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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.

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

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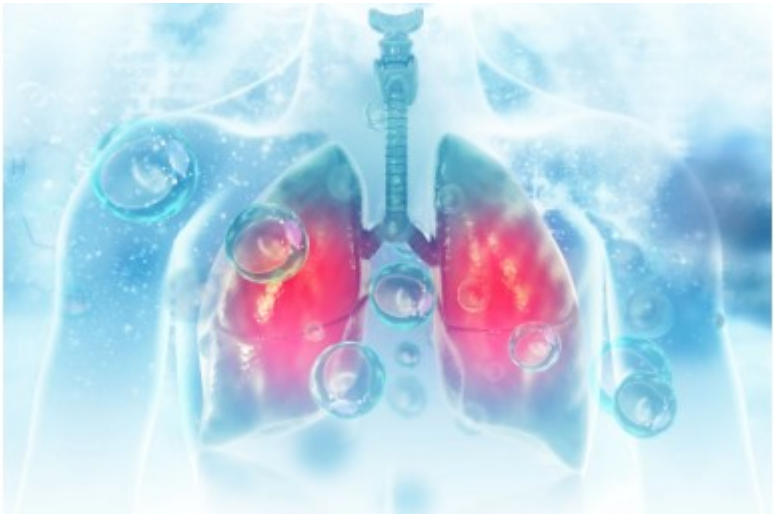
Noticias en la Web

Study Results Show Low Prevalence of S. Pneumonia Nasopharynx-Oropharynx Colonization



Apr 1. Results of a study published in Vaccine found that there was a low prevalence of Streptococcus pneumoniae nasopharynx-oropharynx colonization (NOC) in adults, but the prevalence was higher among younger adults. According to the study authors, NOC is a proposed new target to reduce the development of invasive pneumococcal disease in adults but there is limited information on NOC rates in this population.

According to a separate study published in Open Forum Infectious Diseases, the rates of all-cause pneumonia per 100,000 patient-years were 953 for those aged 18 to 49 years, 2679 for those aged50 to 64 years, and 6930 for those ages 65 or older.

Investigators of the current review aimed to synthesize and analyze existing data on the prevalence of S. pneumoniae NOC in adults. Data included were original observational studies such as cross-sectional, case-control, and cohort designs. The studies also had to include adults aged 18 years and older without symptoms or suspicion of viral or pneumococcal disease and the primary outcome had to be the identification of pneumococcal colonization, according to the study authors. Investigators included studies from PubMed, Science Direct, Web of Science, and Scopus, spanning from January 1, 1983, to May 31, 2023.1

A total of 319 potential articles were initially selected for review, with 175 excluded due to irrelevance and 75 failing to meet the inclusion criteria, according to the study authors. Investigators included 37 articles in the final meta-analysis, accounting for 23,724 individuals aged 18 and older. In 87% of the studies, pneumococcus was identified with traditional culture methods and 8% used PCR tests, while 5% combined both approaches. Further, 65% used nasopharyngeal swabs, 19% used a combination of nasopharyngeal swabs and oropharyngeal swabs, and 8% combined nasopharyngeal swabs with other sample types, according to the study authors.

Investigators found that the overall prevalence of S. pneumoniae NOC among adults was 6%, while the subgroup analysis revealed that adults aged 18 to 64 years old had a prevalence of 10% and those 65 years and older had a prevalence of 2%. The high heterogeneity was >90% but fell to 70% when the analysis was restricted to just oropharyngeal swabs, showing that the identification of S. pneumoniae NOC could vary depending on the method used for diagnosis, according to the study authors.

Further, investigators found that the prevalence proportion of adults during the pre-pneumococcal conjugate vaccine (PCV) ranged from 21% to 18%, but the prevalence in the post-PCV period had a 0% to 26% range, according to the study authors.

The study authors indicated that due to the overlap of data within different age groups, they excluded the data to avoid bias, which resulted in some data in the colonization proportion being derived from “less-than-ideal tables and images,” possibly introducing bias. Further, they noted there was a lack of data on serotypes, antibiotic sensitivity, risk factors, and vaccine dosage.

