadda also pointed out that the successful rollout of the Covid-19 vaccination program, which covered over a billion people, demonstrates the strength of India's healthcare system, the dedication of health workers, and sound policies. "As the pharmacy of the world, India played a important role in ensuring affordable access to essential medicines, vaccines, and medical supplies for nations across the globe," he added.

Fuente: The Economic Times. Disponible en https://acortar.link/9lrwyw

Reaparición de la polio en Gaza

14 oct. En el mes de junio de 2024 se detectó la presencia de virus de la polio tipo 2 derivado de la vacuna en aguas residuales en Gaza. En agosto se ha notificado un caso de polio en un niño de 10 meses no vacunado antes.

Gaza había estado libre de polio los últimos 25 años. Hasta el inicio de la guerra entre este territorio e Israel, las coberturas vacunales eran excelentes, pero el conflicto ha causado una grave interrupción de los programas de vacunación y otros servicios de salud.

La OMS, UNICEF y otras entidades humanitarias, tras el imprescindible acuerdo "de alto el fuego" entre Israel y Gaza, han planeado una campaña de vacunación (con la nueva vacuna oral nOPV2) dirigida a unos 640·000 niños menores de 10 años.

La vacunación se llevará a cabo, con un gran despliegue de recursos y personal, en dos rondas separadas por cuatro semanas, y en tres fases según zonas de Gaza cada ronda.

Se ha concluido la primera ronda y, según los informes, de forma exitosa, pues se ha conseguido llegar, sin otras incidencias, a un elevado número de niños.

Se ha proyectado llevar a cabo la segunda ronda a partir del 14 de octubre, y con ello, atajar el riesgo de nuevos casos y la extensión de la enfermedad a nuevos territorios.

No es solo la polio, Gaza se enfrenta a otros riesgos infecciosos reales, como el sarampión, cólera y otras diarreas, fiebre tifoidea y meningitis que necesitan atención y recursos con urgencia. La situación es desesperada.

Según los informes del GPEI, el incremento de casos de polio por virus salvaje tipo 1 en Afganistán y Pakistán y el mantenimiento de brotes causados por virus tipos 1 y, sobre todo, 2 derivados de las vacunas siguen constituyendo una amenaza para la salud a nivel global (la OMS mantiene la declaración de la polio como "emergencia de salud pública de interés internacional").

Las vacunaciones y la polio en Gaza

Gaza ha estado libre de polio en los últimos 25 años. La OMS declaró a Israel, Cisjordania y Gaza libres de polio (poliomielitis) en 2002 y 2010, respectivamente. En 2013 se notificó la presencia de un virus de la polio salvaje tipo 1 en diversas muestras de aguas residuales en Israel (Tulchinsky TH, Lancet 2013). En 2022 se notificó un caso de polio por un virus tipo 3 derivado de las vacunas también en Israel (OMS, abr/2022).

Antes del comienzo de la guerra en la región, en octubre de 2023, Gaza contaba con un alto nivel de cobertura de vacunación de la población. Incluso la vacunación frente a la covid alcanzó coberturas apreciables (Majer J, Vaccines 2024). Pero el impacto del conflicto ha sido demoledor, la cobertura de inmunización sistemática (para la segunda dosis de la vacuna antipoliomielítica inactivada) se redujo del 99 % en 2022 a menos del 90 % en solo tres meses, en el primer trimestre de 2024, lo que ha aumentado el riesgo de diversas enfermedades prevenibles mediante vacunación, incluida la poliomielitis (OMS, UNICEF, 2024).

Reaparición de la polio en Gaza (junio de 2024)

En el pasado mes de julio se informó de que en seis muestras de aguas residuales recogidas el 23 de junio en varios lugares de Gaza se había detectado la presencia de virus de la polio, un virus de la polio tipo 2 derivado de la vacuna circulante (cVDPV2, en sus siglas en inglés). Un análisis de secuenciación posterior ha confirmado que estos aislamientos están vinculados con una variante del poliovirus detectada por última vez en Egipto en 2023.

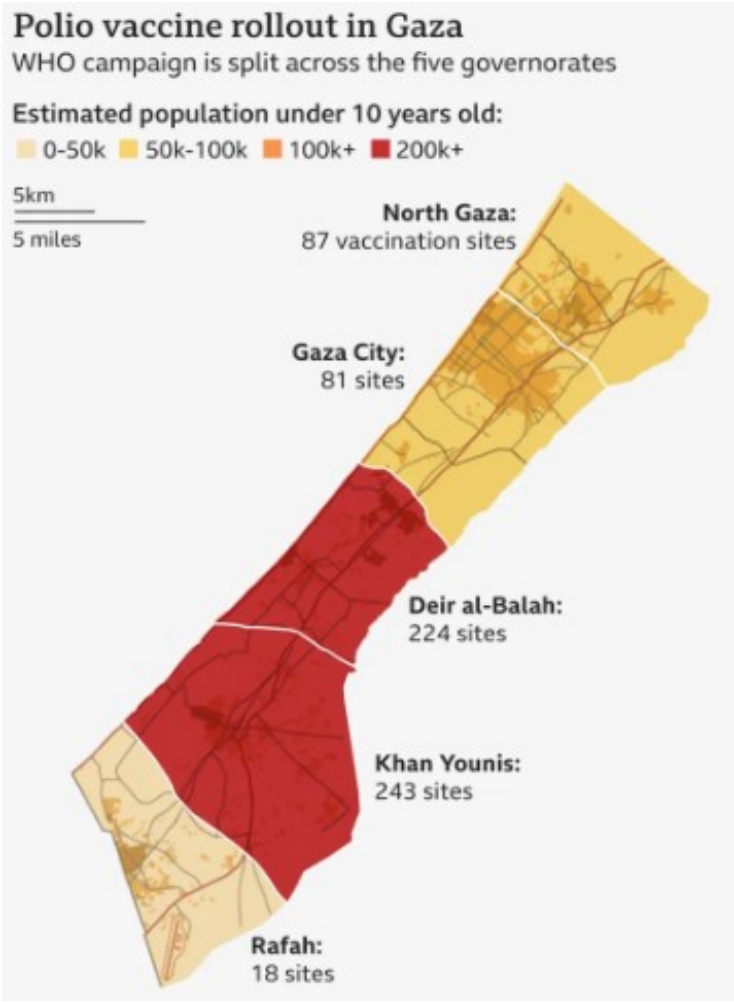
El primer caso de enfermedad paralítica, y único por el momento, se ha registrado en un niño de 10 meses, que sufre parálisis de una pierna y que no recibió ninguna de las vacunas infantiles habituales debido a la guerra (nació poco antes del 7 de octubre de 2023). La familia de este niño, con otros siete niños más, se ha visto obligada a continuados desplazamientos, lo que, además de un inmenso sufrimiento, impidió la vacunación. En otros casos de parálisis flácida aguda detectados en la región no se ha confirmado la presencia del virus de la polio.

La reaparición de la polio en Gaza representa una amenaza más para los niños de la región y los países vecinos. El riesgo de propagación del cVDPV2, también a nivel internacional, sigue siendo alto debido a las deficiencias en la inmunidad de los niños debido a las interrupciones en la vacunación sistemática, la destrucción del sistema de salud, los desplazamientos constantes de la población, la malnutrición y los sistemas de agua y saneamiento gravemente dañados. La situación también ha aumentado el riesgo de

propagación de otras enfermedades prevenibles mediante vacunación, como el sarampión y la hepatitis A, así como de otras como las diarreas, infecciones respiratorias agudas y otras, entre los niños.

Respuesta de la OMS y UNICEF: campaña de vacunación

La OMS y UNICEF han promovido el acuerdo de las partes en conflicto, Israel y Gaza, para hacer pausas humanitarias durante el tiempo suficiente para permitir que se realicen dos rondas de campañas de vacunación. Estas pausas en los combates permitirían a los niños y las familias llegar de forma segura a los centros de salud y a los equipos sanitarios itinerantes llegar a los niños que no pueden acceder a los centros de salud para vacunarlos contra la polio. Sin las pausas humanitarias, la vacunación no es posible.



Para esta campaña, la OMS y UNICEF han enviado a la zona más de 1,6 millones de dosis de la nueva vacuna oral (nOPV2; una dosis: dos gotas), que se utilizará para detener la transmisión del cVDPV2, así como dispositivos para mantener la cadena del frío.

La campaña de vacunación, en la que, además de la OMS y UNICEF, también han participado el Ministerio de Salud de Gaza, la UNRWA (United Nations Relief and Works Agency for Palestine Refugees) y otras entidades humanitarias se llevará a cabo en dos rondas y por fases, centrándose en una zona cada vez: en primer lugar, el centro de la Franja, antes de desplazarse al sur y, por último, a las provincias del norte. Se ha formado a unos 2180 trabajadores sanitarios y agentes comunitarios para que vacunen e informen a la población sobre la campaña, que se está llevando a cabo mediante 392 puntos fijos y casi 300 equipos móviles. El objetivo final es vacunar con dos dosis a 640·000 niños menores de 10 años.

La vacunación constará de dos rondas, separadas por cuatro semanas. La primera se ha llevado a cabo en los primeros 10 días de septiembre, y se espera poder llevar a cabo la segunda un mes después. El objetivo propuesto es llegar a, al menos, el 90 % de la población diana.

Primera ronda de vacunación (septiembre de 2024)

La primera fase de la primera ronda se ha completado entre el 1 y el 4 de septiembre en la zona central de Gaza. El alto el fuego durante las horas pactadas (de las 6 a las 15 horas de cada día) ha permitido vacunar a más de 187·000 niños, lo que la OMS valora como un éxito. A diferencia de muchos otros esfuerzos internacionales en Gaza, la distribución de la vacuna contra la polio se ha llevado a cabo sin problemas hasta el momento: hasta 72·600 niños fueron vacunados el primer día de la operación.

