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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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New Investments in Vaccine Development Needed

Dec 1. A recent report by the World Health Organization (WHO) finds that vaccines against 23 pathogens could reduce the number of antibiotics needed by 22% annually, supporting worldwide efforts to address antimicrobial resistance (AMR).

The misuse and overuse of antimicrobials primarily drive AMR.

While some vaccines are already available but underused, the WHO says others need to be developed and brought to the market as soon as possible.

The new report expands on Original Research published in BMJ Global Health on October 18, 2023. It estimates that vaccines already in use against pneumococcus pneumonia, Haemophilus influenzae type B (Hib, a bacteria causing pneumonia and meningitis), and typhoid could avert up to 106,000 deaths associated with AMR yearly.

An additional 543,000 deaths associated with AMR could be averted annually when new vaccines for tuberculosis (TB) and Klebsiella pneumoniae are developed and rolled out globally. While several new TB vaccines are in clinical trials, one against Klebsiella pneumoniae is in the early stage of development.

“Addressing antimicrobial resistance starts with preventing infections, and vaccines are among the most powerful tools for doing that,” said Dr Tedros Adhanom Ghebreyesus, WHO Director-General, in a WHO press release.

“Prevention is better than cure, and increasing access to existing vaccines and developing new ones for critical diseases, like tuberculosis, is critical to saving lives and turning the tide on AMR.”

Fuente: Vax Before Travel. Disponible en https://goo.su/Dwd7hoz

GSK Expands Arexvy Approval to Adults Aged 50-59 at Increased Risk of Severe RSV Disease in Japan

Dec 2. GSK has announced the approval by Japan’s Ministry of Health, Labour and Welfare (MHLW) to extend the indication of Arexvy (respiratory syncytial virus vaccine, recombinant adjuvanted) for the prevention of respiratory syncytial virus (RSV) disease to adults aged 50-59 who are at an increased risk due to certain underlying health conditions. Following its authorization in Japan last year for individuals aged 60 and above, the current approval now extends to include individuals in their fifties.

RSV Affects 64 Million Worldwide; Increased Risk in the Elderly Populations

RSV is a highly contagious virus that affects the lungs and respiratory passages, leading to serious complications, particularly in vulnerable populations. For adults, certain pre-existing conditions such as chronic obstructive pulmonary disease (COPD), asthma, and heart failure can make RSV infections more severe, resulting in pneumonia, hospitalization, and even death. The newly expanded approval offers an essential option to adults in the designated age range who face a heightened risk of these outcomes due to such health conditions.

Globally, RSV affects an estimated 64 million people annually across all age groups. The clinical burden of RSV in these individuals is substantial, making prevention a critical healthcare priority. Tony Wood, Chief Scientific Officer at GSK, highlighted the importance of this development by stating, "This approval reflects our ambition to protect people at increased risk from the severe consequences of RSV infection. Adults aged 50-59 with certain underlying medical conditions can face debilitating consequences from RSV, so we are pleased to offer those in Japan a vaccine for the first time."

Expanding Access to GSK's RSV Vaccine: A Key Step in Combating a Deadly Virus with Official Health Recommendations in Japan

GSK's vaccine approval was based on robust data from a global phase III trial (AReSVI-006), which included clinical sites in Japan. The trial demonstrated that the vaccine provided non-inferior immunogenicity in adults aged 50-59 at increased risk when compared to those aged 60 and above. Furthermore, the safety profile for the 50-59 age group was consistent with the results from the initial studies conducted in older adults. Additionally, it has already been approved in 35 countries, including the United States, with regulatory reviews currently underway in additional regions.

RSV remains a major public health challenge, especially for vulnerable populations. With the expanded approval of Arexvy, GSK aims to provide tools to help reduce the burden of this potentially deadly virus in Japan, offering hope for individuals at high risk. The vaccine is expected to be administered in accordance with official health recommendations, and as with any vaccine, individual responses may vary. Detailed safety information will be available from the Japan Pharmaceuticals and Medical Devices Agency.

Arexvy is a Combination of Recombinant RSV Glycoprotein F and AS01E Adjuvant

GSK's respiratory syncytial virus vaccine, Arexvy, contains recombinant RSV glycoprotein F, stabilised in the prefusion conformation (RSVPreF3), combined with GSK's proprietary AS01E adjuvant system. This combination enhances the immune response and provides protection against RSV infection in at-risk populations.

In addition to Arexvy, other RSV vaccines are also addressing the global burden of this virus. In 2023, RSV vaccines were approved, including a maternal vaccine targeting the RSV prefusion protein and a market-approved long-acting monoclonal antibody. These developments aim to significantly decrease hospitalisation rates and mortality, particularly in high-risk infants, and may play a crucial role in worldwide RSV prevention efforts. As more preventive strategies emerge, the global healthcare community is looking to implement these vaccines in regions with the greatest need, including low- and middle-income countries.

Fuente: GENE ONLINE. Disponible en https://goo.su/fFl5eY

GSK Gets EC Nod for Liquid Version of Meningococcal Vaccine Menveo

Dec 4. GSK plc GSK announced that the European Commission (EC) has approved a single-vial, fully liquid presentation of its meningococcal vaccine, Menveo (MenACWY) for active immunization in children aged two years, adolescents as well as adults.

The single-vial, fully liquid presentation of Menveo is likely to simplify the vaccination process against invasive meningococcal disease (IMD) caused by bacterial serogroups A, C, W and Y.

The fully liquid presentation of the vaccine will help healthcare providers with an option that does not require reconstitution before its use. Until now, Menveo was approved as a lyophilised/liquid formulation.

Year to date, shares of GSK have lost 7.4% compared with the industry's decline of 7.9%.

Title	High	Low	Median	Cumulative Return	Annualized Return	Start Date	End Date
GSK PLC % Gr	23.53%	-10.01%	10.10%	-7.37%	-8.02%	12-29-2023	11-27-2024
Medical-Biomed/Genetics Market (ZSI105M) % G	2.01%	-12.46%	-3.30%	-7.84%	-8.56%	12-29-2023	11-26-2024

More on the Latest EU Nod for GSK's Menveo

The EC's approval for the liquid presentation of Menveo was based on positive data from two phase IIb studies. The primary and secondary outcomes of these studies, backed by post-hoc pooled analyses showed that the fully liquid formulation of Menveo has similar immunogenicity, tolerability and a similar safety profile to the existing lyophilised/liquid formulation.

In September 2024, the Committee for Medicinal Products for Human Use (CHMP) rendered a positive opinion recommending the use of a single-vial, fully liquid presentation of Menveo.

Menveo generated sales worth £337 million during the first nine months of 2024, reflecting an increase of 19% on a year-over-year basis.

Per the company, the approval for the fully liquid formulation of Menveo is likely to support the vaccine uptake and should drive sales in future quarters.

GSK's Diversified Vaccine Pipeline

GSK boasts a broad and diversified vaccine portfolio that targets infectious diseases such as meningitis, shingles, flu, polio and more.

GSK's 5-in-1 meningococcal ABCWY vaccine candidate, MenABCWY, is currently under review in the United States. A decision from the FDA is expected on Feb. 14, 2025

The MenABCWY vaccine candidate combines the antigenic components of GSK's two licensed meningococcal vaccines, Bexsero (MenB) and Menveo. The MenABCWY combination targets five serogroups of the bacteria Neisseria meningitides (A, B, C, W, and Y), which is primarily responsible for most IMD cases globally.

Per management, a potential approval of this 5-in-1 vaccine candidate could provide the broadest meningococcal serogroup coverage and lead to a simplified immunization schedule.

GSK is focusing on accelerating the vaccine pipeline. The company has a leading suite of vaccine platform technologies, including next-generation mRNA, multiple antigen-presenting systems, as well as adjuvant systems.

GSK's Zacks Rank & Key Picks

GSK currently carries a Zacks Rank #4 (Sell).

Some better-ranked stocks from the biotech sector are Immunocore Holdings plc IMCR, Spero Therapeutics, Inc. SPRO and Castle Biosciences, Inc. CSTL, each sporting a Zacks Rank #1 (Strong Buy) at present. You can see the complete list of today's Zacks #1 Rank stocks here.

In the past 60 days, estimates for Immunocore's 2024 loss per share have narrowed from $1.79 to 94 cents. Loss per share estimates for 2025 have narrowed from $2.35 to $1.57 during the same time. Year to date, shares of IMCR have declined 52%.

IMCR's earnings beat estimates in two of the trailing four quarters while missing the same on the remaining two occasions, the average surprise being 25.57%.

In the past 60 days, estimates for Spero Therapeutics' 2024 loss per share have narrowed from $1.59 to $1.13. Loss per share estimates for 2025 have narrowed from $1.54 to 54 cents during the same time. Year to date, shares of SPRO have declined 23.1%.

SPRO's earnings beat estimates in two of the trailing four quarters while missing the same on the remaining two occasions, the average surprise being 94.42%.

In the past 60 days, estimates for Castle Biosciences' 2024 loss per share have narrowed from 58 cents to 8 cents. Loss per share estimates for 2025 have narrowed from $2.13 to $1.88 during the same time. Year to date, shares of CSTL have surged 41%.

CSTL's earnings beat estimates in each of the trailing four quarters, the average surprise being 172.72%.

Fuente: MSN. Disponible en https://goo.su/3hhgvYP

Summary of the NACI Statement: Updated guidance on HPV vaccines (Canada)

Dec 5. Without vaccination, approximately 75% of people in Canada will acquire a human papillomavirus (HPV) infection in their lifetime. HPV vaccine coverage rates continue to fall short of the national goal of 90% coverage for two or more doses by 17 years of age. Recent evidence and World Health Organization (WHO) guidance now support a 1- or 2-dose schedule for younger age groups, which can simplify vaccination efforts and improve coverage rates compared to a multi-dose immunization program.

The National Advisory Committee on Immunization (NACI) reviewed available evidence on the clinical benefits and risks of a 1-dose HPV vaccine schedule, as well as additional factors, including ethics, equity, feasibility and acceptability. The evidence and programmatic considerations were organized using a process informed by the Grading of Recommendations Assessment, Development and Evaluations (GRADE) framework and all of the information was used to facilitate NACI guidance development.