Lastly, they said some results had poor information associated with low- and middle-income countries.

Key Takeaways

A study published in Vaccine found that Streptococcus pneumoniae colonization in adults' throats (nasopharynx-oropharynx colonization or NOC) is uncommon, with an overall prevalence of only 6%.

Younger adults (aged 18-64) were four times more likely to have this colonization compared to older adults (65+).

This review highlights limitations in the existing research, including data overlap, missing information on specific bacterial strains and risk factors for colonization, and a lack of data from low- and middle-income countries.

Fuente: Pharmacy Times. Disponible en https://acortar.link/ibgo8c

La creadora de la vacuna argentina contra la COVID-19: "La ciencia siempre empieza financiada por los Estados"

2 abr. Juliana Cassataro, ganadora del prestigioso premio 'Por las mujeres en la ciencia', otorgado por L'Oréal-Unesco, habla sobre la incertidumbre por el ajuste presupuestario que ha anunciado el ultraderechista Javier Milei a la ciencia.

"No sabemos qué sucederá con el sistema científico, dónde será el recorte y en qué proyectos se invertirá. Es un momento muy complicado". La inmunóloga argentina Juliana Cassataro (49 años, La Plata) describe con crudeza la incertidumbre por el ajuste presupuestario que ha anunciado el ultraderechista Javier Milei. La investigadora, que de niña jugaba con microscopios, leía libros de insectos y se maravillaba con Jaques Cousteau, está al frente de uno de los desarrollos locales que concentró mayor atención en los últimos cuatro años: la vacuna argentina contra la COVID-19 que, según adelanta, estará disponible en los próximos días y permitirá que el país cuente con un inoculante propio para atacar futuras variantes del coronavirus y para aplicar como refuerzo este año y los próximos.

La vacuna fue desarrollada en conjunto entre el Estado – a través del ex Ministerio de Ciencia, la UNSAM y el Conicet – y el laboratorio Cassará, que financió la fase 1 de investigación clínica y todas las etapas de escalado y producción bajo buenas prácticas de manufactura. Cassataro recuerda cuando en plena etapa estricta de cuarentena la convocaron a participar de la iniciativa "Ideas Proyecto". "Sabíamos que con ese subsidio no iba a alcanzar, pero sí permitía hacer prototipos y luego encontrar a una empresa privada a la que le interesara producirla". Casi cuatro años más tarde y luego del trabajo de cientos de personas, el inoculante es un hecho: "Tenemos capacidad de adaptar la vacuna a las variantes que circulen en Argentina y la región", afirma. "Quiero que la gente se la aplique para que se use lo que hicimos. Que todo el esfuerzo económico, de tiempo, inversión y de recursos tenga un fin. Lo que más quiero es ir y darme yo la vacuna. La espera se hace larga", bromea.

El desarrollo de vacuna Arvac Cecilia Grierson, que lleva el nombre en homenaje a la primera médica argentina y luchadora por los derechos de las mujeres, le valió a Cassataro el prestigioso premio Por las mujeres en la ciencia, otorgado por L'Oréal-Unesco, a finales de 2023. "Argentina necesita políticas a largo plazo para continuar con procesos de investigación, desarrollo y producción, independientemente de los Gobiernos", plantea la científica del Instituto de Investigaciones Biotécnicas del Consejo Nacional de Científicas y Técnicas (Conicet) y docente de la Universidad Nacional de San Martín (UNSAM), en una entrevista con América Futura.

¿Por qué ahora es importante que ahora el país cuente con una vacuna propia contra el coronavirus?

Juliana Cassataro en el laboratorio del Instituto de Investigaciones Biotecnológicas UNSAM.VALENTINA FUSCO

Es importante para Argentina y la región, como ocurre con otras vacunas, especialmente porque es un país con problemas económicos y de distribución. Los países productores de vacunas son los que más rápido pudieron dársela a sus poblaciones. También es importante porque, si cambia una variante, se puede adaptar muy rápido. Además, por un tema de costos: no requiere gastar dólares, se puede producir acá generando empleo, ya sea público-privado o privado. Es soberanía, economía, trabajo, desarrollo y producción. La pandemia demostró que los países quieren tener sus capacidades de desarrollo propias. Para eso es importante tener capacidad de investigar.