Esta primera fase de la campaña estuvo a cargo de 513 equipos, integrados por más de 2180 trabajadores sanitarios y comunitarios. La vacunación se administró en 143 lugares fijos, incluidos hospitales, puestos médicos, centros de atención primaria, campamentos donde viven personas desplazadas, espacios públicos de reunión, como espacios temporales de aprendizaje, puntos de distribución de alimentos y agua, y rutas

de tránsito que van desde el centro hacia el norte y el sur de Gaza. Además, los equipos móviles visitaron tiendas de campaña y zonas de difícil acceso para asegurarse de llegar a las familias que no podían visitar los lugares fijos. La presencia de un número considerable de niños que reunían los requisitos para la vacunación y que no pudieron llegar a los lugares de vacunación debido a la inseguridad, hizo necesarias misiones especiales a Al-Maghazi, Al-Bureij y Al-Mussader, zonas situadas justo fuera de la zona acordada para la pausa humanitaria.

La segunda fase, en el sur de Gaza, se ha dirigido a unos 340·000 niños. Y, finalmente, la tercera, en el norte de la Franja, buscaba vacunar a otros 150.000 niños más. Después, cuatro semanas después, se ha previsto llevar a cabo la segunda ronda en las mismas zonas.

La OMS de demás entidades participantes consideran que la primera ronda de vacunación ha concluido con éxito pues se han alcanzado los objetivos propuestos.

El pasado 11 de octubre UNICEF y el GPEI (Global Polio Eradication Initiative) han anunciado que el lunes 14 de octubre comenzará la segunda ronda de vacunación, con el mismo esquema de fases según zonas de Gaza. Para ello, se informa también, de que las autoridades de Israel y Gaza se han comprometido a mantener las pausas necesarias para que la vacunación sea posible. Adicionalmente, además de la vacuna antipolio oral, se administrará a todos los niños una dosis de vitamina A oral, con el objeto de mejorar las respuestas inmunológicas.

Fuente: Comisión Asesor de Vacunas e Inmunizaciones. Disponible en https://acortar.link/tNz9nS

Johnson & Johnson retira el medicamento contra el dengue

15 oct. Johnson & Johnson ha interrumpido su estudio de campo de fase 2 sobre la eficacia de un fármaco candidato para el dengue, según un comunicado de prensa de la empresa . El estudio fue diseñado para evaluar la eficacia de un fármaco en investigación conocido como mosnodenvir para la prevención del virus del dengue en adultos de entre 18 y 65 años.

No se identificaron problemas de seguridad; el estudio se interrumpió como parte de una reorganización de las prioridades de la cartera de investigación y desarrollo de enfermedades transmisibles de Johnson & Johnson, según el comunicado. Los análisis finales de los datos del estudio aún están en curso, pero todos los participantes han completado los protocolos del estudio y se les notificarán los resultados.

Los datos de los estudios clínicos de fase 1 y fase 2a mostraron que el mosnodenvir (antes conocido como JNJ-1802) era seguro y bien tolerado, y los datos de desafío humano de fase 2a mostraron actividad antiviral contra el dengue en comparación con placebo, según la compañía, que se comprometió a compartir cualquier resultado de estudios adicionales con la comunidad médica.

Alternativas en proceso

Mosnodenvir es un medicamento antiviral, no una vacuna, dijo Anna Durbin, MD, profesora de Salud Internacional y directora del Centro de Investigación sobre Inmunización de la Escuela de Salud Pública Johns Hopkins Bloomberg en Baltimore, en una entrevista.

Sin embargo, "el medicamento funcionaría como una vacuna", dijo Durbin. "El objetivo era administrar el medicamento, que luego evitaría que el dengue se replicara después de la infección, de modo que si usted estuviera expuesto al dengue, no enfermaría", dijo. El medicamento podría administrarse a quienes no pueden recibir la vacuna (que es una vacuna viva), como las personas inmunodeprimidas y las mujeres

embarazadas, agregó.

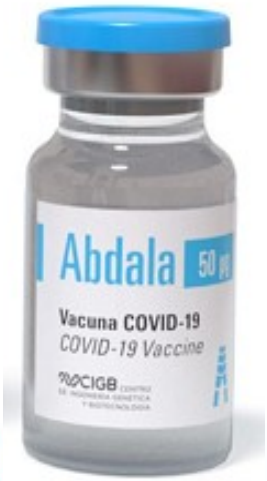
En cuanto a las alternativas al mosnodenvir, "una vacuna contra el dengue está autorizada en Europa, América Latina y Asia (Qdenga) que funciona bien contra DENV1 y DENV2, y otra vacuna fabricada por el Instituto Butantan en Brasil que parece muy prometedora", dijo Durbin a Medscape Medical News . El producto brasileño fue desarrollado por los Institutos Nacionales de Salud y autorizado por el Instituto Butantan, señaló.

Para tener éxito, una vacuna contra el dengue debe actuar contra los cuatro serotipos existentes, enfatizó Durbin. "Si no brinda protección contra los cuatro virus, puede provocar un dengue más grave si se infecta con los virus que no cubre", explicó. "Las vacunas vivas necesitan infectar y replicarse para inducir inmunidad, por lo que los cuatro componentes de la vacuna viva contra el dengue deben infectar y replicarse. La vacuna del Instituto Butantan tiene cuatro componentes que infectan y se replican, y probablemente será una vacuna muy segura y eficaz", dijo.

Fuente: Medscape. Disponible en https://acortar.link/SBCKAH

Incluyen la vacuna cubana Abdala en campaña nacional de vacunación de México

15 oct. México inició ayer la campaña nacional de vacunación contra el virus SARS-COV-2 causante de la covid-19, en la que se administrarán las vacunas Abdala, de Cuba, y la rusa Sputnik, de acuerdo con una información de Prensa Latina.



El secretario de Salud de México, David Kershenobich, en un acto realizado en el Instituto Nacional de Geriatría, explicó que las vacunas, que se aplicarán durante la temporada invernal 2024-2025 en el sector público, son seguras, eficaces y de calidad, y se prevé que en diciembre también se administre la vacuna mexicana Patria.

Añadió que, aunque las cepas del coronavirus han estado cambiando, la comunidad científica y la Organización Mundial de la Salud (OMS) recomiendan la utilización de biológicos, incluidos los de la primera generación desarrollados durante la pandemia, que inició en 2020.

Kershenobich subrayó que se eligió este instituto para resaltar la importancia de que los adultos mayores reciban las vacunas, ya que son uno de los principales grupos prioritarios por el elevado riesgo que tienen de presentar complicaciones graves, necesitar hospitalización e incluso perder la vida.

Fuente: Granma. Disponible en https://acortar.link/4ykvBF

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Estrategia de búqueda: (Vaccine) AND DP:([01.10.2024 TO 15.10.2024]) *as the publication date 71 records.*

1.20240335528EFFICIENT VACCINE

US - 10.10.2024

Clasificación Internacional A61K 39/215Nº de solicitud 18751109Solicitante VLP Therapeutics Japan, Inc.Inventor/a Wataru Akahata

ABSTRACT OF DISCLOSURE Provided herein is a bivalent alphavirus replicon vaccine, which is a combination of a first polynucleotide which encodes alphavirus non-structural proteins nsp1, nsp2, nsp3 and

nsp4 and an antigenic peptide and a second polynucleotide which encodes alphavirus non-structural proteins nsp1, nsp2, nsp3 and nsp4 and a CD8+ T cell epitope. The vaccine is useful against virus infection, especially, COVID-19 or SARS-COV-2 infection, the treatment of a cancer and/or an inflammatory disease.

2.20240325519VACCINE MOLECULES

US - 03.10.2024

Clasificación Internacional A61K 39/145Nº de solicitud 18738696Solicitante University of OsloInventor/a Gunnveig Grødeland

Provided herein is technology relating to vaccines and particularly, but not exclusively, to compositions, methods, and uses of a mixture of immunogenic vaccine molecules comprising components for targeting the dimeric vaccine molecules to antigen-presenting cells and components for eliciting an immunogenic response, wherein the components for eliciting an immunogenic response preferably comprise at least three variants of an immunogenic protein, such as variants of immunogenic proteins obtained from three or more different strains of a pathogenic organism.

3.102023001399AMINOSÄURENKOMBINATION MIT VITAMINEN, MINERALIEN UND SPURENELEMENTEN ZUR KURATIVEN UND REHABILITATIVEN BEHANDLUNG VON POST-COVID-SYNDROM, POST-COVID-19-SYNDROM UNDPOST-VACCINE-SYNDROM.

DE - 10.10.2024

Clasificación Internacional A61K 31/198Nº de solicitud 102023001399Solicitante Meyer PeterInventor/a Erfinder gleich Anmelder

1. Die Erfindung ist eine Aminosäurenkombination mit Vitaminen, Mineralien und Spurenelementen zur kurativen und rehabilitativen Behandlung vom Post-COVID-Syndrom, Post-COVID-19-Syndrom und Post-Vaccine-Syndrom. 2.1 Es war bisher weder eine Ursache bei Erkrankungen am Post-COVID-Syndrom, Post-COVID-19-Syndrom oder Post-Vaccine-Syndrom bekannt noch eine Heilung möglich. 2.2 Durch eine Infektion mit dem SARS-CoV-2 Virus kann es zu nicht abklingenden Folgebeschwerden kommen, die durch einen erhöhten Zelltod im gesamten Organismus hervorgerufen werden. Der erhöhte Zelltod findet durch ein kollabieren der Zellen statt, welcher hervorgerufen wird durch die Reproduktion der RNA des SARS-VoV-2 Erregers. 2.3 Durch eine Kombination aus den Aminosäuren Arginin, Ornithin, Lysin und Glycin mit Vitaminen, Mineralstoffen und Spurenelementen wird das das Hypophysen-Gonaden-System stimuliert welches das Wachstumshormon HGH (Somatropin) und den Wachstumshormonfaktor IGF 1 (Insulin-like growth factors) produziert. Hierdurch wird die Bildung von Progenitorzellen gefördert und damit die Zellregeneration. 2.4 Alle Einzelkomponenten, auch die Kombination und Dosierung als sind als NahrungsErgänzungsmittel eingestuft. Die einzelnen Komponenten der Rezeptur und auch die Kombination sind vollkommen frei von negativen Nebenwirkungen. Aufgrund der Heilaussage und Heilwirkung sind die Voraussetzungen für ein Arzneimittel

gegeben.