A 1-dose schedule is highly effective against HPV infection based on available evidence in younger female populations, with current follow-up of up to 11 years following vaccination. Infectious disease modelling shows that a 1-dose strategy in males and females in Canada is expected to have similar health outcomes over the short and long term compared to two doses.

NACI considered feedback provided by the Public Health Ethics Consultative Group, the Canadian Immunization Committee and the Public Health Agency of Canada. Further information on NACI's evidence-based methods is available in *Evidence-based recommendations for immunization - Methods of the National Advisory Committee on Immunization*.

NACI recommendations on HPV vaccines for public health program-level decision-making

The following are recommendations for provinces/territories making decisions for publicly funded immunization programs:

* NACI continues to recommend HPV vaccination for all individuals 9 to 26 years of age. (Strong NACI recommendation)
* NACI recommends that individuals 9 to 20 years of age should receive one dose of HPV vaccine, and individuals 21 to 26 years of age should receive two doses of HPV vaccine. (Strong NACI recommendation)
* Nonavalent 9vHPV vaccine should be used, as it provides protection against the greatest number of HPV types and associated diseases. (Strong NACI recommendation)

Recommendations for individual-level decision-making

The following recommendation is for healthcare providers advising individual clients:

* Individuals 27 years of age and older may receive the HPV vaccine with shared decision-making and discussion with a healthcare provider. The vaccine should be given as a 2-dose schedule with doses administered at least 24 weeks apart. (Discretionary NACI recommendation)

NACI updated recommendations for individuals 9 to 20 years of age to receive one dose of 9vHPV (Gardasil-9, Merck) vaccine. For individuals 21 years of age and older, a 2-dose schedule should be administered. Individuals considered immunocompromised and individuals infected with HIV should receive a 3-dose series. NACI also issued a discretionary recommendation for HPV vaccination for individuals 27 years and older, and updated guidance to allow HPV vaccine during pregnancy.

Fuente: Government of Canada. Disponible en https://goo.su/b3cvi9P

Why Africa imports more than 99% of its vaccines

Dec 5. Despite accounting for a fifth of the world's population, the continent of Africa provides less than 1% of global vaccine supply.

The global vaccine supply chain represents a critical intersection of healthcare, technology and economic development.

For Africa, this intersection reveals a stark narrative of vulnerability and untapped potential.

Despite accounting for 20% of the world's population, the continent provides less than 1% of global vaccine supply, importing more than 99% of its vaccine requirements and leaving nations exposed to significant health and economic risks.

Numerous obstacles challenge Africa's vaccine manufacturing ambitions. Picture: Freepik

The economic landscape of vaccine production

The challenge of establishing an independent vaccine manufacturing ecosystem in Africa is, fundamentally, an economic puzzle.

Moderna's abandoned US$500m mRNA manufacturing plant in Kenya illustrates the complex dynamics at play.

mRNA vaccine technology represents a sophisticated innovation, enabling rapid genetic coding delivery that trains immune systems to identify and neutralise specific pathogenic threats. Biotechnology experts anticipate these vaccines will become the predominant technological approach within the next decade, particularly for diseases disproportionately affecting African populations.

However, Moderna's project encountered critical supply chain barriers and it withdrew from the agreement citing a fundamental market challenge: zero vaccine orders from African countries since 2022. The result was in US$1bn in financial losses and write-offs.

The cancellation reflects deeper systemic challenges within African pharmaceutical procurement. Countries like South Africa continue to rely on international manufacturers such as India – dubbed the "pharmacy of the world" – for affordable vaccine supplies. The South African government's recent decision to purchase vaccines from Indian manufacturer Cipla, despite hosting its own mRNA hub in the form of Biovac, exemplifies the economic trade-offs at play.

Experts highlight a critical tension between local production capabilities and pricing pressures. While African manufacturers possess the financial resources to develop manufacturing facilities, they lack a compelling commercial strategy. The current economic model provides no substantial incentive for local manufacturers to invest in vaccine production when importing remains more cost-effective.

The South African mRNA vaccine technology transfer hub demonstrates both the potential and challenges of local manufacturing capabilities. Having trained scientists from 15 countries, including six African nations, the hub successfully developed a COVID-19 vaccination within a year. However, market dynamics rapidly shifted, forcing Afrigen, the hub's primary manufacturer, to pivot towards developing vaccines for HIV and

tuberculosis.

This scenario illustrates the sophisticated risk management required in pharmaceutical supply chain strategies. Extensive development timelines, coupled with market volatility, create significant economic uncertainties that deter investment in local manufacturing capabilities.

Plugging technological gaps

Partners of the aforementioned Biovac hub in South Africa are enduring even steeper challenges. Those in Senegal, Nigeria, and Kenya are confronting significant infrastructure and technological obstacles that fundamentally challenge the continent's vaccine manufacturing ambitions.

With pharmaceutical sectors still in their nascent stages, these markets face complex supply chain barriers that extend far beyond basic manufacturing capabilities.

The primary technological constraint manifests in the form/fill/finish segment of vaccine production – the critical final stage where vaccines are packaged, quality-checked and prepared for distribution. African manufacturers remain heavily dependent on technology transfers from international pharmaceutical companies, yet current transfer mechanisms provide insufficient support for scaling regional manufacturing capabilities.

The technological complexity of vaccine production stretches beyond simple packaging. Form/fill/finish processes represent a sophisticated manufacturing stage requiring precision engineering, stringent quality control and advanced technological infrastructure. African manufacturers currently rely almost exclusively on technology transfers from established global pharmaceutical companies, but these transfers remain limited and insufficient to support comprehensive manufacturing strategies.

The African Center for Disease Control and Prevention's analysis reveals a stark technological limitation: only a handful of African companies possess the capability to produce antigens, the immune-response triggering components fundamental to vaccine efficacy. This technological deficit represents a significant barrier to establishing robust, independent manufacturing ecosystems.

Clearly, African vaccine manufacturing faces a critical challenge: local antigen production capacity falls far below regional requirements. Without strategic investments in technology, training, and infrastructure, independent vaccine production remains economically unfeasible, hindering the continent's pharmaceutical self-sufficiency and healthcare resilience.

Colonialism's damaging impact

Meanwhile, colonial legacies continue to fundamentally shape Africa's economic and technological infrastructure, particularly in pharmaceutical manufacturing.

European colonial powers systematically constructed economic systems that prioritised extraction over development, creating deep-rooted structural barriers to independent industrial growth. These historical relationships transformed local economic landscapes, embedding dependencies that extend far beyond the formal end of colonial rule.

Technological introductions during colonial periods were intrinsically linked to oppressive economic models, which deliberately constrained indigenous innovation and self-determination. Political systems were manipulated to reward local elites who facilitated external economic interests, rather than developing robust

national capabilities. This approach systematically undermined accountability and hindered independent economic planning.

Geographical realities further complicated these challenges, with uneven resource distribution and numerous landlocked countries creating additional economic barriers. Foreign aid and mass-manufactured goods, while seemingly beneficial, often weakened rather than strengthened local infrastructure and economic sovereignty.

The migration of skilled professionals, driven by opportunities in former colonial nations, continues to drain critical human capital from African economies. This brain drain perpetuates cycles of dependency, making independent technological development increasingly challenging.

Rebuilding these broken systems requires strategic, long-term investments in local infrastructure, education and technological capabilities. Vaccine manufacturing represents a critical starting point for reclaiming economic independence and challenging historical patterns of external control.

Fuente: Supply Chain Digital. Disponible en https://goo.su/kL0tO

Pfizer Gets CDSCO Panel Nod To Import 20 Valent Pneumococcal Conjugate Vaccine

Dec 7. Pfizer has got approval from the Subject Expert Committee (SEC) functional under the Central Drug Standard Control Organisation (CDSCO) to import the 20-Valent Pneumococcal Conjugate Vaccine (20vPnC).

This came after the vaccine major Pfizer presented the global immunogenicity data of all subjects vis-à-vis immunogenicity data of Indian subjects for 20-Valent Pneumococcal Conjugate Vaccine (20vPnC) and the immunogenicity data of Pneumococcal Polysaccharide Conjugate Vaccine (Adsorbed) I.P. 13 valent.

The pneumococcal 20-valent conjugate vaccine is an active immunizing agent used to prevent infection caused by certain types of pneumococcal bacteria (Streptococcus pneumoniae).

Pneumococcal bacteria are one of the most common causes of pneumonia. Pneumococcal conjugate vaccine can prevent pneumococcal disease. Pneumococcal disease refers to any illness caused by pneumococcal bacteria. These bacteria can cause many types of illnesses, including pneumonia, which is an infection of the lungs.

At the recent SEC meeting for Vaccine held on 26th November 2024, the expert panel reviewed the global immunogenicity data of all subjects vis-à-vis immunogenicity data of Indian subjects for the 20-valent Pneumococcal Conjugate Vaccine (20vPnC) and the immunogenicity data of the pneumococcal polysaccharide conjugate Vaccine (Adsorbed) I.P. 13 valent

After detailed deliberation and based on the data presented, the committee noted the results and recommended the grant of import permission of 20-Valent Pneumococcal Conjugate Vaccine (20vPnC).

Fuente: Sarkari Doctor. Disponible en https://lc.cx/2WpdEV

Pediatricians seek approval of new antidengue vaccine

Dec 8. The country's pediatricians are asking regulators to speed up the approval of a new antidengue vaccine, as cases rose again in the Cordillera this year.

The highland region treated a total of 28,363 dengue patients ranging from newborns to elderly individuals from January to November 9, 2024, which was a 191-percent increase compared to cases in 2022 and 2023, reported Dr. Mary Crist Jamora of the Philippine Pediatrics Society (PPS).

In Baguio City alone, the PPS said 8,217 infections were recorded.

Jamora pointed out dengue in the city and the Cordillera provinces of Ifugao, Kalinga, Abra, Apayao, Benguet and Mountain Province dropped to 9,734 cases last year from 16,688 in 2022, which was the waning period of the coronavirus pandemic, only to soar again this year.

Cases in the mountain region were much higher than cases in the Ilocos region, said Laoag City-based pediatrician Dr. Amelen Palanca, PPS north Luzon president.