¿Cómo se hace una vacuna?

Primero hay que encontrar la región del patógeno que se usaría en la fórmula de la vacuna para dirigir la respuesta inmune contra esa parte. Lamentablemente, hasta que se prueba la formula vacunal, no es posible predecir la respuesta de antemano, por eso hay que evaluar en animales, pero luego llega un punto en el que hay que estudiar en humanos. Hay un estudio preclínico en animales, con modelos, donde se aplican diferentes fórmulas para demostrar la respuesta inmune. Nosotros elegimos un tipo de tecnología de vacunas a subunidad y proteínas recombinantes para la cual ya existían en Argentina plantas de producción. La vacuna argentina no necesita cadena de frío, se puede dejar en la heladera. La modalidad de producción y el costo son clave en un país tan grande, donde hay todo tipo de climas y no en todos los lugares se puede tener una refrigeración de 70 grados bajo cero como se necesita para las vacunas de RNA.

Estamos en el laboratorio de una universidad pública. El rector de esta casa de altos estudios ha dicho que sería inviable sostener esta universidad en unos meses debido al ajuste presupuestario planteado por el Gobierno, algo que se replica en otras universidades del país. ¿Cómo lo observa?

Si quieren tener de modelo a los países desarrollados deben invertir en educación, ciencia y tecnología. No estoy inventando la pólvora, está probado en el mundo, hay modelos de lo más variados: China, Israel, Estados Unidos o Alemania. La ciencia en todos los casos empieza financiada por los Estados, no son los privados los que empiezan a desarrollar. Como autocrítica, creo que debemos trabajar mucho más en divulgar nuestro trabajo para que la gente lo vea y acercarnos a trabajar junto al sector productivo y brindar herramientas a problemas actuales. No podemos ser sólo nosotros quienes nos defendamos, otros actores de la sociedad deben plantear que es importante que Argentina tenga ciencia y tecnología propia.

¿Una investigación como la suya sería inviable sin apoyo del Estado?

Sí, acá y en cualquier lado. Todas las tecnologías que usamos para el desarrollo de vacunas empezaron y fueron desarrolladas por los Ministerios de Defensa, Salud y Ciencia de los países. Muchas de las vacunas que nos damos del calendario anual fueron desarrolladas por los ministerios de Defensa de Estados Unidos y Rusia. Y el caso de la covid-19 fue exactamente eso, todas las vacunas fueron financiadas por sus estados.

Usted estudió en una época en la que desde el Gobierno argentino se enviaba a los científicos a "lavar los platos". ¿Hoy cómo vive el recorte presupuestario?

Estamos atravesados por la incertidumbre, no sabemos qué va a pasar, nadie nos dice dónde habrá recortes, qué sucederá con el sistema científico. Todos nos preguntamos qué pasará con lo que hicimos, con lo que trabajamos, en qué lo vamos a aplicar. Estamos en un momento muy complicado. Hice toda mi carrera en la educación pública y la calidad educativa y los recursos humanos altamente calificados nos diferencian como país en la región. Es increíble, perder esto es muy difícil.

¿Por qué estudió biología?

En la escuela secundaria tuve muy buenos profesores de biología y siempre me gustaron las cuestiones de la naturaleza: leía libros de insectos y los microscopios me encantaban. Los de mi generación veíamos a Jacques Cousteau, a mí me fascinaba. En Mar del Plata no había medicina. Si hubiera existido, tal vez la hubiese seguido.

¿Qué implica para su carrera profesional haber sido distinguida con el Premio L'Oreal Unesco?

El desarrollo de la vacuna fue el proyecto que más me transformó. Este proyecto fue el sueño de nuestra vida, de todos los que trabajamos acá. Siempre trabajamos para proyectos más a largo plazo con colaboraciones internacionales y haber trabajado para algo de acá, con gente de acá, con médicos argentinos, con la industria nacional, fue soñado. Antes yo veía que Argentina tenía buenos recursos humanos en ciencia y tecnología, excelentes médicos clínicos y buena industria farmacéutica, pero no había unión de principio a fin. Siempre se podía hacer una parte, pero no todo.