4.20240335518GUT BACTERIA DERIVED MICROVESICLES FOR VACCINE DELIVERY

US - 10.10.2024

Clasificación Internacional A61K 39/112Nº de solicitud 18505870Solicitante Quadram Institute BioscienceInventor/a Regis Stentz

The present invention relates to a vaccine suitable for immunisation against influenza, plague or Y. pestis infection said vaccine comprising outer membrane vesicles (OMVs) and the plague vaccine including the V and/or F1 antigens of Y. pestis.

5.20240335522MULTIVALENT PAN-INFLUENZA VACCINE

US - 10.10.2024

Clasificación Internacional A61K 39/145Nº de solicitud 18292873Solicitante Najít Technologies, Inc.Inventor/a Ian J. AMANNA

Provided are highly immunogenic multivalent pan-influenza vaccines, comprising a viral haemagglutinin (HA) protein, or HA1-containing portion thereof, of/corresponding to a virus strain from each of any three of, or from all four of component virus strain groups (H1-CVG1-H1-CVG-4) as defined herein. Additionally provided are highly immunogenic multivalent pan-influenza vaccine, comprising a viral hacmagglutinin (HA) protein, or HA1-containing portion thereof, of/corresponding to a virus strain from each of any three of, or from all four of component virus strain groups (H3-CVG-1-H3-CVG-4) as defined herein. Further provided are highly immunogenic multivalent pan-influenza vaccine, comprising a viral haemagglutinin (HA) protein, or HA1-containing portion thereof, of/corresponding to a virus strain from each of two component virus strain groups Influenza B-CVG-1 and Influenza B-CVG-2 as defined herein. Yet further provided are methods for making the immunogenic vaccine compositions, and methods for eliciting an immune response, comprising administering the immunogenic vaccine compositions.

6.WO/2024/205421NEMATODE VACCINE

WO - 03.10.2024

Clasificación Internacional A61K 39/00Nº de solicitud PCT/NZ2024/050033Solicitante AGRESEARCH LIMITEDInventor/a UMAIR, Saleh

The present invention is directed to a vaccine comprising recombinant antigens derived from the parasitic nematode Teladorsagia circumcincta, which will raise an immune response in farmed and wild ruminants that are susceptible or predisposed to infection by one or more nematode worm species.

7.4440614KREUZREAKTIVITÄT EINES NANT-COVID-IMPFSTOFFS

EP - 09.10.2024

Clasificación Internacional A61K 39/215Nº de solicitud 22902334Solicitante IMMUNITYBIO INCInventor/a SOON-SHIONG PATRICK

Recombinant SARS-CoV2 vaccine compositions and methods are presented that have unexpected cross-reactivity against a variety of other coronaviruses, and particularly against SARS-CoVI, MERS-CoV, OC43-CoV, and HKUl-CoV in addition to significant reactivity against SARS-CoV2A. Moreover, the vaccine compositions presented herein also produced cross-reactive memory B cells as well as cross-reactive memory T cells with cross-reactivity spanning a relatively wide range of different coronaviruses.

8.WO/2024/197971METHOD FOR ENHANCING MUCOSAL IMMUNE RESPONSE OF COVID-19 MUTANT STRAIN VACCINE AND COVID-19 BROAD-SPECTRUM MUCOSAL VACCINE

WO - 03.10.2024

Clasificación Internacional C07K 19/00Nº de solicitud PCT/CN2023/086804Solicitante GUANGZHOU QIANYANG BIO-TECHNOLOGY PHARMACEUTICAL CO., LTD.Inventor/a ZHANG, Hui

Provided are a method for enhancing a mucosal immune response of a COVID-19 mutant strain vaccine and a COVID-19 broad-spectrum mucosal vaccine. RBDs of different COVID-19 strains are fused to create RBD dimers, the RBD dimers and T cell epitope peptides are fused to create a fusion protein, and the fusion protein is used as an antigen to prepare a vaccine. A prepared mosaic RBD dimer nanoparticle mucosal vaccine can generate a strong immune response in a mouse by both intranasal immunization and intramuscular injection immunization, and can generate specific IgG antibody titers for various COVID-19 mutant strains.

9.WO/2024/207942TUMOR VACCINE ADJUVANT AND USE THEREOF

WO - 10.10.2024

Clasificación Internacional A61K 39/39Nº de solicitud PCT/CN2024/081181Solicitante SUN YAT-SEN MEMORIAL HOSPITALInventor/a SONG, Erwei

The present invention provides a tumor vaccine adjuvant and a use thereof. The vaccine adjuvant is a dinucleotide repeat sequence (CA)n. As a specific ligand, the CA dinucleotide repeat sequence, while activating a cGAS-STING pathway, almost does not activate a TLR receptor to activate an inflammatory pathway such as downstream NF-KB to cause an inflammatory response of a host. Therefore, a novel vaccine adjuvant-CA dinucleotide repeat sequence with the activation of the cGAS-STING pathway as a mechanism is developed, and the CA dinucleotide repeat sequence can effectively activate organic immunity and has good biological safety, achieves a better effect than common polyI:C, and has high application value.

10.WO/2024/202045NOROVIRUS VACCINE CAPABLE OF INDUCING VIRUS-SPECIFIC ANTIBODY IN INTESTINAL TRACT

WO - 03.10.2024

Clasificación Internacional A61K 39/125Nº de solicitud PCT/JP2023/013640Solicitante DENKA COMPANY LIMITEDInventor/a NAKATA, Nagisa

Provided is a norovirus vaccine that uses virus-like particles (VLP) as the vaccine antigen, the vaccine inducing virus-specific IgG antibody and IgA antibody in the intestinal mucosa. The present invention is a norovirus vaccine composition for inducing a virus-specific antibody in the intestinal mucosa, the composition comprising norovirus virus-like particles and a squalene-containing emulsion.

11.4437110ORALE THERAPEUTISCHE IMPFSTOFFZUSAMMENSETZUNGEN, VERFAHREN UND BEHANDLUNG VON COVID

EP - 02.10.2024

Clasificación Internacional C12N 15/113Nº de solicitud 22898039Solicitante IMMUNITOR THAILAND CO LTDInventor/a JIRANTHITIKAL VICHAI

Described herein are oral vaccine compositions for preventing and treating COVID and COVID related complications (e.g., cytokine storm related complications). These oral vaccine compositions comprise hydrolyzed and heat inactivated anti-viral antisense and other nucleic acid components that target the

expression of SARS-CoV-2 viral proteins. Such oral vaccine compositions are room temperature stable and stimulate humoral (antibody), cellular and mucosal immunity.

12.20240325512VACCINE FOR PROTECTION AGAINST ETEC-INDUCED DIARRHEA COMPRISING DMLT

US - 03.10.2024

Clasificación Internacional A61K 39/108Nº de solicitud 18590696Solicitante SCANDINAVIAN BIOPHARMA HOLDING AB, c/o Etvax ABInventor/a Ann-Mari SVENNERHOLM

An oral vaccine for immunization against ETEC-induced diarrhea, comprising inactivated *Escherichia coli* cells expressing an ETEC colonization factor antigen and dmLT protein adjuvant, wherein the vaccine preferably comprises less than 10^{13} cells per unit dose.

13.4440602PEPTIDIMPFSTOFF

EP - 09.10.2024

Clasificación Internacional A61K 39/00Nº de solicitud 22826678Solicitante ARGONAUT THERAPEUTICS LTDInventor/a LA THANGUE NICHOLAS

The present invention provides one or more immunogenic peptides derived from a PRMT5-E2F1 axis regulated long non-coding RNA gene or a derivative thereof; a pharmaceutical composition comprising one or more of said peptides; a vaccine comprising one or more of said peptides and their use in therapy, including a method for eliciting an immune response in a mammalian subject by administration of an agent capable of presenting the peptides to the host. The invention also relates to the use of a PRMT5 inhibitor for use in treating cancer by stimulating host immunity.

14.20240335530SMALLPOX VACCINE FOR CANCER TREATMENT

US - 10.10.2024

Clasificación Internacional A61K 39/285Nº de solicitud 18743581Solicitante CALIDI BIOTHERAPEUTICS (NEVADA), INC.Inventor/a Aladar SZALAY

Disclosed herein are methods and compositions related to therapy for cancer. More specifically, the disclosed methods and compositions are related to the use of smallpox vaccine to induce an effective anti-tumor immune response.

15.12109261STABILIZED HEMAGGLUTININ (HA) TRIMERS AS INFLUENZA VACCINE ANTIGENS

US - 08.10.2024

Clasificación Internacional C07K 14/005Nº de solicitud 18670803Solicitante THE SCRIPPS RESEARCH INSTITUTEInventor/a Linling He

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.