Jamora stressed the increasing infection trend has been attributed in part to the frequency and strength of rains, the urbanization of forest lands, which has disrupted the dengue-carrying mosquito's natural habitat, and a warming climate in the mountains.

On top of the case uptrend, the medical community and government health workers have been struggling to improve poor immunization rates for newborns and young children in the region, she said.

The society's members favor a new antidengue medicine that is being examined by the Food and Drug Administration (FDA).

But the use of the drug should also address "massive disinformation" that has affected the health bureaucracy and has been fueling distrust in medicine, said Dr. Nina Gloriani, PPS national president.

The society members did not disclose the name of the vaccine "until it gets a license in the Philippines," but Palanca said it was a product of Japanese pharmaceutical Takeda.

Health records, however, showed the FDA is processing Takeda's application for Qdenga, which is described a "second generation vaccine."

Unlike the Dengvaxia vaccine, which is no longer used in the Philippines, Qdenga can be injected into individuals who have never been infected by dengue.

The society has been at the forefront of a "science-led" crusade to counter strong antivaccine sentiments, Palanca told the Inquirer on Monday.

Gloriani said the pediatric community is prepared to lobby for another national vaccination that would subsidize a free dengue vaccine rollout across towns and provinces."

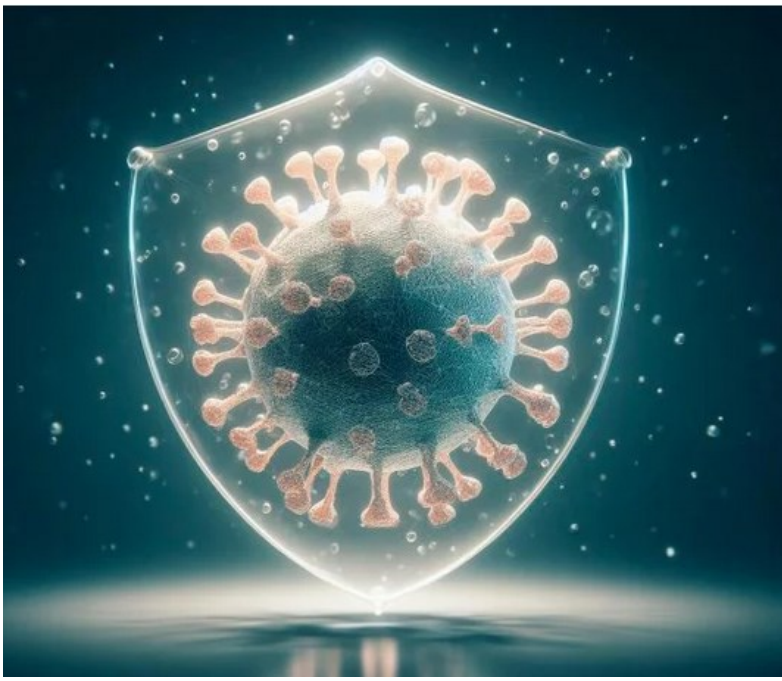
Fuente: News Info Inquirer. Disponible en https://lc.cx/GLwGPz

Needle-Free: New Nano-Vaccine Effective Against All COVID-19 Variants

Dec 8. A new nano-vaccine developed by TAU and the University of Lisbon offers a needle-free, room-temperature-storable solution against COVID-19, targeting all key variants effectively.

Professor Ronit Satchi-Fainaro's lab at Tel Aviv University's Faculty of Medical and Health Sciences has collaborated with Professor Helena Florindo's lab at the University of Lisbon to develop a novel nano-vaccine for COVID-19. This nano-vaccine, a 200-nanometer particle, effectively trains the immune system against all common COVID-19 variants, performing as well as existing vaccines.

Unlike other vaccines, it is conveniently administered as a nasal spray and does not require a cold supply chain or ultra-cold storage. These distinctive features pave the way for vaccinating populations in developing countries and the future development of simpler, more effective, and less expensive vaccines. The groundbreaking study was featured on the cover of the prestigious journal Advanced Science.



Researchers at Tel Aviv University and the University of Lisbon have developed a groundbreaking nano-vaccine for COVID-19, delivered via nasal spray without requiring cold storage. This vaccine targets all major COVID-19 variants using synthesized amino acid sequences and offers significant logistical advantages, making it particularly beneficial for low-income regions. Credit: SciTechDaily.com

Development and Design of the Nano-Vaccine

Prof. Satchi-Fainaro explains: "The new nano-vaccine's development was inspired by a decade of research on cancer vaccines. When the COVID-19 pandemic began, we set a new goal: training our cancer platform to identify and target the coronavirus. Unlike Moderna and Pfizer, we did not rely on full protein expression via mRNA. Instead, using our computational bioinformatics tools, we identified two short and simple amino acid sequences in the virus's protein, then synthesized them, and encapsulated them in nanoparticles." Eventually, this nano-vaccine proved effective against all major variants of COVID-19, including Beta, Delta, Omicron, etc.

Benefits of the Nano-Vaccine: Needle-Free Administration

"Our nano-vaccine offers a significant advantage over existing vaccines because it is needle-free and administered as a nasal spray," notes Prof. Satchi-Fainaro. "This eliminates the need for skilled personnel such as nurses and technicians to administer injections, while also reducing risks of contamination and sharp waste. Anyone can use a nasal spray, with no prior training."

Advantages in Storage and Shipping

Another major advantage of the revolutionary nano-vaccine is its minimal storage requirements. Moderna's sensitive mRNA-based vaccine must be kept at -20°C and Pfizer's at -70°C, generating great logistic and

technological challenges, such as shipping in special aircraft and ultra-cold storage – from the factory to the vaccination station.

Prof. Satchi-Fainaro's novel synthetic nanoparticles are far more durable and can be stored as a powder at room temperature. "There's no need for freezing or special handling," she says. "You just mix the powder with saline to create the spray. For testing purposes (as part of the EU's ISIDORe (Integrated Services for Infectious Disease Outbreak Research) feasibility program) we shipped the powder at room temperature to the INSERM infectious diseases lab in France. Their tests showed that our nano-vaccine is at least as effective as Pfizer's vaccine."

Future Implications and Expanding Applications

These important advantages—ease of nasal administration and regular storage and shipping — pave the way towards vaccinating at-risk populations in low-income countries and remote regions, which existing vaccines are unable to reach. Moreover, the novel platform opens the door for quickly synthesizing even more effective and affordable vaccines for future pandemics. "This is a plug-and-play technology," explains Prof. Satchi-Fainaro. "It can train the immune system to fight cancer or infectious diseases like COVID-19. We are currently expanding its use to target a range of additional diseases, enabling the rapid development of relevant new vaccines when needed."

Fuente: SciTechDaily . Disponible en https://lc.cx/pe-mb3

Las vacunas conjugadas pueden prevenir infecciones en forma de biofilms

Dec 10. Una investigación llevada a cabo por el Instituto de Salud Carlos III (ISCIII) ha demostrado que las vacunas conjugadas contra la infección por neumococo son eficaces para combatir las bacterias que forman biofilms, comunidades microbianas capaces de evadir con mayor facilidad el sistema inmunitario y de generar resistencias a los antibióticos.

Este tipo de vacunas están basadas en una combinación de antígenos que se utilizan para aumentar la respuesta inmunitaria contra las infecciones. Por este motivo, confirmar que este tratamiento es eficaz contra la infección neumocócica, supone un gran avance en la lucha contra esta enfermedad, ya que puede causa enfermedades respitarorias graves como la neumonía.

Estos resultados fueron expuestos en un estudio del ISCIII publicado en la revista Frontiers in Immunology, bajo el título 'La vacuna PCV13 previene las biopelículas neumocócicas sin afectar la población de *Staphylococcus aureus* dentro de la biopelícula polimicrobiana'. Un trabajo que demostró que la vacuna PCV13 protege frente a los biofilms formados por serotipos vacunales de neumococo, sin afectar a la población de Staphylococcus aureus, con la que comparte hábitat de forma natural en el tracto respiratorio.

Los autores, José Yuste, Miriam Doménech y Julio Sempere, han explicado que los biofilms "presentan una mayor capacidad para evadir el sistema inmunitario y pueden generar una resistencia antibiótica hasta mil veces mayor, por lo que desarrollar estrategias de prevención que eviten su formación es de gran importancia en salud pública". Según ellos, la formación de biofilms está asociada con la colonización microbiana de la nasofaringe, y con infecciones respiratorias crónicas como fibrosis quística y enfermedad pulmonar obstructiva crónica (EPOC).

La vacuna protege en un 60 por ciento de los casos

La investigación se basa en el análisis del impacto de la vacuna conjugada PCV13 contra la infección por neumococo, y en la evaluación de sus efectos en otras bacterias colonizadoras del tracto respiratorio. Para llevarla a cabo se han utilizado sueros de personas sanas vacunadas con PCV13, y los anticuerpos generados se enfrentaron frente a biofilms individuales de *Streptococcus pneumoniae* y de *Staphylococcus aureus*, y a biofilms mixtos de estos dos patógenos.

Los resultados del estudio mostraron un claro efecto de los sueros inmunes, con una protección de más de un 60% frente a serotipos vacunales, mientras que no hubo efecto protector con serotipos no vacunales. Además, este trabajo confirma que la vacuna de neumococo no tiene efecto frente a los biofilms individuales.

Una herramienta contra la colonización neumocócica

El posible impacto de este tipo de vacunas conjugadas, así como las de mayor espectro de cobertura, recientemente aprobadas, suponen "una gran herramienta para reducir la colonización neumocócica", según un comunicado del ISCIII. Además, también sirven para combatir "otros patógenos invasores que pueden ocupar el espacio dejado por el neumococo", tal y como ha explicado la entidad.

El equipo liderado por los doctores José Yuste y Mirian Doménech ha concluido que este trabajo "pone de manifiesto por primera vez el efecto de una vacuna conjugada de neumococo frente a la bacteria que forma biofilms". En cuanto a los resultados, los especialistas han señalado que los "resultados refuerzan estudios previos que demuestran que el uso de vacunas conjugadas es eficaz en la colonización nasofaríngea neumocócica".