Hace unos meses planteó que hay muchas mujeres haciendo ciencia: un 80% en áreas biológicas, pero que pocas que llegan a espacios de jerarquía. ¿Qué mirada tiene sobre el rol de las mujeres en la ciencia?

No sé si tiene que ver con la educación que tuve, pero los lugares de poder no me gustan, me gusta liderar un proyecto particular, algo específico. Nunca imaginé un lugar de poder por el solo hecho del lugar, es una diferencia fundamental en comparación con los varones. Eso es tremendo. Creo que es un problema de educación y de tener pocos ejemplos, pero las capacidades las tenemos.

Pero hay un evidente techo de cristal.

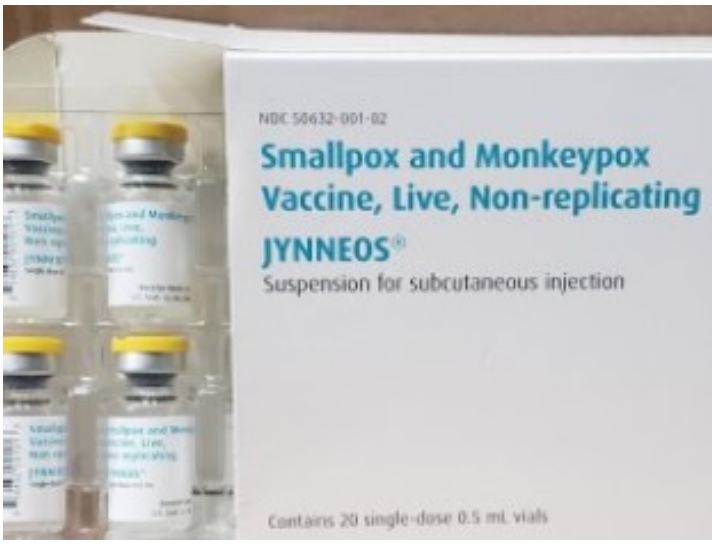
Claro. No sé cuál es la explicación de porqué nos cuesta tanto llegar a esos lugares. A veces no es que nos los den, sino también querer tenerlos en la forma de liderazgo que conocemos.

Las últimas décadas de su vida las dedicó a la ciencia, ¿cómo se imagina los próximos diez años?

Imaginaba que en 2024 haría nuevos proyectos enfocados en cosas necesarias para el país, pensando un proyecto desde cero hasta finalizarlo, iniciativas que sirvan para resolver problemas concretos de Argentina o la región. Puede ser otro tipo de vacunas, hay muchas necesidades, tanto humanas como veterinarias. Los recursos humanos los tenemos, pero ahora no sabemos cuáles serán las líneas prioritarias ni en qué proyectos se invertirá.

Fuente: El País. Disponible en https://acortar.link/9GYWof

Mpox Vaccine and Treatment Access Expansion Includes Pharmacy



Apr 3. Although mpox is no longer considered a public health emergency, infections are still reported worldwide.

Since the initial outbreak of mpox in May 2022, over 32,000 cases have been reported in the United States, accounting for a third of all global cases.

As of April 2024, around 200 monthly cases of mpox are being reported, and the sexually transmitted virus has spread across most of the United States.

However, there is good news regarding expanded access to preventive vaccines and treatments.

Bavarian Nordic A/S announced today that JYNNEOS®, the only FDA-approved mpox vaccine, is now commercially available in the U.S.

Since 2022, in response to the global mpox outbreak, JYNNEOS has been made available through public health channels for individuals at risk of mpox infection. This was enabled by interim guidance from the U.S. Centers for Disease Control and Prevention (CDC), recommending pre- and post-exposure vaccine use for at -risk individuals during the outbreak.

These recommendations were updated in October 2023 by a unanimous vote by the CDC's Advisory Committee on Immunization Practices. JYNNEOS is now recommended for routine use in individuals 18 and older with certain risk factors.