16.20240325520RECOMBINANT SEVERE ACUTE RESPIRATORY SYNDROME CORONAVIRUS 2 RBD TRIMER PROTEIN VACCINE CAPABLE OF GENERATING BROAD-SPECTRUM CROSS NEUTRALIZATION ACTIVITY, AND PREPARATION METHOD AND USE THEREOF

US - 03.10.2024

Clasificación Internacional A61K 39/215Nº de solicitud 18277087Solicitante NATIONAL VACCINE AND SERUM INSTITUTE(NVSI)Inventor/a Qiming LI

The present invention discloses a recombinant RBD trimer protein capable of simultaneously generating cross neutralization activity for various severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) epidemic strains. The RBD trimer protein is taken as an antigen and supplemented with an adjuvant to immunize an organism, so that a high-titer neutralizing antibody aiming at various SARS-CoV-2 epidemic strains can be generated at the same time, and the antibody has a certain broad-spectrum property and can be used for treating and/or preventing SARS-CoV-2 infection and/or coronavirus disease 2019.

17.4442272IMPFSTOFFADJUVANS UND HERSTELLUNGSVERFAHREN DAFÜR UND VERWENDUNG DAVON

EP - 09.10.2024

Clasificación Internacional A61K 39/39Nº de solicitud 22913401Solicitante CHENGDU MAXVAX BIOTECHNOLOGY LLCInventor/a CHEN DEXIANG

A vaccine adjuvant, and a preparation method therefor and a use thereof. The vaccine adjuvant is a MA105 immunologic adjuvant, and comprises (1) QS-21: 50 μg/ml to 300 μg/ml; (2) Poly I:C: 400 μg/mL to 3000 μg/mL; and (3) lipid molecules constituting a vector, the vector being a mixture of a cationic liposome and a neutral liposome.

18.4440611SARS-COV-2-IMPFSTOFF, ZUGEHÖRIGE POLYNUKLEOTIDE UND VERFAHREN ZUR VERWENDUNG

EP - 09.10.2024

Clasificación Internacional A61K 39/12Nº de solicitud 22899453Solicitante AEGIS LIFE INCInventor/a JIANG HONG

The present disclosure relates to vaccines and related polynucleotides useful in eliciting an immune response to the SARS-CoV-2 virus and related methods of use. The vaccine formulations further comprise DNA vectors encoding SARS-Cov-2 spike protein variants comprising single amino acid substitutions and polynucleotides which encode an adjuvant, further wherein the vaccine is formulated with a proteolipid vesicle or fusogenic membrane protein.

19.20240325514A VACCINE FOR PROTECTION AGAINST STREPTOCOCCUS SUIS OF VARIOUS SEROTYPES

US - 03.10.2024

Clasificación Internacional A61K 39/09Nº de solicitud 18293380Solicitante Intervet Inc.Inventor/a Antonius Arnoldus Christiaan Jacobs

The present invention pertains to a vaccine for protection against a pathogenic infection with *Streptococcus suis*, the vaccine comprising a whole IgM protease antigen of *Streptococcus suis*, the antigen comprising in

its amino acid sequence less than four repeats, and a pharmaceutically acceptable carrier. The invention also pertains to this antigen for use in a method to protect a pig against such an infection, and to a method to protect such a pig.

20.WO/2024/198985METHOD FOR TREATING TUMORS USING COMBINATION OF ONCOLYTIC VIRUS VACCINE AND IMMUNE CELLS

WO - 03.10.2024

Clasificación Internacional A61K 39/00Nº de solicitud PCT/CN2024/082160Solicitante JOINT BIOSCIENCES (SH) LTD.Inventor/a ZHOU, Guoqing

The invention relates to the technical field of biomedicine, and specifically to a method for treating tumors using a combination of an oncolytic virus vaccine and immune cells. The method specifically comprises the following steps: treating a tumor by using a combination of immune cells and an oncolytic virus vaccine; the oncolytic virus vaccine comprising a recombinant oncolytic virus expressing a tumor antigen, and used for targeting tumor cells; the immune cells are embedded in an antigen receptor paired with the tumor antigen, and are used for killing or destroying tumor cells of a target; and the recombinant oncolytic virus comprises an M protein, G protein, N protein, P protein, and L protein, following site-directed mutagenesis. The combination of the oncolytic virus vaccine and the immune cells for killing or destroying the tumor antigen is used for attacking and killing tumor cells, and the tumor antigen expressed by the oncolytic virus vaccine can not only guide the immune cells to reach the center of a target tumor tissue, but the combination of the oncolytic virus and immune cells to kill tumor cells achieves a curative effect where 1+1 is greater than 2, with a maximum tumor cell killing rate being able to reach 100%.

21.20240335521STABILIZATION OF ADJUVANTED VACCINE COMPOSITIONS AND THEIR USE

US - 10.10.2024

Clasificación Internacional A61K 39/09Nº de solicitud 18591479Solicitante Vaxcyte, Inc.Inventor/a Christopher Iain GRAINGER

The present disclosure provides stabilized vaccine compositions that resist the formation of unsuitable adjuvant flocculant or aggregates. The present disclosure further provides methods of using such compositions to induce immune responses against infections in subjects.

22.WO/2024/207908ATTENUATED WEST NILE VIRUS VACCINE, DRUG AND USE

WO - 10.10.2024

Clasificación Internacional C12N 7/01Nº de solicitud PCT/CN2024/079255Solicitante SICHUAN ANCOCARE BIOPHARMACEUTICAL, LTD.Inventor/a YU, Li

Provided is a novel West Nile virus attenuated by envelope mutation. Using genetic engineering technology to change five specific amino acids of envelope E protein reduces the neurotoxicity of the virus to the central nervous system. Therefore, the present invention provides the use of the attenuated virus as a vaccine in preventive medicine, the novel envelope-attenuated virus filling the blank that there is no live attenuated vaccine of West Nile viruses. In addition, as an RNA virus vector, the attenuated West Nile virus allows insertion of an exogenous gene, so as to synthesize a novel genetic drug for use in clinical medicine. Because of the safety itself, the attenuated West Nile virus serving as an RNA oncolytic virus can be used for

clinical treatment of various tumors. A T-cell coactivation factor is embedded into the attenuated virus serving as an RNA oncolytic virus vector, thereby providing novel drug therapy which integrates dual mechanisms of oncolysis and active immune for treatment of solid tumors.

23.WO/2024/205045COMBINATION THERAPY OF HER2 VACCINE AND IMMUNE CHECKPOINT INHIBITOR

WO - 03.10.2024

Clasificación Internacional C12N 15/86Nº de solicitud PCT/KR2024/002522Solicitante ASTON SCIENCE INC.Inventor/a JUNG, Hun

The present invention relates to a combination therapy of a HER2 cancer vaccine and a PD-1 inhibitor or a PD-L1 inhibitor. The combination therapy according to the present invention overcomes treatment limitations of the PD-1 inhibitor or the PD-L1 inhibitor and exhibits excellent immunological antitumor activity.

24.4442281NASENIMPFSTOFFSPRÜHFORMULIERUNG ZUM GLEICHZEITIGEN TARGETING DER NASENSCHLEIMHAUT UND DES NASOPHARYNX

EP - 09.10.2024

Clasificación Internacional A61K 47/32Nº de solicitud 22901414Solicitante TOKO YAKUHIN KOGYO CO LTDInventor/a KAMISHITA TAIZOU

The present invention relates to a formulation base prepared by adding polyethylene glycol to crosslinked polyacrylic acid, and a formulation for spraying nasal vaccine comprising an antigen, which have optimized spray pattern targeting simultaneously both of nasal mucosa and nasopharynx.

25.WO/2024/199419PROTEIN OR MRNA VACCINE AGAINST NOVEL CORONAVIRUS AND PREPARATION METHOD THEREFOR AND USE THEREOF

WO - 03.10.2024

Clasificación Internacional C07K 14/165Nº de solicitud PCT/CN2024/084699Solicitante SHANGHAI RNACURE BIOPHARMA CO., LTD.Inventor/a LIN, Jinzhong

Provided are a protein or mRNA vaccine against novel coronavirus and a preparation method and a use thereof. The protein has increase, deletions or substitutions of one or more amino acid residues on an amino acid sequence as shown in SEQ ID NO: 59. Also provided is a corresponding nucleic acid that encodes an S protein mutant. Preclinical animal test data shows that the mRNA vaccine has a good protection effect on current mainstream variants of concern (VOC), good stability, and long-lasting efficacy, and has a wide clinical application prospect.

26.WO/2024/201502MENINGOCOCCAL PROTEIN BASED VACCINE FORMULATIONS AND METHODS FOR MANUFACTURING THEREOF

WO - 03.10.2024

Clasificación Internacional A61K 39/095Nº de solicitud PCT/IN2024/050300Solicitante SERUM INSTITUTE OF INDIA PRIVATE LIMITEDInventor/a PISAL, Sambhaji Shankar

Present invention provides fusion proteins with desired reduction in factor H binding, particularly the present invention provides optimized manufacturing process for fusion proteins and formulations comprising the fusion proteins. Present invention provides an efficient platform process for manufacturing an effective vaccine formulation against Neisseria meningitidis that meets multiple criteria including improved immunogenicity, safety, stability, and affordability.