Fuente: Redacción Médica. Disponible en https://lc.cx/G4pdRF

Abera shows positive results in comparative study with market-leading pneumococcal vaccine

Dec 10. Abera Bioscience (“Abera” or “the Company”) presents very promising results from a comparative study where their pneumococcal vaccine candidate, Ab-01.12, was compared to the world-leading vaccine, Prevnar 13, and studied in combination with it. The study demonstrates that Abera’s vaccine is 1,000 times more effective in preventing colonization (growth) of bacteria in the mucosa of mice compared to Prevnar 13 alone. This aligns with previous results from the company’s preclinical studies. The study also shows that mice vaccinated with a combination of Prevnar 13 and Ab-01.12 exhibit similar protection against colonization as with Ab-01.12 alone.

“Reducing bacterial growth is central to our technology, and it feels fantastic to present such clear and strong results. A robust immunity in the nasal mucosa, where pathogens can enter the body, offers protection both from becoming ill oneself and from spreading the infection to others. Protection against colonization—bacterial growth in the mucosa—is a measure of how effective the immune system is in the mucosal membranes,” explains Mats Lundgren, CSO at Abera Bioscience.

In the study, Abera demonstrates that their vaccine candidate reduced the amount of pneumococcal bacteria in the mucosa to a level approximately one thousand times lower than those vaccinated with Prevnar 13 alone. Prevnar 13 is known to provide strong protection against severe disease for the serotypes included in the vaccine, which covers 13 of approximately 100 known serotypes. However, since Prevnar 13 is administered via injection, the local protection in the mucosa is not as robust.

The study tested both a serotype included in Prevnar 13 and one outside its coverage. The results show that Ab-01.12 provides equivalent protection against colonization in both cases, further strengthening the evidence that the candidate is a universal vaccine protecting against all variants of pneumococcal bacteria.

The study also revealed that prior immunization with Prevnar 13 does not impact the efficacy of Abera's vaccine. This opens the possibility that Abera's vaccine could complement existing vaccines to provide broader protection against all 100 pneumococcal serotypes and offer local mucosal protection, helping to reduce transmission.

"We are very pleased with the results of this study. We have known for some time that Ab-01.12 provides effective protection against mucosal colonization, but this is the first time we have tested combining Ab-01.12 with the most commonly used PCV vaccine on the market, Prevnar 13. We see that Ab-01.12 offers complementary protection against colonization that Prevnar 13 alone does not provide. Existing vaccines, so-called PCV vaccines, are all serotype-specific and are based on conjugated polysaccharide chains, while our candidate uses a different technology with conserved antigens that provide broad protection against all serotypes. Combining PCV vaccines with Ab-01.12 to achieve broader protection and reduce the spread of infection is an intriguing immunization strategy. This is crucial for everyone, but especially for those working with immunocompromised individuals, such as the sick and elderly, where protecting against spreading infections is particularly important," says Mats Lundgren, CSO at Abera Bioscience.

"Abera's technology platform enables the development of mucosal vaccines, and we see great potential in applying this technology to several disease areas where preventing transmission and protecting against disease is essential. An example is influenza, where we recently received a significant grant from CEPI to advance the development of an influenza vaccine based on our platform through preclinical studies. We are also actively working to secure funding to advance our pneumococcal vaccine into the first clinical trials," says Maria Alriksson, CEO at Abera Bioscience.

Fuente: Abera Bioscience. Disponible en https://lc.cx/4bdRbq

FDA docs reveal pitfalls of Moderna's paediatric RSV vaccine

Dec 11. As an FDA advisory committee (adcom) gears up for a discussion later this week on the safety of testing respiratory syncytial virus (RSV) vaccines in children, briefing documents released ahead of the meeting have shed more light on why Moderna discontinued paediatric development of an mRNA candidate in September.

Research on paediatric RSV vaccines has been limited since an experimental formalin-inactivated RSV jab led to two toddler deaths in the 1960s, which were linked to vaccine-associated enhanced respiratory disease (VAERD) — a rare phenomenon characterised by severe, atypical disease symptoms in an individual who becomes infected after being previously vaccinated against that specific pathogen.

Since then, the FDA has instituted safeguards to limit the risks when testing RSV vaccines in children, and in 2023 allowed Moderna to move forward with the Phase I mRNA-1365-P101 trial.

Severe symptoms

The study enrolled children between the ages of 5 months and two years to receive either mRNA-1345, an RSV-specific jab, or mRNA-1365, an RSV/human metapneumovirus (hMPV) combination vaccine, or placebo.

While mRNA-1365-P101 is still listed as active on ClinicalTrials.gov, Moderna disclosed during its R&D day earlier this year that it has halted development of mRNA-1345 for infants under two, citing "emerging clinical data."

The FDA's briefing documents revealed that the trial was paused in July after two vaccinated infants tested positive for RSV and contracted a severe lower respiratory tract infection (LRTI).

According to the report, Moderna identified potential RSV VAERD in infants 5 months to <8 months of age in association with the two experimental jabs "as an emerging safety signal with significant impact on the benefit -risk profile," which was then elevated to an "important potential risk" on August 12.

In total, two children who received mRNA-1345 and three who received mRNA-1365 progressed to severe or very severe LRTI in the study's Part B, versus one infant who received placebo. One participant in Part A who received mRNA-1365 also experienced a severe infection, while none in the placebo group had such symptoms.

Safety conversation

While the adcom won't specifically discuss Moderna's experimental RSV vaccines, participants will be asked whether the results of mRNA-1365-P101 indicate "a potential safety concern more broadly applicable to the evaluation of RSV vaccine candidates in infants and toddlers." The panel will also cover whether the risks of paediatric studies apply equally to different modalities, including mRNA, live-attenuated, viral-vectored and protein vaccines.

The committee members will also be asked whether any additional non-clinical and clinical safeguards or precautions should be instituted when evaluating RSV vaccine candidates in infants and toddlers.

Fuente: First Word Pharma. Disponible en https://lc.cx/3m2ZYp

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Estrategia de búqueda: (Vaccine) AND DP:([01.12.2024 TO 11.12.2024]) *as the publication date 57 records.*

1.20240404665VACCINATION STATUS IDENTIFICATION CARD

US - 05.12.2024

Clasificación Internacional G16H 10/65Nº de solicitud 18800931Solicitante Tonya SmithInventor/a Tonya Smith

A method, a system and a computer program product track vaccinations received by an individual and provides proof of the individual's vaccination status. A vaccine status identification (VSID) module/utility establishes a vaccination schedule for administering a specified vaccine via one or more vaccine injections/shots to an individual. The VSID module determines whether the individual receives one or more vaccine injections for the specified vaccine according to the vaccination schedule. The VSID module determines a vaccine status of the individual based on received vaccine injections and the vaccination schedule. The VSID module integrates information associated with vaccination status and the vaccination schedule into a secure readable/scannable vaccine identification card issuable to the individual. The VSID module provides secure access to information on the readable vaccine ID card and provides an alert each time a unique code corresponding to the vaccine ID card is utilized.

2.20240398930A VACCINE FOR CORONAVIRUS AND INFLUENZA VIRUS, AND METHOD FOR PREPARATION THEREOF

US - 05.12.2024

Clasificación Internacional A61K 39/145Nº de solicitud 18695058Solicitante BHARAT BIOTECH INTERNATIONAL LIMITEDInventor/a Krishna Murthy ELLA

The invention discloses vaccine for coronavirus and influenza virus and method for preparation thereof. More specifically, the invention discloses seasonal viral vaccine i. e. coronavirus and influenza virus vaccine for prophylaxis of novel coronavirus (SARS-CoV-2) infection (COVID-19) and Influenza virus in mammals and method for preparation of such vaccine. The invention discloses the stable combination vaccine compositions of killed-inactivated SARS-CoV-2, Influenza virus (A and B strains) as antigens. The present invention further discloses method of adaptation and growth seasonal influenza (A and B) strains in cell culture and methods

of inactivation and purification of influenza virus bulk antigen. The present invention also discloses SARS-CoV-2 vaccine formulation with inactivated Influenza viruses and use of the same to elicit immune response against the SARS-CoV-2 and Influenza viruses in mammals and humans.

3.WO/2024/249801INFLUENZA ESTEM IMMUNOGENS

WO - 05.12.2024

Clasificación Internacional C07K 14/11Nº de solicitud PCT/US2024/031923Solicitante THE SCRIPPS RESEARCH INSTITUTEInventor/a KULP, Daniel

The present invention relates to influenza immunogens and a vaccine platform for influenza viruses. In particular, the invention relates to a non-naturally occurring polypeptides comprising an engineered hemagglutinin stem sequence and a secretion signal sequence, nucleic acids encoding the same, vectors containing the nucleic acids, nanoparticles containing the polypeptides, nucleic acids or vectors, cells containing the nanoparticles, polypeptides, nucleic acids or vectors, pharmaceutical compositions comprising the cells, nanoparticles, polypeptides, nucleic acids or vectors, vaccines comprising the pharmaceutical compositions and methods for immunization with the vaccines.

4.WO/2024/244003SUBUNIT VACCINE BASED ON DNA ORIGAMI TECHNOLOGY

WO - 05.12.2024

Clasificación Internacional A61K 39/12Nº de solicitud PCT/CN2023/098068Solicitante NATIONAL CENTER FOR NANOSCIENCE AND TECHNOLOGYInventor/a ZHAO, Xiao

Disclosed in the present invention are a subunit vaccine based on a DNA origami structure, a preparation method for the subunit vaccine, a pharmaceutical composition containing the subunit vaccine, and a use of the subunit vaccine in the preparation of a drug for preventing or treating pathogen infection.

5.WO/2024/249785COMPOSITIONS AND METHODS FOR IMPROVING THE PRESENTATION OF VACCINE EPITOPES

WO - 05.12.2024

Clasificación Internacional C07K 14/47Nº de solicitud PCT/US2024/031904Solicitante LEVATIO THERAPEUTICS, LLCInventor/a JIE, Hyun-Bae

Provided are compositions and methods for improving the presentation of vaccine epitopes. Provided are fusion proteins comprising a vaccine epitope and a C-degron peptide. Also provided are nucleic acid molecules, such as circular RNA molecules, encoding the fusion proteins, and related methods and uses, including therapeutic and prophylactic methods and uses, for example for enhancing vaccine epitope presentation and for vaccinating a subject. In some aspects, vaccine epitopes include an infectious disease vaccine epitope or a cancer vaccine epitope.