From a mpox treatment perspective, SIGA Technologies, Inc. announced on April 1, 2024, that it entered into an amendment to its international promotion agreement with Meridian Medical Technologies, Inc. regarding oral TPOXX® (Tecovirimat).

Effective June 1, 2024, SIGA will drive international promotion activities for TPOXX while maintaining its contractual relationship with Meridian to maintain continuity for key customer relationships.

In 2018, SIGA signed a contract with the Biomedical Advanced Research and Development Authority for additional procurement and development related to TPOXX's oral and intravenous formulations.

While mpox no longer constitutes a public health emergency, infections are still occurring throughout the U.S. Since the beginning of the outbreak in May 2022, more than 32,000 cases have been reported in the U.S.

According to estimates from the U.S. CDC, two million individuals are currently eligible for mpox vaccination. Recent data shows that both pre- and post-infection vaccination offers measurable benefits.

The CDC's adult immunization schedule for 2024 includes updates for mpox vaccination.

As of April 1, 2024, JYNNEOS is available for at-risk individuals at local pharmacies, physician offices, and public health clinics.

Paul Chaplin, President and Chief Executive Officer of Bavarian Nordic, commented in a press release, "From the beginning of the mpox outbreak, almost two years ago, the prompt availability of an approved vaccine

combined with a strong public health response has helped to significantly reduce the impact of this debilitating disease, but unfortunately, mpox has not gone away completely."

"Building on the trust and reliability as a supplier of vaccines to the U.S. government for more than a decade, we are proud to extend our commitment to improving the nation's public health by making our mpox vaccine widely available to at-risk individuals through the regular channels."

"We look forward to working with healthcare providers nationwide to increase awareness and availability of the mpox vaccine."

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

Kosovo* introduces HPV vaccine in immunization schedule: outreach in schools and beyond to reach every girl

Apr 4. As of 20 February 2024, all girls aged 12 in Kosovo* are eligible to receive the human papillomavirus (HPV) vaccine for lifelong protection from cervical cancer. To comprehensively roll out the vaccine, Pristina health authorities launched a vaccination campaign at schools aiming to reach over 12 000 girls in 2024; 116 doses have already been administered during the first 2 days of the campaign. While most of these girls will be vaccinated in schools, health workers will also go door-to-door to reach girls from minority Roma, Ashkali, and Egyptian communities, who may have less contact with health and education systems.

“I want only the best for my daughter,” said Shqipe Doli, parent of one of the vaccinated girls. “I am very happy that now girls in Kosovo* have a chance to prevent this deadly cancer. Please don’t miss your chance; vaccinate your children.”

Cervical cancer, often referred to as the silent killer, is the most prevalent form of cancer among women in Kosovo*, responsible for over 90% of cancer-related deaths among women, despite being almost entirely preventable.

Comprehensive planning and research

Many months of research and planning preceded the launch of HPV vaccination in Kosovo*. As part of an EU-funded project aimed at enhancing health systems in the western Balkans, the WHO Office in Pristina has collaborated closely with health authorities ahead of the HPV vaccine's inclusion in the immunization calendar.

“WHO welcomes Kosovo’s* efforts to ensure it will reach the target set out in the European Immunization Agenda 2030 of seeing 90% of girls fully vaccinated against HPV by the age of 15,” said Oleksandr Martynenko, Liaison Officer at the WHO Office in Pristina. “Evidence shows that a single dose of the HPV vaccine is already 80–90% effective in reducing HPV infections and preventing cervical cancer. It is critical to ensure universal and equitable access to HPV vaccination for all girls.”

**All references to Kosovo in this document should be understood to be in the context of the United Nations Security Council resolution 1244 (1999).*

Informed also by formative research conducted by WHO in partnership with the public health authorities and UNICEF, various initiatives were designed to identify the necessary steps to ensure high demand for, and thereby successful introduction of, the HPV vaccine. The outcomes of this research were the basis for the development of a comprehensive advocacy, communication and social mobilization plan.

These measures included comprehensive training for health-care workers, with an emphasis on vaccine administration.