27.202403255510NOVEL ANTI-CANCER VACCINE COMPOSITION AND A METHOD OF VACCINATION USING THE SAME

US - 03.10.2024

Clasificación Internacional A61K 39/00Nº de solicitud 18668477Solicitante EULJI UNIVERSITY INDUSTRY ACADEMY COOPERATION FOUNDATIONInventor/a Seung Hoon LEE

The present invention provides an anti-cancer vaccine composition and method of vaccination using the same, which can effectively inhibit the development and growth of various cancers including colorectal cancer, by inducing vaccination through the expression of PD-L1 or PD-L1-T epitope proteins on the surface of strains of the genus *Lactobacillus.*

28.4442271THERAPEUTISCHE IMPFSTOFFFORMULIERUNG FÜR TUMORE IM ZUSAMMENHANG MIT HEGF-CRM197

EP - 09.10.2024

Clasificación Internacional A61K 39/05Nº de solicitud 22900559Solicitante SHANGHAI HUIMMUTECH BIOTECHNOLOGY CO LTDInventor/a ZHANG WENYAO

Provided in the present invention is a recombinant hEGF-CRM197 tumor therapeutic vaccine formulation. Specifically, the formulation of the present invention contains a therapeutically effective amount of a conjugate of a recombinant human epidermal growth factor (hEGF) and a diphtheria toxin mutant (CRM197), a phosphate base buffer solution with the pH in a range of 7.5-8.5, a polysorbate 20 surfactant and optionally a monosaccharide or disaccharide. The protein conjugate molecule in the formulation of the present invention can break immune tolerance and induce the production of an anti-human epidermal growth factor antibody in the human body; In addition, the protein conjugate molecule produces a lower proportion of polymers, and has a more uniform molecular weight distribution in the buffer, and better stability. Therefore, the formulation of the present invention can achieve large-scale production and can be stably stored for a long time.

29.44412225'-UTR MIT VERBESSERTER TRANSLATIONSEFFIZIENZ, SYNTHETISCHES NUKLEINSÄUREMOLEKÜL DAMIT UND IMPFSTOFF ODER THERAPEUTISCHE ZUSAMMENSETZUNG DAMIT

EP - 09.10.2024

Clasificación Internacional C12N 15/113Nº de solicitud 22901866Solicitante MOGAM INSTITUTE FOR BIOMEDICAL RESInventor/a SHIN MIN-KYUNG

Disclosed are a synthetic nucleic acid molecule including 5'-UTR with improved translation efficiency and a vaccine/therapeutic composition including the same, and more particularly, a 5'-UTR polynucleotide that is imparted with improved translation efficiency based on the specific motif thereof, a synthetic nucleic acid molecule including the same and a vaccine/therapeutic composition including the synthetic nucleic acid

molecule. The 5'-UTR polynucleotide effectively induces expression of target proteins due to improved translation efficiency thereof and thus is useful for various RNA-based applications, for example, vaccines, in vivo/ex vivo gene therapy, etc.

30.20240335520A VACCINE FOR PROTECTION AGAINST STREPTOCOCCUS SUIS OF VARIOUS SEROTYPES

US - 10.10.2024

Clasificación Internacional A61K 39/09Nº de solicitud 18293378Solicitante Intervet Inc.Inventor/a Antonius Arnoldus Christiaan Jacobs

The present invention pertains to a vaccine comprising in combination an IgM protease antigen of *Streptococcus suis* serotype (7), a *Streptococcus suis* bacterin serotype (9), sequence type (16), and a pharmaceutically acceptable carrier. The invention also pertains to a combination of an IgM protease antigen of *Streptococcus suis* serotype (7), and a *Streptococcus suis* bacterin serotype (9), sequence type (16), for use in a method to protect a pig against a pathogenic infection with *Streptococcus suis* and to a method for protecting pigs against a pathogenic infection with *Streptococcus suis*, by administering to the pigs an IgM protease antigen of *Streptococcus suis* serotype (7) and a *Streptococcus suis* bacterin serotype (9), sequence type (16).

31.WO/2024/205358PORCINE REPRODUCTIVE AND RESPIRATORY SYNDROME CHIMERIC VIRUS AND VACCINE COMPOSITION USING SAME

WO - 03.10.2024

Clasificación Internacional C12N 15/86Nº de solicitud PCT/KR2024/095468Solicitante CARESIDE CO., LTD.Inventor/a YOU, Young Kook

The present invention relates to a novel attenuated North American PRRS chimeric virus produced by partial gene substitution and specific gene deglycosylation of the domestically prevalent North American PRRS Lineage 1, and a use thereof. The attenuated North American PRRS chimeric virus of the present invention has a reduced proliferation rate in pig bodies compared to existing wild-type viruses, but forms the same level of cellular and humoral immunity as the wild-type viruses, and thus can be utilized as a vaccine having ensured stability.

32.WO/2024/209272ONCODIALYSIS SYSTEM AND METHOD FOR PERSONALIZED AUTOLOGOUS CANCER VACCINE AND BLOOD PURIFICATION

WO - 10.10.2024

Clasificación Internacional A61M 1/38Nº de solicitud PCT/IB2024/000196Solicitante MICHAELI, DavidInventor/a MICHAELI, David

A system and method for preparing a cancer vaccine (and optionally purifying the blood) has a blood filtration system, controlled by a. processing unit, for filtering exogenous blood plasma to isolate tumor cells, tumor stem cells and tumor breakdown products. The blood filtration system filter may include multiple layers having differently sized apertures to retain differently sized materials (from among tumor cells of different sizes, tumor stem cells and tumor breakdown products. A device directs electromagnetic radiation at the separated tumor cells, tumor stem cells and/or tumor breakdown products. The electromagnetic radiation may cause the separated tumor cells, separated tumor stem cells and/or separated tumor breakdown products (for example

tumor protein such as DNA and/or tumor exosomes) to have a coagulated outer layer such as by degrading the outer surface. The electromagnetic radiation may have a UV wavelength. A conical coil improves flow rate uniformity. Tumor exosomes may be centrifuged.

33.20240335532NANOPARTICULATE FORMULATION

US - 10.10.2024

Clasificación Internacional A61K 39/39Nº de solicitud 18700024Solicitante NewImmune II, LLCInventor/a Brian HORSBURGH

The present disclosure relates to nanoparticulate vaccine adjuvants, and to vaccine compositions which contain nanoparticulate vaccine adjuvants; to methods of preparing such adjuvants and compositions; and to methods of using such compositions and adjuvants for vaccination. The vaccine adjuvants disclosed herein are effective for enhancing the immune response to vaccination.

34.20240325511USE OF A VACCINE TARGETING A CRYPTIC TERT EPITOPE, FOR TREATING CANCER IN A HLA-A*0201-POSITIVE PATIENT HAVING A NON-IMMUNOGENIC TUMOR EXPRESSING TERT

US - 03.10.2024

Clasificación Internacional A61K 39/00Nº de solicitud 18744060Solicitante KRIPTIC PHARMACEUTICALS LIMITEDInventor/a Kostantinos (Kostas) Kosmatopoulos

The invention pertains to the use of a tumor vaccine composed of two peptides of nine amino acids—the WT cryptic TERT572 (RLFFYRKSV, SEQ ID No: 1) expressed by tumor cells and its optimized variant TERT572Y (YLFFYRKSV, SEQ ID No: 2)—for treating cancer in a HLA-A*0201-positive patient having a non-immunogenic tumor expressing TERT.

35.20240327798ONCODIALYSIS SYSTEM AND METHOD FOR PERSONALIZED AUTOLOGOUS CANCER VACCINE AND BLOOD PURIFICATION

US - 03.10.2024

Clasificación Internacional C12N 5/09Nº de solicitud 18380909Solicitante DAVID MICHAELIInventor/a DAVID MICHAELI

A system and method for preparing a cancer vaccine (and optionally purifying the blood) has a blood filtration system, controlled by a processing unit, for filtering exogenous blood plasma to isolate tumor cells, tumor stem cells and tumor breakdown products. The blood filtration system filter may include multiple layers having differently sized apertures to retain differently sized materials (from among tumor cells of different sizes, tumor stem cells and tumor breakdown products. A device directs electromagnetic radiation at the separated tumor cells, tumor stem cells and/or tumor breakdown products. The electromagnetic radiation may cause the separated tumor cells, separated tumor stem cells and/or separated tumor breakdown products (for example tumor protein such as DNA and/or tumor exosomes) to have a coagulated outer layer such as by degrading the outer surface. The electromagnetic radiation may have a UV wavelength. A conical coil improves flow rate uniformity. Tumor exosomes may be centrifuged.

36.WO/2024/197451HOMOLOGOUS AND HETEROLOGOUS THERAPEUTIC VACCINATION STRATEGIES FOR CANCER TREATMENT

WO - 03.10.2024

Clasificación Internacional A61K 39/00Nº de solicitud PCT/CN2023/083679Solicitante VIROGIN BIOTECH (SHANGHAI) LTD.Inventor/a JIA, William Wei-Guo

Compositions and methods are provided for eliciting an immune response in a subject, by (a) administering to a subject a first vaccine, wherein the first vaccine includes a macromolecule or an oncolytic virus capable of inducing an immune response in a subject, and (b) administering a second vaccine, wherein the second vaccine includes an oncolytic virus. Within preferred embodiments, the immune response is used to treat a patient having cancer.

37.WO/2024/198943HOMOLOGOUS AND HETEROLOGOUS THERAPEUTIC VACCINATION STRATEGIES FOR CANCER TREATMENT

WO - 03.10.2024

Clasificación Internacional A61K 39/00Nº de solicitud PCT/CN2024/081488Solicitante VIROGIN BIOTECH (SHANGHAI) LTD.Inventor/a JIA, William Wei-Guo

Compositions and methods are provided for eliciting an immune response in a subject, by (a) administering to a subject a first vaccine, wherein the first vaccine includes a macromolecule or an oncolytic virus capable of inducing an immune response in a subject, and (b) administering a second vaccine, wherein the second vaccine includes an oncolytic virus. Within preferred embodiments of the invention the immune response is used to treat a patient having cancer.

38.4440610IMPFSTOFFE AUF BASIS VON MENSCHLICHEN METAPNEUMOVIRUS-VIRUSVEKTOREN

EP - 09.10.2024

Clasificación Internacional A61K 39/12Nº de solicitud 22831051Solicitante SANOFI PASTEUR INCInventor/a CHAN YVONNE

The present disclosure provides a human metapneumovirus (hMPV) vaccine comprising an hMPV F protein antigen, and methods of eliciting an immune response by administering said vaccine.