6.20240398933NOVEL LIPID NANOPARTICLES FOR DELIVERY OF NUCLEIC ACIDS COMPRISING PHOSPHATIDYLSERINE

US - 05.12.2024

Clasificación Internacional A61K 39/205Nº de solicitud 18688748Solicitante CureVac SEInventor/a Patrick BAUMHOF

The invention relates to a vaccine composition comprising a) at least one nucleic acid encoding at least one antigen or fragment or variant thereof; and b) a carrier composition, wherein the carrier composition comprises the phospholipid phosphatidylserine. The present invention further relates to a pharmaceutical composition comprising the vaccine composition and a pharmaceutically acceptable carrier, diluent or excipient, and to the vaccine composition or pharmaceutical composition for use in the treatment or prophylaxis of (as well as a corresponding method of treatment thereof) infectious diseases; cancer or tumor diseases, disorders or conditions; specific liver diseases; allergies; or autoimmune disease, disorder or condition; in a subject. Still further, the present invention is concerned with a kit or kit of parts, comprising the vaccine composition or the pharmaceutical composition as well as a method of inducing an immune response in a subject. Finally, the present invention is concerned with a use of a vaccine composition or the pharmaceutical composition or the kit or kit of parts for (i) inducing an immune response and for (ii) inducing an antigen specific T-cell response in a subject.

7.WO/2024/2485275'-UTR CONTAINING MRNA CONSTRUCTS WITH IMPROVED TRANSLATION EFFICIENCY AND VACCINE COMPOSITIONS COMPRISING SAME

WO - 05.12.2024

Clasificación Internacional C12N 15/63Nº de solicitud PCT/KR2024/007456Solicitante GREEN CROSS CORPORATIONInventor/a NAM, Hyo Jung

The present invention relates to an mRNA construct containing 5'-UTR with improved translation efficiency and a vaccine composition comprising same, and more particularly to an mRNA construct containing 5'-UTR with improved translation efficiency that have been engineered to include specific motifs, a codon-optimized signal sequence and an antigen encoding sequence, and a vaccine composition comprising the same. The mRNA construct according to the present invention contains a 5'-UTR with improved translation efficiency, which can effectively induce the expression of an antigenic polypeptide and is useful for vaccine development as it can be expected to increase immunogenicity as a vaccine.

8.WO/2024/246364COMBINATION CONTAINING AN MRNA VACCINE OR AN MRNA ENCODED THERAPEUTIC PROTEIN AND AN IMMUNE MODULATING MRNA FOR IMPROVED OR REDUCED IMMUNOGENICITY TO INCREASE EFFICACY

WO - 05.12.2024

Clasificación Internacional A61K 39/12Nº de solicitud PCT/EP2024/065209Solicitante IMGEN-T SRLInventor/a SASSO, Emanuele

The present invention pertains to a combination comprising two or more mRNA molecules, or a single mRNA molecule encoding a first molecule, which is a therapeutic or immunogenic protein or peptide, and a second molecule, which is a protein or a peptide having the ability to modulate an immune response against the first molecule and/or the translation product of the first molecule, wherein the combination comprises at least one first mRNA molecule encoding a first molecule, which is a therapeutic or immunogenic protein or peptide, and at least one second mRNA molecule encoding a second molecule, which is a protein or a peptide having the ability to modulate an immune response against the first molecule and/or the translation product of the first molecule. The invention also relates to a host cell comprising a combination or the single mRNA molecule

according to the present invention, a pharmaceutical composition comprising the combination, the single mRNA molecule, or the host cell of the present invention, and a vaccine comprising the combination, the single mRNA molecule, the host cell, or the pharmaceutical composition according to the present invention. Further provided is a kit comprising the combination, the single mRNA molecule, the host cell, the pharmaceutical composition, or the vaccine according to the present invention. The invention also pertains to the combination, the single mRNA molecule, the host cell, the pharmaceutical composition, the vaccine, or the kit according to the present invention, for use in medicine. Finally, the invention also relates to the combination, the single mRNA molecule, the host cell, the pharmaceutical composition, the vaccine, or the kit according to the present invention, for use in a method of prevention, and/or treatment of an infectious, a genetic, or a proliferative disease.

9.4470559KOMBINATION AUS EINEM MRNA-IMPFSTOFF UND EINER IMMUNMODULIERENDEN MRNA FÜR VERBESSERTE IMMUNOGENITÄT UND WIRKSAMKEIT

EP - 04.12.2024

Clasificación Internacional A61K 39/12Nº de solicitud 23177053Solicitante IMGEN T SRLInventor/a SASSO EMANUELE

The present invention pertains to a combination comprising two or more mRNA molecules, or a single mRNA molecule encoding a first molecule, which is a therapeutic or immunogenic protein or peptide, and a second molecule, which is a protein or a peptide having the ability to modulate an immune response against the first molecule and/or the translation product of the first molecule, wherein the combination comprises at least one first mRNA molecule encoding a first molecule, which is a therapeutic or immunogenic protein or peptide, and at least one second mRNA molecule encoding a second molecule, which is a protein or a peptide having the ability to modulate an immune response against the first molecule and/or the translation product of the first molecule. The invention also relates to a host cell comprising a combination or the single mRNA molecule according to the present invention, a pharmaceutical composition comprising the combination, the single mRNA molecule, or the host cell of the present invention, and a vaccine comprising the combination, the single mRNA molecule, the host cell, or the pharmaceutical composition according to the present invention. Further provided is a kit comprising the combination, the single mRNA molecule, the host cell, the pharmaceutical composition, or the vaccine according to the present invention. The invention also pertains to the combination, the single mRNA molecule, the host cell, the pharmaceutical composition, the vaccine, or the kit according to the present invention, for use in medicine. Finally, the invention also relates to the combination, the single mRNA molecule, the host cell, the pharmaceutical composition, the vaccine, or the kit according to the present invention, for use in a method of diagnosis, prevention, and/or treatment of an infectious, a genetic, or a proliferative disease.

10.2038978GI-19-TYPE AVIAN INFECTIOUS BRONCHITIS VIRUS ATTENUATED VACCINE STRAIN AND THE APPLICATION METHOD THEREOF

NL - 05.12.2024

Clasificación Internacional C12N 7/04Nº de solicitud 2038978Solicitante South China Agricultural UniversityInventor/a Xinheng Zhang

This invention discloses a GI—19—type avian infectious bronchitis virus attenuated vaccine strain and its application, which belongs to the field of biotechnology. The GI— 19—type avian infectious bronchitis virus attenuated vaccine strain is SCAU—D90 strain of chicken infectious bronchitis virus, which is deposited in the China Center for Type Culture Collection (CCTCC), with collection number CCTCC NO: V202450, and the address is: Wuhan, China, Wuhan University. The SCAU—D90 strain of chicken infectious bronchitis virus was obtained by passaging the SCAU—D5 strain of GI—19— type chicken infectious bronchitis virus in chicken embryos for 90 generations to attenuate it. The vaccine made from the SCAU—D90 strain is safe and effective, and can protect against the attack of the virulent virus strain of GI—19—type chicken infectious bronchitis virus. It has broad practical value and effectively solves the problem that the existing vaccine strains cannot effectively prevent the attack of the epidemic strain of GI—19—type chicken infectious bronchitis virus and the prevention and control effect is not ideal.

11.WO/2024/250024VACCINE FOR CATS TO BLOCK TOXOPLASMA OOCYST SHEDDING AND TRANSMISSION

WO - 05.12.2024

Clasificación Internacional C12N 15/01Nº de solicitud PCT/US2024/032292Solicitante THE UNITED STATES OF AMERICA, AS REPRESENTED BY THE SECRETARY, DEPARTMENT OF HEALTH AND HUMAN SERVICESInventor/a GRIGG, Michael E.

The invention provides a recombinant parasite, which is a member of the phylum *Apicomplexa or Euglenozoa*, and which comprises a genome which lacks a native gene encoding *Toxoplasma gondii* IFT88, SRS15A, SRS15B, and/or SRS15C, SRS26B, a native homolog or ortholog thereof, or a combination of two or more of these. The invention also provides a method for producing the recombinant parasite, which involves knocking out one or more of these genes from the genome of the parasite. Reagents for accomplishing this are provided, as are vaccine compositions comprising the inventive recombinant parasites and vaccine compositions comprising a *Toxoplasma gondii* IFT88, SRS15A, SRS15B, and/or SRS15C, SRS26B protein or homolog or ortholog thereof, or a combination of two or more thereof. Methods of vaccinating animals using such vaccine compositions also are provided.

12.20240398915NEMATODE VACCINE

US - 05.12.2024

Clasificación Internacional A61K 39/00Nº de solicitud 18697123Solicitante AGRESEARCH LIMITEDInventor/a Saleh UMAIR

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

13.20240398929ENGINEERING ANTIGEN BINDING TO, AND ORIENTATION ON, ADJUVANTS FOR ENHANCED HUMORAL RESPONSES AND IMMUNOFOCUSING

US - 05.12.2024

Clasificación Internacional A61K 39/145Nº de solicitud 18693367Solicitante CZ Biohub SF, LLCInventor/a Duo Xu

New vaccine compositions comprising a modified antigen bound to the surface of an adjuvant or carrier by electrostatic interactions are disclosed. The antigen of the vaccine composition is presented in a defined orientation on an adjuvant surface such that epitope accessibility is altered and an immune response is redirected toward specific epitopes. In some embodiments the vaccine composition comprises one or more recombinant antigen polypeptides adsorbed to an alum particle. In some embodiments, the recombinant antigen polypeptide comprises a Region of Repetitive Carboxylic Groups (RRC) or a Region of Repetitive Lysyl/Guanidino Groups (RRL).