Together with the public health authorities, WHO trained over 1100 immunization staff, thus contributing to enhancing immunization performance as outlined in Kosovo's* Action Plan on Immunization. The initiative also involved developing and distributing a comprehensive set of informative materials tailored to parents and health-care workers.

Prior to the campaign kick-off, WHO also supported the coordination of a conference dedicated to 3 vaccines slated for introduction in the vaccination schedule, aligning with WHO recommendations – the HPV vaccine, the pneumococcal conjugate vaccine, and the rotavirus vaccine. This proactive approach laid the groundwork for the successful introduction of these crucial vaccines, and underscores commitment to fostering a well-prepared and informed health-care system in Kosovo*.

Paving the way for eliminating cervical cancer

“Fighting cervical cancer is a public health priority for us. We are fully committed to ensuring that all girls in Kosovo* receive this life-saving vaccine, and to contributing to global efforts towards eliminating this deadly yet preventable disease,” said Dafina Gexha, a senior health officer from Pristina.

“A future without cervical cancer is now possible in Kosovo*, too,” added Jan-Christopher Castilhos França from the Vaccine Alliance (GAVI). “All communities in Kosovo* should benefit from this essential vaccine and no one should be left behind.”

Fuente: World Health Organization. Disponible en https://acortar.link/YWu7Ok

Moderna 'se reinventa': de su vacuna antiCovid al desarrollo de nuevos antígenos

5 abr. Atrás quedó el negocio de las vacunas contra la COVID-19. Así lo han confirmado los resultados de las farmacéuticas que tenían un suero frente al coronavirus en sus porfolios. Entre ellas, Moderna. La compañía que dirige Stéphane Bancel perdió 4.343 millones de euros en 2023 por la disminución de las ventas de su antígeno contra la COVID-19. De ahí que el laboratorio se haya reinventado, aunque en su foco siguen estando las vacunas.

Una de las más avanzadas es la del virus respiratorio sincitial (VRS). De hecho, Moderna espera obtener la autorización de uso en el primer semestre de 2024, tras haber solicitado aprobaciones regulatorias para este producto en diferentes países.

También en el área de virus respiratorios, la farmacéutica estadounidense está trabajando en diferentes sueros. En concreto, tiene varias vacunas candidatas contra la gripe en desarrollo. Una de ellas ya está fase 3 del ensayo clínico y ha demostrado ser eficaz. Moderna ya ha iniciado conversaciones con los reguladores y espera presentar las solicitudes este mismo año.

Y, aunque el negocio de las vacunas contra la COVID-19 haya llegado a su fin, lo cierto es que los países continúan inmunizando a su población de riesgo frente a este virus. De ahí que Moderna esté desarrollando un suero combinado: gripe y COVID-19.

Además de la combinada, Moderna también está trabajando en una vacuna candidata contra la Covid-19 de siguiente generación. Se trata de su cuarto suero frente a enfermedades respiratorias que ha cumplido con éxito los criterios de la fase 3 del ensayo clínico.

Enfermedades infecciosas

Otra de las áreas en las que está trabajando Moderna es en el desarrollo de vacunas frente a enfermedades infecciosas. Tiene ya cinco candidatas en ensayos clínicos, según ha detallado la propia compañía.

Están destinadas a virus latentes. Son aquellos que están presentes en el cuerpo pero en estado de reposo, generalmente sin causar ningún síntoma. Sin embargo, estos pueden reactivarse a medida que una persona envejece, durante momentos de estrés o cuando la inmunidad está comprometida.

En concreto, los sueros que está desarrollando Moderna son frente a citomegalovirus (CMV), el virus de Epstein-Barr (EBV), el virus del herpes simple (HSV) y el virus de la varicela-zoster (VZV), al que se suma también el norovirus (causante de gastroenteritis).

La primera es la más avanzada, pues se encuentra en la fase 3 del ensayo clínico que, además, se ha ampliado a una nueva cohorte de edad. El resto todavía están en fases tempranas de estudio.

Estrategia de inversión

Como parte de su estrategia, las opciones de financiación que considera Moderna para estos proyectos son la autofinanciación, la financiación de proyectos y las asociaciones.