39.WO/2024/206243PAN-BETACORONAVIRUS VACCINES AND USES THEREOF

WO - 03.10.2024

Clasificación Internacional C12N 15/863Nº de solicitud PCT/US2024/021359Solicitante GEOVAX. INC.Inventor/a NEWMAN, Mark, Joseph

Provided herein are recombinant modified vaccinia Ankara (rMVA) viral vectors comprising nucleic acid inserts encoding one or more SARS-CoV-2 non-structural proteins selected from NSP6, NSP12, and/or NSP13, and optionally the spike (S), membrane (M), envelope (E), and/or nucleocapsid (N) proteins of SARS-CoV-2, operably linked to a promoter compatible with poxvirus expression systems that, upon expression, are capable of inducing protective immunity. Also provided herein are compositions comprising i) a first recombinant modified vaccinia Ankara (rMVA) viral vector comprising a nucleic acid encoding one or more SARS-CoV- 2 non-structural proteins, and optionally ii) a second rMVA viral vector comprising heterologous nucleic acid insert encoding the spike (S), membrane (M), envelope (E), and/or nucleocapsid (N) proteins of SARS-CoV-2, operably linked to a promoter compatible with poxvirus expression systems that, upon expression can be

used in a priming vaccination strategy or in a prime/boost vaccination strategy to provide immunity to SARS-CoV-2 and variants thereof.

40.4436601MODIFIZIERTE GENIMPFSTOFFE GEGEN VOGEL-CORONAVIREN UND VERFAHREN ZUR VERWENDUNG DAVON

EP - 02.10.2024

Clasificación Internacional A61K 39/215Nº de solicitud 22899543Solicitante WISCONSIN ALUMNI RES FOUNDInventor/a TALAAT ADEL

The present invention provides both QuilA-loaded chitosan (QAC)-encapsulated NA vaccine compositions and viral vaccine compositions that encode an Infectious Bronchitis Virus (IB V) spike (S) protein, an IBV nucleocapsid (N) protein, or both the S protein and the N protein. Additionally, the present invention provides methods in which the disclosed vaccines are administered to a subject to induce an immune response against IBV or to vaccinate the subject against IBV.

41.20240335525TRUNCATED INFLUENZA NEURAMINIDASE AND METHODS OF USING THE SAME

US - 10.10.2024

Clasificación Internacional A61K 39/145Nº de solicitud 18682372Solicitante SANOFI PASTEUR INC.Inventor/a Mario BARRO

Provided are modified influenza virus subtype 2 neuraminidase molecules lacking all or substantially all of the stalk region that form active, soluble tetrameric neuraminidase when expressed in host cells and vaccine compositions comprising the tetrameric neuraminidase or a nucleic acid encoding the modified monomeric influenza virus subtype 2 neuraminidase molecules that forms tetrameric NA when expressed in a cell. Also provided are methods of using the vaccine compositions to vaccinate or immunize a subject against influenza virus.

42.WO/2024/200491BIOLOGICAL RESPONSE MODIFIERS FOR THE TREATMENT OF SUBJECTS WITH UNDERPERFORMING IMMUNE SYSTEMS AND COMPOSITIONS THEREOF

WO - 03.10.2024

Clasificación Internacional A61K 31/7084Nº de solicitud PCT/EP2024/058206Solicitante HELMHOLTZ ZENTRUM FÜR INFEKTIONSFORSCHUNG GMBHInventor/a RUBIDO, Julio Cesar Aguilar

In the present invention, the cyclic-di-nucleotides or their compositions are used as biological response modifiers to improve the immune response of subject with underperforming immune systems with low/non-responsiveness to vaccine antigens or underperforming immune response to pathogens. The formulations of the present invention are capable of modifying the biological response in the way of abrogating the non-responsiveness resulting in the development of a high avidity immune response preventing the disease caused by infectious agents, in particular from viruses, with the capacity to evade the mechanisms of immune surveillance and consequently suppress the induction of a high avidity and effective adaptive response. The present invention also comprises the formulations of cyclic di-nucleotides, which may be administered alone, in combination with other biological response modifiers or in vaccine formulations with antigens. The proposed invention also includes the method of preventing or treating acute respiratory infections, preventing the severity of the disease and blocking transmission by inducing an immune response at the entry site (nasopharyngeal mucosa), preventing or reducing person-to-person pathogen/virus transmission in pre-

emptive vaccine formulations as well as in formulations used for pre-/post exposure prophylaxis of acute respiratory infections.

43.4438047BIOLOGISCHE REAKTIONSMODIFIKATOREN ZUR BEHANDLUNG VON PATIENTEN MIT UNTERPERFORMIERENDEN IMMUNSYSTEMEN UND ZUSAMMENSETZUNGEN DAVON

EP - 02.10.2024

Clasificación Internacional A61K 31/7084Nº de solicitud 23164382Solicitante HELMHOLTZ ZENTRUM INFEKTIONSFORSCHUNG GMBHInventor/a AGUILAR RUBIDO JULIO CESAR

In the present invention, the cyclic-di-nucleotides or their compositions are used as biological response modifiers to improve the immune response of subject with underperforming immune systems with low/non-responsiveness to vaccine antigens or underperforming immune response to pathogens. The formulations of the present invention are capable of modifying the biological response in the way of abrogating the non-responsiveness resulting in the development of a high avidity immune response preventing the disease caused by infectious agents, in particular from viruses, with the capacity to evade the mechanisms of immune surveillance and consequently suppress the induction of a high avidity and effective adaptive response. The present invention also comprises the formulations of cyclic di-nucleotides, which may be administered alone, in combination with other biological response modifiers or in vaccine formulations with antigens. The proposed invention also includes the method of preventing or treating acute respiratory infections, preventing the severity of the disease and blocking transmission by inducing an immune response at the entry site (nasopharyngeal mucosa), preventing or reducing person-to-person pathogen/virus transmission in pre-emptive vaccine formulations as well as in formulations used for pre-/post exposure prophylaxis of acute respiratory infections.

44.4440613CORONAVIRUS-IMPFSTOFF-FORMULIERUNGEN

EP - 09.10.2024

Clasificación Internacional A61K 39/12Nº de solicitud 22902377Solicitante NOVAVAX INCInventor/a SMITH GALE

Disclosed herein are coronavirus Spike (S) proteins and nanoparticles comprising the same, which are suitable for use in vaccines. The nanoparticles present antigens from pathogens surrounded to and associated with a detergent core resulting in enhanced stability and good immunogenicity. Dosages, formulations, and methods for preparing the vaccines and nanoparticles are also disclosed.

45.2024223993NEISSERIA MENINGITIDIS VACCINE

AU - 10.10.2024

Clasificación Internacional Nº de solicitud 2024223993Solicitante Sanofi Pasteur, Inc.Inventor/a Hauser, Steven L.

46.WO/2024/209013LIPID NANOPARTICLE COMPOSITIONS

WO - 10.10.2024

Clasificación Internacional A61K 9/51Nº de solicitud PCT/EP2024/059261Solicitante KØBENHAVNS UNIVERSITETInventor/a FOGED, Camilla

The present invention relates to the field of lipid nanoparticles (LNPs). In particular, the present invention relates to an LNP composition comprising a cationic or cationically ionisable lipid or lipid-like material, a helper lipid, a lipopolymer, and a monomycoloyl glycerol (MMG) analogue. The LNP composition is particularly useful as a vaccine composition.

47.4442256LIPIDNANOPARTIKELZUSAMMENSETZUNGEN

EP - 09.10.2024

Clasificación Internacional A61K 9/51Nº de solicitud 23166579Solicitante KOEBENHAVNS UNIVInventor/a FOGED CAMILLA

The present invention relates to the field of lipid nanoparticles (LNPs). In particular, the present invention relates to an LNP composition comprising a cationic or cationically ionisable lipid or lipid-like material, a helper lipid, a lipopolymer, and a monomycoloyl glycerol (MMG) analogue. The LNP composition is particularly useful as a vaccine composition.

48.WO/2024/210596SUBLINGUAL DISSOLVING MICRONEEDLE ARRAY FOR MUCOSAL IMMUNITY AND METHOD FOR MANUFACTURING SAME

WO - 10.10.2024

Clasificación Internacional A61K 39/00Nº de solicitud PCT/KR2024/004485Solicitante UIF (UNIVERSITY INDUSTRY FOUNDATION), YONSEI UNIVERSITYInventor/a JUNG, Hyung Il

The present invention relates to a sublingual dissolving microneedle (SLDMN) array for mucosal immunity and a method for manufacturing same and, more specifically, to: an SLDMN array capable of effectively delivering a vaccine into the sublingual area by introducing SLDMNs onto micropillars without adhesive patches that are unsuitable for the sublingual area due to oral saliva; and a method for manufacturing same.

49.WO/2024/199063PHOSPHORUS OR SULFUR-CONTAINING MACROCYCLE AND USE THEREOF

WO - 03.10.2024

Clasificación Internacional C07D 473/00Nº de solicitud PCT/CN2024/082890Solicitante ZHEJIANG YANGSHENGTANG INSTITUTE OF NATURAL MEDICATION CO., LTD.Inventor/a XU, Pan

The present application relates to the field of biomedicine, and in particular to a small-molecular phosphorus or sulfur-containing macrocycle which has better immunomodulatory activity and selectivity. The present invention further provides a use of the small-molecular phosphorus or sulfur-containing macrocycle for preventing or treating a TLR7-related disease, and a use as a vaccine adjuvant and a photodynamic therapeutic agent.