14.4469176HERSTELLUNG UND HERSTELLUNG EINES FLAVIVIRUSIMPFSTOFFS IM GROSSMASSSTAB

EP - 04.12.2024

Clasificación Internacional B01D 15/36Nº de solicitud 23706267Solicitante TAKEDA VACCINES INCInventor/a KHOO GARY

The present invention provides methods for large-scale flaviviral vaccine production and manufacture. The methods provided herein are specifically contemplated for large-scale production and manufacture of live, attenuated flaviviral vaccines such as live, attenuated, dengue virus vaccines. Further, the methods provided herein pertain to formulation of live, attenuated, monovalent, divalent, trivalent, or tetravalent viral vaccine products.

15.WO/2024/243641COVID VACCINE DELIVERED BY HD-MAP

WO - 05.12.2024

Clasificación Internacional A61K 39/215Nº de solicitud PCT/AU2024/050573Solicitante VAXXAS PTY LIMITEDInventor/a FORSTER, Angus

A method of immunizing a human against SARS-CoV-2 by administering to the human a HexaPro vaccine composition coated onto a microprojection array of a high density microprojection array patch (HD-MAP) comprising a base and a plurality of solid microprojections by projecting the microprojection array into the human's skin thereby penetrating the skin with the microprojections coated with the composition such that the vaccine composition is stripped from the microprojections.

16.WO/2024/245411ADENOVIRAL VECTOR VACCINE, AND PREPARATION METHOD AND USE THEREOF

WO - 05.12.2024

Clasificación Internacional C12N 15/861Nº de solicitud PCT/CN2024/096745Solicitante CANSINO BIOLOGICS INC.Inventor/a SHAO, Juan

Provided are a modified recombinant adenoviral vector, and a preparation method and use thereof. The modified adenoviral vector can reduce the negative charge level on the surface of adenovirus particles, so as to reduce interaction between the adenoviral vector and PF4 (platelet factor 4). By administering the modified adenovirus vector, the risk of thrombus can be reduced, vaccine safety and effectiveness are improved, and the vaccine is more suitable for high-risk crowds such as elder people, children and pregnant women. The recombinant adenovirus can be widely used for gene therapy, tumor immunization and/or antiviral vaccination, including the use of initiating a primary immune response in a human or mammal to initiate a reinforced immune response for destroying the tolerance of a host to an autoantigen. The modified recombinant adenovirus can be used for developing a mucosal administration formulation. Compared with injection, the mucosal administration formulation has compliance and also lower dosage, and can generate triple protection effects of humoral immunity, cellular immunity and mucosal immunity.

17.20240398937PSEUDORABIES VIRUS (PRV) EXPRESSING PORCINE CIRCOVIRUS 2 (PCV2) CAPSID PROTEIN ON ENVELOPE AND USE THEREOF

US - 05.12.2024

Clasificación Internacional A61K 39/245Nº de solicitud 18602029Solicitante ZHEJIANG UNIVERSITYInventor/a Jiyong ZHOU

The present disclosure provides a pseudorabies virus (PRV) expressing a porcine circovirus 2 (PCV2) capsid protein in its envelope, and use thereof. In the present disclosure, an attenuated PRV vaccine strain is used as a vector to express an exogenous immunogen. The exogenous immunogen only replaces an extracellular domain of a non-essential envelope protein of the PRV, while retaining a transmembrane domain and an intracellular domain of an original envelope protein, thereby allowing the expression of one or more exogenous immunogens on the viral envelope without changing genes of other PRV autoimmunogens. During the recombinant PRV particle being recognized by the body's immune system, the host's immune system recognizes all immunogens (exogenous immunogens and PRV autoimmunogens) on the recombinant PRV particle and then initiates an immune response, thus exerting a protective effect of a bivalent vaccine or a polyvalent vaccine based on the recombinant PRV particle.

18.4469797EX-VIVO-HUMANMODELL ZUR BEURTEILUNG DES IMPFSTOFFPOTENZIALS EINER ZUSAMMENSETZUNG

EP - 04.12.2024

Clasificación Internacional G01N 33/50Nº de solicitud 23702007Solicitante GENOSKINInventor/a SCHOLAERT MANON

The present invention relates to an ex vivo method designed to evaluate the vaccine potential of a composition, the method comprising the steps of: ia) transcutaneously administering the composition to a skin explant comprising the epidermis, the dermis and the epidermal appendages, as well as a thickness of at least 5 millimetres of hypodermis; ib) determining the activation status of the antigen-presenting cells within the skin explant; and ii) determining the vaccine potential of the composition.

19.20240398934FELINE LEUKEMIA VIRUS VACCINE

US - 05.12.2024

Clasificación Internacional A61K 39/21Nº de solicitud 18794860Solicitante INTERVET INC.Inventor/a Ian TARPEY

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

20.4469177HERSTELLUNG UND HERSTELLUNG EINES FLAVIVIRUSIMPFSTOFFS IM GROSSMASSSTAB

EP - 04.12.2024

Clasificación Internacional B01D 15/36Nº de solicitud 23710581Solicitante TAKEDA VACCINES INCInventor/a SANTANGELO JOSEPH DAVID

The present invention provides methods for large-scale flaviviral vaccine production and manufacture. The methods provided herein are specifically contemplated for large-scale production and manufacture of live, attenuated flaviviral vaccines such as live, attenuated, dengue virus vaccines. Further, the methods provided herein pertain to formulation of live, attenuated, monovalent, divalent, trivalent, or tetravalent viral vaccine products.

21.WO/2024/245344MRNA VACCINE FOR PREVENTING SARS-COV-2 OMICRON MUTANT STRAIN

WO - 05.12.2024

Clasificación Internacional C12N 15/50Nº de solicitud PCT/CN2024/096353Solicitante CSPC MEGALITH BIOPHARMACEUTICAL CO., LTD.Inventor/a WEI, Lifan

An mRNA vaccine for preventing SARS-CoV-2 omicron mutant strain. The main components thereof comprise an mRNA which has mutation sites and is subjected to codon optimization, and lipid nanoparticles. The mRNA vaccine has a good immunity effect against a variety of SARS-CoV-2 omicron strains.

22.4469080CORONAVIRUS-IMPFSTOFF

EP - 04.12.2024

Clasificación Internacional A61K 39/12Nº de solicitud 23708311Solicitante BIONTECH SEInventor/a CHE YE

This disclosure relates to the field of RNA to prevent or treat coronavirus infection. In particular, the present disclosure relates to methods and agents for vaccination against coronavirus infection and inducing effective coronavirus antigen-specific immune responses such as antibody and/or T cell responses. Specifically, in one embodiment, the present disclosure relates to methods comprising administering to a subject RNA encoding a peptide or protein comprising an epitope of SARS-CoV-2 spike protein (S protein) for inducing an immune response against coronavirus S protein, in particular S protein of SARS-CoV-2, in the subject, i.e., vaccine RNA encoding vaccine antigen.

23.WO/2024/250040COVID VACCINE DELIVERED BY HD-MAP

WO - 05.12.2024

Clasificación Internacional C12Q 1/686Nº de solicitud PCT/US2024/039247Solicitante VAXXAS PTY LIMITEDInventor/a HOEY, David

A method of immunizing a human against SARS-CoV-2 by administering to the human a HexaPro vaccine composition coated onto a microprojection array (HD-MAP) comprising a base and a plurality of solid microprojections by projecting the microprojection array into the human's skin thereby penetrating the skin with the microprojections coated with the composition such that the vaccine composition is stripped from the microprojections.

24.WO/2024/245358CORONAVIRUS VACCINE COMPOSITION, METHOD THEREFOR AND USE THEREOF

WO - 05.12.2024

Clasificación Internacional C07K 14/00Nº de solicitud PCT/CN2024/096427Solicitante SICHUAN CLOVER BIOPHARMACEUTICALS, INC.Inventor/a LIANG, Peng

The present invention relates to an immunogenic composition comprising a recombinant peptide and protein, wherein the recombinant peptide and protein comprise a coronavirus antigen and immunogen, for example, a chimeric antigen and immunogen of an S protein peptide or a fragment, variant or mutant sequence thereof of SARS-CoV-2 Hu-1, SARS-CoV-2 Omicron (BA.5 and/or XBB.1.5) variant, and/or other variants. The immunogenic composition comprises a secreted fusion protein, which comprises a soluble coronavirus antigen, wherein the soluble coronavirus antigen protein is linked, by means of in-frame fusion, to a C-terminal moiety of a collagen capable of self-trimerization to form a disulfide bond-linked trimeric fusion protein. The immunogenic composition can be used for generating an immune response, and can be used in a vaccine composition. Further provided are methods for producing a recombinant peptide and protein, methods for prevention, treatment and/or diagnosis, and a related kit.

25.20240398926NOVEL ADENOVIRUS VACCINE THERAPY FOR THE TREATMENT OF RECURRENT RESPIRATORY PAPILLOMATOSIS

US - 05.12.2024

Clasificación Internacional A61K 39/12Nº de solicitud 18671685Solicitante PRECIGEN, INC.Inventor/a Douglas E. BROUGH

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

26.WO/2024/248170CELL LINE FOR CULTURING AFRICAN SWINE FEVER VIRUS AND VACCINE USING SAME

WO - 05.12.2024

Clasificación Internacional C12N 5/071Nº de solicitud PCT/KR2023/007253Solicitante CHOONGANG VACCINE LABORATORIES CO., LTD (CAVAC)Inventor/a YOON, In-joong

The present invention relates to a CA-CAS-01-A cell line deposited with an accession number of 14568 BP capable of mass-proliferating African swine fever virus (ASFV), and a use thereof. The cell line of the present

invention and ASFV produced therefrom can be usefully used for preventing and alleviating damage from African swine fever.

27.WO/2024/248422NOVEL NUCLEIC ACID CONSTRUCT COMPRISING POLY(A) TAIL HAVING SECONDARY OR TERTIARY STRUCTURE AND USES THEREOF

WO - 05.12.2024

Clasificación Internacional C12N 15/113Nº de solicitud PCT/KR2024/007048Solicitante SAMSUNG BIOLOGICS CO., LTD.Inventor/a MOON, Seungtae

The present invention relates to a novel nucleic acid construct having improved stability and protein expression level and uses thereof and, more specifically, to a nucleic acid construct comprising: a coding region encoding a polypeptide or protein; and a poly(A) tail having a secondary or tertiary structure, and a pharmaceutical composition for vaccine or gene therapy, comprising the nucleic acid construct. A nucleic acid construct platform according to the present invention exhibits more improved stability and protein expression rate in cells without interfering with CDS and UTR sequences and the like, and thus can be generally and effectively used in gene therapy, vaccine fields, and the like.