50.20240337656STREPTOCOCCUS PNEUMONIAE SEROTYPE-SPECIFIC DETECTION ASSAY, REAGENTS AND KITS

US - 10.10.2024

Clasificación Internacional G01N 33/569Nº de solicitud 18625385Solicitante Merck Sharp & Dohme LLCInventor/a Zhifeng Chen

S. pneumoniae is a major cause of community-acquired pneumonia (CAP) in young children, older adults, and those with conditions or medications that compromise their immunity. Since the introduction of pneumococcal vaccines, the disease burden of vaccine serotypes (STs) on invasive pneumococcal disease has reduced; however, the effect on the burden of CAP is less well known, potentially due to a lack of testing for pneumococcal STs.

51.WO/2024/199069POLYARYL-CONTAINING MACROCYCLIC COMPOUND AND USE THEREOF

WO - 03.10.2024

Clasificación Internacional C07D 498/22Nº de solicitud PCT/CN2024/082947Solicitante ZHEJIANG YANGSHENGTANG INSTITUTE OF NATURAL MEDICATION CO., LTD.Inventor/a XU, Pan

The present application relates to the field of biomedicine, and in particular, to a small-molecule polyaryl-containing macrocyclic compound which has better immunoregulation activity and selectivity. The present invention further provides a use of the small-molecule polyaryl-containing macrocyclic compound for preventing or treating TLR7-related diseases, and a use of the small-molecule polyaryl-containing macrocyclic compound as a vaccine adjuvant and a photodynamic therapeutic agent.

52.WO/2024/205322METHOD FOR PREPARING ALUMINUM-BASED ADJUVANT HAVING ENHANCED EFFICACY

WO - 03.10.2024

Clasificación Internacional A61K 39/39Nº de solicitud PCT/KR2024/004079Solicitante SK BIOSCIENCE CO., LTD.Inventor/a LEE, Jeong Min

The present application provides: a method for preparing an aluminum-based adjuvant having enhanced efficacy, the method comprising a plurality of steps of performing an autoclave treatment process; an aluminum-based adjuvant prepared by the method; an immunogenic composition comprising the aluminum-based adjuvant; and a kit comprising the immunogenic composition. The aluminum-based adjuvant prepared by the method can be used to improve the safety and effectiveness of conventional vaccine formulations including polysaccharide vaccines, polysaccharide-protein conjugate vaccines, etc.

53.20240327465PEPTIDES AND ANTIGEN BINDING PROTEINS FOR USE IN IMMUNOTHERAPY AGAINST FIBROLAMELLAR HEPATOCELLULAR CARCINOMA (FL-HCC) AND OTHER CANCERS

US - 03.10.2024

Clasificación Internacional C07K 14/00Nº de solicitud 18744495Solicitante Eberhard Karls Universität Tübingen Medizinische FakultätInventor/a Juliane Walz

The present invention relates to peptides, antigen binding proteins, nucleic acids and cells for use in immunotherapeutic methods. In particular, the present invention relates to the immunotherapy of cancer, especially of fibrolamellar hepatocellular carcinoma (FL-HCC). The present invention furthermore relates to tumor-associated T-cell peptide epitopes and recombinant T-cell receptors 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.

54.WO/2024/206447SYSTEMS AND METHODS FOR DETECTION, MONITORING, AND INTERACTIVE DISPLAY OF CIRCULATING INFECTIOUS DISEASES AND THEIR CHARACTERISTICS

WO - 03.10.2024

Clasificación Internacional G16B 20/50Nº de solicitud PCT/US2024/021683Solicitante BIONTECH SEInventor/a MUIK, Alexander

The present disclosure, among other things, provides technologies for identifying, characterizing, and/or monitoring variant sequences of a particular reference infections agent. Among other things, systems, methods, and architectures described herein provide visualization and decision support tools that can. e.g., facilitate decision making processes by local authorities and improve pandemic response in terms of, e.g., resource allocation, policy making, and speed tailored vaccine development. The present disclosure also provides tools for analyzing circulating variants to predict mutations likely to increase immune evasion of infectious agents.

55.WO/2024/206431SYSTEMS AND METHODS FOR DETECTION, MONITORING, AND INTERACTIVE DISPLAY OF CIRCULATING INFECTIOUS DISEASES AND THEIR CHARACTERISTICS

WO - 03.10.2024

Clasificación Internacional G16B 20/50Nº de solicitud PCT/US2024/021662Solicitante BIONTECH SEInventor/a MUIK, Alexander

The present disclosure, among other things, provides technologies for identifying, characterizing, and/or monitoring variant sequences of a particular reference infections agent. Among other things, systems, methods, and architectures described herein provide visualization and decision support tools that can, e.g., facilitate decision making processes by local authorities and improve pandemic response in terms of, e.g., resource allocation, policy making, and speed tailored vaccine development. The present disclosure also provides tools for analyzing circulating variants to predict mutations likely to increase immune evasion of infectious agents.

56.WO/2024/205165PRODUCTION AND USE OF NANOPARTICLES COMPRISING DECELLULARIZED SPLEEN EXTRACELLULAR MATRIX

WO - 03.10.2024

Clasificación Internacional A61K 39/39Nº de solicitud PCT/KR2024/003714Solicitante INDUSTRY-ACADEMIC COOPERATION FOUNDATION, YONSEI UNIVERSITYInventor/a CHO, Seung Woo

The present invention relates to nanoparticles comprising a decellularized spleen extracellular matrix and use thereof and, in particular, to: nanoparticles having a uniform size, which are obtained by producing hydrogel from a decellularized spleen extracellular matrix, and then freeze-milling the hydrogel; a method for producing same; use thereof; and the like. The nanoparticles comprising a decellularized spleen extracellular matrix, according to the present invention, have many excellent advantages such as an immunity-enhancing effect, biocompatibility, safety, biodegradability, and usability, and thus can be used as a novel adjuvant for enhancing vaccine immunity.

57.20240327921SYSTEM AND METHOD FOR THE DETECTION AND PREVENTION OF LEUKEMIA AND LYMPHOMA

US - 03.10.2024

Clasificación Internacional C12Q 1/6886Nº de solicitud 18129791Solicitante Cameron Kamran TebbiInventor/a Cameron Kamran Tebbi

A method for detection and prevention of leukemia and lymphoma is disclosed. When mononuclear blood cells from an individual are exposed to a supernatant of a mycovirus-containing *Aspergillus flavus*, the degree and pattern of activation and upregulation or downregulation transcription factors are indicative of an individual's susceptibility to leukemia or lymphoma. Upon detection of observed transcription factors, preventive measures are provided to the individual. Preventive measures may include, for example, a vaccine, or may be provided upon detection of observed transcription factors with those individuals that are genetically susceptible to leukemia and lymphoma.

58.4440606GEGEN SALMONELLA-ENEROVAREN GERICHTETER MAP-IMPFSTOFF

EP - 09.10.2024

Clasificación Internacional A61K 39/112Nº de solicitud 22902328Solicitante THE CHILDRENS MEDICAL CENTER CORPInventor/a MALLEY RICHARD

Technologies for the prevention and/or treatment of *Salmonella* infections.

59.4442302VERNEBLERBECHER UND VERWENDUNG DAVON BEI DER VERABREICHUNG VON VERNEBLERINHALATION

EP - 09.10.2024

Clasificación Internacional A61M 11/00Nº de solicitud 22880444Solicitante CANSINO BIOLOGICS INCInventor/a SI WEIXUE

Disclosed are a nebulization cup and application in nebulized inhalation administration thereof, and especially application in nebulized inhalation administration of a preventive and/or therapeutic drug for a respiratory disease (such as SARS-CoV-2 vaccine). After adding an antistatic agent, the nebulization cup can effectively maintain the stability of drug mist within a certain period of time, with stable particle size, less drug residue in the cup, thus ensuring effective inhalable amount, and the administration operation is simple and convenient, thus the nebulization cup can significantly improve the inoculation efficiency and can be used for large-scale inoculation.

60.2024220111DENGUE VACCINE UNIT DOSE AND ADMINISTRATION THEREOF

AU - 10.10.2024

Clasificación Internacional Nº de solicitud 2024220111Solicitante Takeda Vaccines, Inc.Inventor/a LEFEVRE, Inge

61.WO/2024/199359LIPOSOME ADJUVANT SYSTEM CONTAINING CYCLIC DINUCLEOTIDE MOLECULE, AND PREPARATION METHOD THEREFOR

WO - 03.10.2024

Clasificación Internacional A61K 39/39Nº de solicitud PCT/CN2024/084421Solicitante JIANGSU RECBIO TECHNOLOGY CO., LTD.Inventor/a YAO, Wenrong

Disclosed is an adjuvant system containing a cyclic dinucleotide molecule, which system is a liposome-based adjuvant delivery system where a phospholipid-bilayer-encapsulated monophos-phoryl lipid A and a cyclic dinucleotide synergistically exert an adjuvant effect. The phospholipid bilayer on the surface has good biocompatibility and promotes cell uptake. The combination of the monophos-phoryl lipid A and the cyclic dinucleotide molecule simultaneously activates TLR4 and STING pathways, synergistically promotes a TH1-type immune response, improves cellular immunity, and is particularly suitable for a vaccine for preventing a disease which is mainly based on cellular immunity. The adjuvant system has high safety, and is suitable for multiple vaccination routes such as cavity mucosal, subcutaneous and intracutaneous/intramuscular injection.

62.20240336660METHOD FOR SURFACE EXPRESSION OF MEMBRANE PROTEINS THAT HAVE A CYTOPLASMIC C-TERMINAL TAIL

US - 10.10.2024

Clasificación Internacional C07K 14/005Nº de solicitud 18577642Solicitante The Johns Hopkins UniversityInventor/a Stephen J. Gould

Coronavirus egress is mediated by lysosomal exocytosis. It is demonstrated herein that the D614G mutation enhances Spike trafficking to lysosomes and the lysosomal accumulation of newly synthesized virus particles, augments Spike-mediated disruption of endomembrane homeostasis, and causes a 3-fold reduction in cell surface Spike expression. Moreover, it is shown that the D614G mutation is an intragenic suppressor of the 12 nucleotide-long furin cleavage site (FCS) insertion, restoring Spike trafficking to lysosomes and TMPRSS2-independent infectivity, both of which had been impaired by the prior FCS insertion mutation. This data identifies enhanced lysosomal sorting as the earliest known manifestation of the D614G mutation, have implications for virus evolution, immunity, and vaccine design, and support a lysosomal model of coronavirus biogenesis and entry.

63.4436596VON CORONAVIRUS ABGELEITETE RNA-REPLIKONS UND DEREN VERWENDUNG ALS IMPFSTOFFE

EP - 02.10.2024

Clasificación Internacional A61K 39/12Nº de solicitud 22822420Solicitante CONSEJO SUPERIOR INVESTIGACIONInventor/a ENJUANES SÁNCHEZ LUIS

A propagation-defective, replication-competent RNA replicon derived from the SARS-CoV-2 coronavirus that comprises a polynucleotide sequence SEQ_ID 2 or a variant of SEQ_ID 2 having at least 80 % identity, more preferably 85% identity, even more preferably at least 90 % identity, and even more preferably 91 % or 92 % or 93 % or 94 % or 95 % or 96 % or 97 % or 98 % or even up to 99 % identity with respect to the SEQ_ID 2 polynucleotide sequence, wherein the variant of SEQ_ID2 does not comprise sequences suitable for expressing an ORF8 protein, wherein the ORF8 protein is encoded by a gene having at least 80% identity to the sequence of SEQ_ID36, methods of preparation thereof and the use in vaccine compositions.

64.4436597VERFAHREN ZUR BLOCKIERUNG EINER ASFV-INFEKTION DURCH UNTERBRECHUNG VON ZELL- UND VIRENREZEPTORINTERAKTIONEN

EP - 02.10.2024

Clasificación Internacional A61K 39/12Nº de solicitud 22899285Solicitante CHEN DALUInventor/a CHEN DALU

A method of preventing and treating viral infections in animals (and preferably ASFV in porcine), by inhibiting viral ligand interactions with critical cellular receptors that are involved either directly (endocytosis and/or macropinocytosis) or indirectly (phagocytosis of RBCs that have been aggregated by viral interactions) with cellular entry in an animal, and preventing and treating the viral infection in the animal. A method of treating a viral infection in an individual with a virus that is both lysogenic and lytic. A composition for treating a viral infection in an individual with a virus that is both lysogenic and lytic. A vaccine for preventing viral infection, including whole and/or partial domains of proteins of both a lysogenic and lytic phase of a virus.

65.WO/2024/198628PHARMACEUTICAL COMPOSITION AND USE THEREOF IN PREPARATION OF DRUG FOR TREATING TUMORS

WO - 03.10.2024

Clasificación Internacional A61K 33/24Nº de solicitud PCT/CN2024/071533Solicitante NATIONAL CENTER FOR NANO SCIENCE AND TECHNOLOGYInventor/a NIE, Guangjun

Provided is a pharmaceutical composition comprising a metal oxide nanoparticle and a soluble dietary fiber, wherein the metal oxide nanoparticle is selected from one or more of a tungsten trioxide nanoparticle, a titanium dioxide nanoparticle, a manganese dioxide nanoparticle and a molybdenum oxide nanoparticle. Further provided is the use of the pharmaceutical composition in the preparation of a drug for treating tumors. The provided pharmaceutical composition has a significant inhibitory effect on tumors, and slows down an increase rate of tumor volume, and/or reduces the tumor volume and weight. In addition, the pharmaceutical composition in combination with a tumor vaccine and an immune checkpoint inhibitor can further enhance the tumor inhibitory effect. The provided pharmaceutical composition has the advantages of readily available raw materials for preparation, a simple preparation method and low costs, and is suitable for large-scale production and has good application prospects.

66.20240335527VACCINE ADJUVANTS, TRANSFECTION REAGENTS, AND METHODS OF USING THE SAME

US - 10.10.2024

Clasificación Internacional A61K 39/215Nº de solicitud 18629296Solicitante Wisconsin Alumni Research FoundationInventor/a Adel Talaat

Disclosed herein are compositions of disaggregated spherical nanostructures comprising Quil-A and dioleoyl 3 trimethylammonium propane (DOTAP) wherein the Quil-A and DOTAP are present at ratios between 2:1 Quil-A: DOTAP to about 1:2 Quil-A: DOTAP. Also provided are methods of making and using the same.

67.20240327822MATERIALS AND METHODS TO COMPREHENSIVELY DEFINE ADAPTIVE IMMUNE RESPONSES

US - 03.10.2024

Clasificación Internacional C12N 15/10Nº de solicitud 18579137Solicitante The University of Hong KongInventor/a Ren Sun

Methods for detecting adaptive immune responses to pathogens or self-antigens by antibody or B cell or T cell binding to antigenic epitopes have been established. The methods inform functional and structural interactions between immune receptors and antigens, identify potential therapeutic targets and guide vaccine development. The methods employ high throughput modified mRNA-display or variations of droplet display to determine single epitope-specific antibody and B- and T- cell receptor sequences at the genomic scale at single epitope and single amino acid resolution. In some forms, the methods collect and integrate the data to provide a database of an adaptive immunity profile for a human or animal subject. In some forms, the methods identify and record changes in an immunity profile over different time points to reflect immunological responses in a subject. The methods provide high resolution immunity profiles of immune responses at the genomic level for diagnostic, prophylactic, and therapeutic applications.

68.WO/2024/199469RESPIRATORY SYNCYTIAL VIRUS F PROTEIN HAVING STABLE PRE-FUSION CONFORMATION

WO - 03.10.2024

Clasificación Internacional C07K 14/135Nº de solicitud PCT/CN2024/084908Solicitante TSINGHUA UNIVERSITYInventor/a XIANG, Ye

A respiratory syncytial virus (RSV) F protein having a stable pre-fusion conformation, an encoding nucleic acid molecule thereof, a vector and a composition comprising same, and a use of the protein, the nucleic acid molecule, the vector, and the composition in the preparation of a vaccine and a preventive and therapeutic composition. By means of introducing a series of mutations into RSV F, an RSV F protein having a stable pre-fusion conformation is obtained. Sites of the mutations do not involve the introduction of any non-native disulfide bonds, and no mutations are introduced near the important antigenic epitope Ø and on exposed surfaces of other key epitopes of RSV F. Therefore, effects on the immunogenicity and key conformation of RSV F can be minimized as much as possible while the pre-fusion conformation of RSV F is stabilized, thereby ensuring that a designed antigen can stably induce the production of neutralizing antibodies that fully cover the key epitopes to prevent virus invasion.

69.4438053KREBSIMPFSTOFF GEGEN ANAPLASTISCHE LYMPHOMKINASE (ALK) UND VERFAHREN ZUR VERWENDUNG

EP - 02.10.2024

Clasificación Internacional A61K 38/00Nº de solicitud 24186643Solicitante CHILDRENS MEDICAL CENTERInventor/a CHIARLE ROBERTO

Provided herein are isolated anaplastic lymphoma kinase (ALK) peptides that are fragments of the cytoplasmic portion of an ALK protein shared by cancers having an ALK rearrangement and cancers expressing the ALK protein, that bind a human leukocyte antigen (HLA), and elicit an immune response against one or more ALK-positive cancers. Also provided are isolated ALK peptides that are modified with an amphiphilic conjugate to increase T-cell expansion and greatly enhance anti-tumor efficacy. The invention also provides polynucleotides encoding isolated ALK peptides, vaccines comprising an isolated ALK peptide or polynucleotide, immunogenic compositions thereof, and kits for administering the same. Methods of treatment and methods of generating an immune response in a subject by administering the ALK-specific peptide antigens, immunogens, vaccines, or immunogenic compositions thereof are provided.

70.20240325448COLD ATMOPSHERIC PLASMA TREATED PAN-CANCER EPITOPE PEPTIDE WITHIN THE COLLAGEN TYPE VI A-3 (COL6A3) PROTEIN AS CANCER VACCINE

US - 03.10.2024

Clasificación Internacional A61K 35/17Nº de solicitud 18702095Solicitante JEROME CANADY RESEARCH INSTITUTE FOR ADVANCED BIOLOGICAL AND TECHNOLOGICAL SCIENCESInventor/a Jerome Canady

A method to oxidize pan-cancer epitopes of COL6A3 protein (peptide sequences 1. FLLDGSANV (SEQ ID NO: 1), 2. FLLDGSEGV (SEQ ID NO: 2) and 3. FLLDGSINF (SEQ ID NO: 3)) by cold atmospheric plasma treatment for developing solid tumor cancer vaccines.

71.20240325342METHODS OF TREATING OR REDUCING SYMPTOMS OF OPIATE DEPENDENCY (ADDICTION) VIA COMBINATION THERAPY WITH VACCINE/ANTIBODIES AND 5HT1/5HT2, SERT AND OPIATE ALLOSTERIC MODULATORS

US - 03.10.2024

Clasificación Internacional A61K 31/352Nº de solicitud 18625181Solicitante David Alan Heldreth, JR.Inventor/a David Alan Heldreth, JR.

The invention involves the use of formulations of allosteric modulators of primarily 5ht2/5ht1, opiate or SERT serotonin transporter, but also those of: 5ht1a/b/c/d, 5ht2a/b/c, 5ht3, 5ht4, 5ht7, dopamine, GLP, and other receptors/systems, in combination with phenethylamines, tryptamines, ibogaloids as well as vaccines, antibodies and other compounds; to treat opiate dependency (addiction). Wherein opiate means, any opiate compound/mixture/drug, including, but not limited to synthetic, semisynthetic, natural, such as but not limited to opium, morphine, heroin, codeine, oxycodone, fentanyl, methadone, or other.

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