28.WO/2024/248452AFRICAN SWINE FEVER VIRUS ASFV-KOR.INJE.MEC-01.2022 ATTENUATED BY CELL ADAPTATION, AND USE THEREOF

WO - 05.12.2024

Clasificación Internacional C12N 7/00Nº de solicitud PCT/KR2024/007169Solicitante CHOONGANG VACCINE LABORATORIES CO., LTD (CAVAC)Inventor/a YOON, In-joong

The present invention relates to: attenuated African swine fever virus ASFV-KOR.INJE.MEC-01.2022 obtained by subculturing African swine fever virus in a cell line derived from rhesus monkey kidney cells; and a use thereof. The attenuated African swine fever virus ASFV-KOR.INJE.MEC-01.2022 naturally attenuated by cell adaptation according to the present invention is both safe and effective and can thus be effectively used as an antigen in a vaccine composition for preventing African swine fever.

29.20240402174METHODS FOR DETERMINING NOROVIRUS-REACTIVE ANTIBODIES

US - 05.12.2024

Clasificación Internacional G01N 33/569Nº de solicitud 18698330Solicitante Takeda Vaccines, Inc.Inventor/a Ralph BRAUN

The present disclosure is directed to methods for determining the presence and/or amount of norovirus-reactive antibodies in a sample from a subject. The subject may be vaccinated with a norovirus vaccine or infected with a norovirus. The present disclosure further relates to in vitro methods for diagnosing a norovirus infection and determining protection against a norovirus infection in a subject for instance after vaccination with a norovirus vaccine. The present disclosure is further directed to kits for determining norovirus-reactive antibodies in a sample. The present disclosure is further directed to microsphere complexes comprising microspheres coupled to norovirus virus like particles.

30.20240398928IMMUNOGENIC COMPOSITIONS AND THEIR USE

US - 05.12.2024

Clasificación Internacional A61K 39/145Nº de solicitud 18686381Solicitante OSIVAXInventor/a Alexandre LE VERT

The invention relates to immunogenic compositions and their use as a vaccine for the prevention of influenza disease in a human subject. More specifically, the invention relates to methods of use of an immunogenic composition as a vaccine or immunotherapy in the prevention or treatment of influenza disease in a human subject in need thereof, said immunogenic composition comprising: a fusion protein comprising (i) an influenza nucleoprotein antigen and, (ii) a carrier protein comprising a self-assembling polypeptide derived from C4bp oligomerization domain and a positively charged tail, wherein an amount of 180 µg, or more, of said fusion protein is administered to said human subject.

31.2023273041MULTIVALENT VACCINE FOR PARAMYXOVIRUSES AND USES THEREOF

AU - 05.12.2024

Clasificación Internacional A61K 39/12Nº de solicitud 2023273041Solicitante ICOSAVAX, INC.Inventor/a CIARLET, Max

32.4469063PHARMAZEUTISCHE ZUSAMMENSETZUNGEN ZUR ABGABE VON HERPES-SIMPLEX-VIRUS-ANTIGENEN UND ZUGEHÖRIGE VERFAHREN

EP - 04.12.2024

Clasificación Internacional A61K 31/7105Nº de solicitud 23707217Solicitante BIONTECH SEInventor/a SAHIN UGUR

The present disclosure provides pharmaceutical compositions for delivery of HSV antigens (e.g., an HSV vaccine) and related technologies (e.g., components thereof and/or methods relating thereto).

33.4469162NEUES VERFAHREN ZUR IDENTIFIZIERUNG VON EPITOPEN AUS HERV

EP - 04.12.2024

Clasificación Internacional A61P 35/00Nº de solicitud 23702112Solicitante ERVIMMUNEInventor/a DEPIL STÉPHANE

The present invention relates to methods for identifying HERV-derived T cell epitopes associated with cancer, and peptides comprising or consisting of epitopes identified by said method, expression vectors encoding said peptides, cytotoxic T lymphocytes (CTLs) of a subject treated with said peptides or vectors and engineered T cells expressing T-cell receptors recognizing said peptides. The present invention also relates to the use of said peptides, expression vectors, CTLs or engineered T cells as a vaccine or a medicament, and in particular the use of said peptides, expression vectors, CTLs or engineered T cells for use in preventing or treating cancer in a subject in need thereof.

34.20240398925COMPOSITIONS COMPRISING STREPTOCOCCUS PNEUMONIAE POLYSACCHARIDE-PROTEIN CONJUGATES AND METHODS OF USE THEREOF

US - 05.12.2024

Clasificación Internacional A61K 39/09Nº de solicitud 18812253Solicitante Merck Sharp & Dohme LLCInventor/a William J. Smith

The invention is related to multivalent immunogenic compositions comprising more than one *S. pneumoniae* polysaccharide protein conjugates, wherein each of the conjugates comprises a polysaccharide from an *S. pneumoniae* serotype conjugated to a carrier protein, wherein the serotypes of *S. pneumoniae* are as defined herein. Also provided are methods for inducing a protective immune response in a human patient comprising administering the multivalent immunogenic compositions of the invention to the patient. The multivalent immunogenic compositions are useful for providing protection against *S. pneumoniae* infection and diseases caused by *S. pneumoniae*. The compositions of the invention are also useful as part of treatment regimes that provide complementary protection for patients that have been vaccinated with a multivalent vaccine indicated for the prevention of pneumococcal disease.

35.WO/2024/249848CORONAVIRUS S2 IMMUNOGENS

WO - 05.12.2024

Clasificación Internacional A61K 39/215Nº de solicitud PCT/US2024/031986Solicitante THE SCRIPPS RESEARCH INSTITUTEInventor/a SCHIEF, William

The present invention relates to coronavirus immunogens and a vaccine platform for coronaviruses. In particular, the invention relates to a non-naturally occurring polypeptides comprising an engineered pathogen S2 subunit and a secretion signal sequence, nucleic acids encoding the same, vectors containing the nucleic acids, nanoparticles containing the polypeptides, nucleic acids or vectors, cells containing the nanoparticles, polypeptides, nucleic acids or vectors, pharmaceutical compositions comprising the cells, nanoparticles, polypeptides, nucleic acids or vectors, vaccines comprising the pharmaceutical compositions and methods for immunization with the vaccines.

36.WO/2024/249116A MULTI-STAGE VACCINE ANTIGEN FOR MALARIA

WO - 05.12.2024

Clasificación Internacional A61K 39/015Nº de solicitud PCT/US2024/029954Solicitante SEATTLE CHILDREN'S HOSPITAL D/B/A SEATTLE CHILDREN'S RESEARCH INSTITUTEInventor/a VISWESWARAN, Ganesh, Ram

The present disclosure provides a recombinant antigen which is capable of eliciting protective immunity against all three stages of the Plasmodium life cycle, as well as compositions for and methods of preventing or inhibiting primary infection, disease severity, and transmission of malaria.

37.3891170HIV VACCINE IMMUNOGENS

PL - 02.12.2024

Clasificación Internacional C07K 14/005Nº de solicitud 19893005SolicitanteInventor/a MICHEL NUSSENZWEIG

38.2024903881STABILIZED VACCINE CONSTRUCT AND USES THEREOF

AU - 05.12.2024

Clasificación Internacional Nº de solicitud 2024903881Solicitante The University of MelbourneInventor/a

39.316477PROCESS FOR PRODUCING OF VACCINE FORMULATIONS WITH PRESERVATIVES

IL - 01.12.2024

Clasificación Internacional A61K 39/00Nº de solicitud 316477Solicitante PFIZER INC.Inventor/a BRUCHSALER, Michael David

40.2991384COMPOSICIÓN FARMACÉUTICA, FORMULACIÓN FARMACÉUTICA COMBINADA Y KIT DE FORMULACIÓN COMBINADA PARA LA PREVENCIÓN O EL TRATAMIENTO DE LA HEPATITIS B CRÓNICA, QUE COMPRENDE CADA UNO, COMO INGREDIENTE ACTIVO, UN AGENTE ANTIVIRAL ORAL Y UNA VACUNA TERAPÉUTICA QUE INCLUYE UN LIPOPÉPTIDO Y UN ADYUVANTE POLI(I:C)

ES - 03.12.2024

Clasificación Internacional A61K 31/513Nº de solicitud 21894866Solicitante Cha Vaccine Research Institute Co., LtdInventor/a YUM, Jung Sun

41.WO/2024/245971VACCINE COMPOSITION FOR USE AGAINST SALMONELLA CHOLERAESUIS INFECTION

WO - 05.12.2024

Clasificación Internacional A61K 39/112Nº de solicitud PCT/EP2024/064456Solicitante CEVA SANTE ANIMALEInventor/a LILLIE-JASCHINSKI, Kathrin

The present invention relates to the use of a live attenuated *Salmonella* Typhimurium bacterium for cross protecting pigs, in particular piglets, against *Salmonella* Choleraesuis infection. The present invention is particularly suited to reduced mortality rate and/or to improve ADWG of piglets from an herd experiencing a *Salmonella* Choleraesuis outbreak.

42.4471131ABSCHWÄCHUNGSVERFAHREN FÜR INFLUENZAVIREN, ABGESCHWÄCHTER INFLUENZAVIRUSSTAMM UND VERWENDUNG

EP - 04.12.2024

Clasificación Internacional C12N 7/01Nº de solicitud 22923102Solicitante ZHEJIANG DIFFERENCE BIOTECHNOLOGY CO LTDInventor/a SUN HUIMIN

Provided are an attenuation method for influenza viruses,an attenuated influenza virus strain and the use,The attenuation method comprises: deleting bases of an arbirary number at random positions on an influenza vims conserved region M2 protein transmembrane domain and a cytoplasmic domain to obtain attenuated influedza viruses having corresponding base deletion. The attenuated influenza virus strain obtained by measns of the attenuation method has good growth characteristics on an MDCK cell line expressing M2 protein.The virus strain of a high dose can grow in MDCK cells or chicken embry os and has high chicken erythrocyte agglutination titer. Balb/C mouse immunization by means of nasal instillation shows that: compared with parental vims IA V PR8,said strain is non-pathogenic to the mice. The random base deletion

mode reduces the virulence of the influenza viruses, and lays a foundation for screening of a safer and more effective live attenuated IAV vaccine.

43.449432VACCINE COMPOSITION FOR APPLICATION IN PREVENTING INFECTIOUS DISEASES

PL - 02.12.2024

Clasificación Internacional A61K 39/12Nº de solicitud 449432Solicitante POLITECHNIKA WARSZAWSKAInventor/a MONIKA STANISZEWSKA

44.20240398932RESPIRATORY SYNCYTIAL VIRUS VACCINE AND METHODS OF USE

US - 05.12.2024

Clasificación Internacional A61K 39/155Nº de solicitud 18660581Solicitante SANOFI PASTEUR INC.Inventor/a Sebastien Carayol

Disclosed herein are respiratory syncytial virus vaccines and methods of immunization to deliver respiratory syncytial virus vaccines in subjects.

45.4469077MURINER CYTOMEGALOVIRUS IMPFSTOFF ZUR VERABREICHUNG IN EINER NICHT-MAUS PERSON

EP - 04.12.2024

Clasificación Internacional A61K 39/00Nº de solicitud 23701754Solicitante HELMHOLTZ ZENTRUM INFEKTIONSFORSCHUNG GMBHInventor/a CICIN-SAIN LUKA

The invention relates to a replication-deficient murine Cytomegalovirus (MCMV) vector for use in inducing an antigen-specific immune response in a subject, wherein the subject is not a mouse, and wherein said vector expresses a disease antigen. The invention further relates to a pharmaceutical composition comprising a replication-deficient murine Cytomegalovirus (MCMV) vector suitable to induce an antigen-specific immune response in a subject, wherein said vector expresses a disease antigen, and wherein the composition is configured for administration to a non-mouse subject. In embodiments, the vector has a disrupted immediate-early 2 (ie2) gene causing a replication deficiency of said vector in a non-mouse subject. The invention further relates to a pharmaceutical composition for use in inducing an antigen-specific immune response in a non-mouse subject to the expressed disease antigen.

46.4469470IMPFSTOFF GEGEN LEPTOSPIROSE

EP - 04.12.2024

Clasificación Internacional C07K 14/20Nº de solicitud 23747788Solicitante UNIV YALEInventor/a WUNDER ELSIO

Leptospirosis is a life-threatening disease. The disclosure provides a composition comprising an effective amount of a plurality of leptospiral proteins, or immunogenic fragments thereof. The disclosure further provides a method of generating an immune response against leptospirosis using a composition comprising the plurality of leptospiral proteins, or immunogenic fragments thereof, and an adjuvant.

47.WO/2024/249814IINFLUENZA EHEAD IMMUNOGENS

WO - 05.12.2024

Clasificación Internacional C07K 14/11Nº de solicitud PCT/US2024/031940Solicitante THE SCRIPPS RESEARCH INSTITUTEInventor/a SCHIEF, William

The present invention relates to influenza immunogens and a vaccine platform for influenza viruses. In particular, the invention relates to a non-naturally occurring polypeptides comprising an engineered hemagglutinin lateral patch sequence and a secretion signal sequence, nucleic acids encoding the same, vectors containing the nucleic acids, nanoparticles containing the polypeptides, nucleic acids or vectors, cells containing the nanoparticles, polypeptides, nucleic acids or vectors, pharmaceutical compositions comprising the cells, nanoparticles, polypeptides, nucleic acids or vectors, vaccines comprising the pharmaceutical compositions and methods for immunization with the vaccines.

48.4470561ADJUVANSZUSAMMENSETZUNG UND IMPFSTOFFZUSAMMENSETZUNG

EP - 04.12.2024

Clasificación Internacional A61K 39/39Nº de solicitud 23746634Solicitante SHIN NIPPON BIOMEDICAL LABORATORIES LTDInventor/a HARUTA SHUNJI

An adjuvant composition, comprising a complex comprising an adjuvant and microparticles of a biodegradable polymer and/or cyclodextrin, wherein the adjuvant is incorporated into the microparticles of the biodegradable polymer and/or encapsulated in the cyclodextrin.

49.20240398923SUBUNIT VACCINE DELIVERY PLATFORM FOR ROBUST HUMORAL AND CELLULAR IMMUNE RESPONSES

US - 05.12.2024

Clasificación Internacional A61K 39/015Nº de solicitud 18661174Solicitante CORNELL UNIVERSITYInventor/a David A. PUTNAM

The present invention relates to a probiotic cell transformed with a construct suitable to overexpress and display on the surface of the probiotic cell a fusion protein comprising at least a portion of a transport protein coupled to at least a portion of one or more antigenic proteins or peptides. Probiotic-derived vesicles displaying this fusion protein as well as methods of inducing an immune response using the probiotic cells or vesicles are also disclosed.

50.202404011116NUCLEIC ACID ARRAYS FOR MRNA CHARACTERIZATION

US - 05.12.2024

Clasificación Internacional C12Q 1/6837Nº de solicitud 18694860Solicitante INDEVR, INC.Inventor/a Kathy L. ROWLEN

Provided herein are methods and related systems, including assays and kits, for characterization of one or more polynucleotides, including mRNA polynucleotides or other nucleic acid targets. Capture agents are provided on a substrate that are specific to a target region of mRNA in a vaccine or therapeutic sample, wherein the nucleic acid capture agents specifically bind to the target region. Contacting the capture agents with a sample containing relevant mRNA sequences forms a capture agent-target hybridized complex that can be labeled with a variety of detection label agents to generate a measurable signal that may be used for identity, quantification, integrity and/or stability measurements of mRNA in mRNA-based vaccines and therapeutics.

51.316312FORMULATIONS OF DENGUE VIRUS VACCINE COMPOSITIONS

IL - 01.12.2024

Clasificación Internacional A61P 19/02Nº de solicitud 316312Solicitante MERCK SHARP & DOHME LLCInventor/a

52.20240398957ADDITIVES FOR PROTEIN FORMULATIONS TO IMPROVE THERMAL STABILITY

US - 05.12.2024

Clasificación Internacional A61K 47/26Nº de solicitud 18783871Solicitante MERCK PATENT GMBHInventor/a Tobias ROSENKRANZ

The present invention relates to excipients for special protein formulations, which are suitable to improve the thermal stability against denaturation and deactivation. In particular, the present invention relates to additives for thermostabilizing of vaccine formulations.

53.20240398785SMALL MOLECULE DRUGS FOR THE INDUCTION OF TRAINED IMMUNITY

US - 05.12.2024

Clasificación Internacional A61K 31/4725Nº de solicitud 18679407Solicitante THE UNIVERSITY OF CHICAGOInventor/a Aaron ESSER-KAHN

The present disclosure provides methods and compositions for inducing trained immunity, preventing infections, improving immune responses, modulating the activity of at least one protein in the BCL family of proteins, increasing the efficacy of a vaccine, and reducing the risk of a secondary tumor in a subject diagnosed with a primary cancer.

54.20240398750METHODS OF TREATING OR REDUCING SYMPTOMS OF ANXIETY, DEPRESSION, ATTENTION DEFICIENCY (ADD), ATTENTION DEFICIENT HYPERACTIVITY (ADHD), OBSESSIVE COMPULSIVE (OCD), BIPOLAR DISORDER, AND RELATED DISORDERS/CONDITIONS VIA COMBINATION THERAPY WITH VACCINE/ANTIBODIES AND 5HT1/5HT2, SERT AND OTHER ALLOSTERIC MODULATORS.

US - 05.12.2024

Clasificación Internacional A61K 31/352Nº de solicitud 18625131Solicitante David Alan Heldreth, JR.Inventor/a David Alan Heldreth, JR.

The invention involves the use of formulations of allosteric modulators of primarily 5ht2/5ht1, glutamate 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 or reduce symptoms of anxiety, depression, attention deficiency (ADD), attention deficient hyperactivity (ADHD), obsessive compulsive (OCD), bipolar disorder, and related disorders/conditions.

55.20240398751METHODS OF TREATING OR REDUCING SYMPTOMS OF STIMULANT DEPENDENCY (ADDICTION) VIA COMBINATION THERAPY WITH VACCINE/ANTIBODIES AND 5HT1/5HT2, SERT AND GLUTAMATE ALLOSTERIC MODULATORS

US - 05.12.2024

Clasificación Internacional A61K 31/352Nº de solicitud 18625137Solicitante David Alan Heldreth, JR.Inventor/a David Alan Heldreth, JR.

The invention involves the use of formulations of allosteric modulators of primarily 5ht2a/5ht1a, 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 stimulant dependency (addiction).

56.316074COMPOSITIONS FOR DETERMINING VACCINE POTENCY

IL - 01.12.2024

Clasificación Internacional C12N 5//0781Nº de solicitud 316074Solicitante BIOMADISON, INC.Inventor/a WARD TUCKER

57.20240398865TUMOR AVATAR VACCINE COMPOSITIONS AND USES THEREOF

US - 05.12.2024

Clasificación Internacional A61K 35/17Nº de solicitud 18688222Solicitante THE BROAD INSTITUTE, INC.Inventor/a Edward Fritsch

Disclosed herein are methods of eliciting an anti-cancer immune response by administering tumor-associated antigens, cells containing tumor-associated antigens, and/or nucleic acids encoding tumor-associated antigens. inducing immunogenic cell death in the cells expressing or containing the tumor-associated antigens. and optionally generating hyperactivated dendritic cells. Expression of tumor-associated antigens in a separate anatomical site generates a tumor avatar, which mimics the antigenic, but not immunosuppressive, environment of the tumor, with the generation of hyperactivated dendritic cells enhancing antigen presentation to elicit a robust anti-tumor T cell and antibody response. Also provided are compositions and kits containing nucleic acids and other components for use in the methods provided herein.

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