Así, la compañía cerró recientemente un acuerdo de financiación con Blackstone Life Sciences para avanzar en el programa contra la gripe. Así, Blackstone financiará hasta 750 millones de dólares con un rendimiento basado en hitos comerciales acumulados y regalías de un solo dígito.

Este acuerdo no supone ningún cambio en el marco de investigación y desarrollo de Moderna para 2024, de aproximadamente 4.500 millones de dólares.

Fuente: Invertia. El León Español. Disponible en https://acortar.link/VKY4pI

Respiratory Syncytial Virus (RSV) Impact Against COVID-19 and Influenza

Apr 6. In a recent study analyzing severe outcomes among vaccinated adults, RSV was found to pose a greater risk than both COVID-19 and influenza, particularly in terms of necessitating Invasive Mechanical Ventilation (IMV) or death.

Investigators looked at 7,998 adults, a median age of 67 and about half female. 484 people (6.1%) were hospitalized with RSV, 6,422 (80.3%) with COVID-19, and 1,092 (13.7%) with influenza. 12.0% of those with RSV either needed IMV or died. This outcome compares to 14.1% of unvaccinated COVID-19 patients 9.2% of vaccinated ones, and 10.3% of unvaccinated and 5.1% of vaccinated influenza patients. When adjusting the data for comparison, people with RSV had similar chances of IMV or death as unvaccinated COVID-19 (odds ratio [OR] 0.82) or influenza patients (OR 1.20), odds were significantly higher compared to vaccinated COVID-19 (OR 1.38) and influenza patients (OR 2.81).

“This evaluation of RSV epidemiology during a period of endemic COVID-19 demonstrates that RSV is a serious respiratory infection in adults, and especially older adults,” according to the investigators. “Newly approved RSV vaccines for adults aged 60 years and older have the potential to reduce this severity, similar

to attenuation of disease severity achieved with COVID-19 and influenza vaccination, as previously reported and also observed in this análisis.

This prospective cohort study enrolled adults 18 and older who were hospitalized due to acute respiratory illnesses confirmed by laboratory tests to be either RSV, SARS-CoV-2, or influenza. Participants were recruited from 25 hospitals across 20 states in the US, from February 1, 2022, to May 31, 2023. The analysis of the data took place between August and October 2023.

"By stratifying our COVID-19 and influenza populations by vaccination status, we demonstrate that critical outcomes of ICU admission and IMV or death occurred in a similar proportion of unvaccinated adults hospitalized with RSV compared with unvaccinated adults hospitalized with COVID-19 or influenza," according to the investigators. "This analysis highlights the importance of considering RSV vaccination in older adults, supported by clinical trials showing moderate to high efficacy of RSV vaccination against lower respiratory tract disease, which could lead to a reduction in severe disease outcomes."

This analysis has limitations. It may be biased towards detecting RSV more frequently in severely ill patients who are more likely to undergo testing in hospitals. Among 6,759 adults hospitalized with acute respiratory illness and not initially tested for RSV, only 34 (0.5%) were later found to have RSV, suggesting that the number of missed cases is likely low. The study does not account for the potential impact of antiviral and immunomodulatory treatments on disease severity. Comparisons across virus groups did not adjust for treatments, indicating that reported severity levels for COVID-19 and influenza might include both treated and untreated patients.

In conclusion, the findings from this study, conducted before implying adult RSV vaccine guidelines, reveal that RSV disease severity in hospitalized adults matches that of unvaccinated patients with COVID-19 or influenza and surpasses the severity seen in those vaccinated against these viruses. These results highlight the critical need to consider the severity of RSV disease in adults as policies around RSV vaccination evolve.

Key Takeaways

Among vaccinated individuals, RSV demonstrated greater severity compared to both COVID-19 and influenza, particularly when looking at critical outcomes such as the need for IMV or death.

The study provided a detailed comparative analysis, revealing that adults hospitalized with RSV faced similar odds of severe outcomes as unvaccinated individuals with COVID-19 or influenza.

The findings stress the importance of considering RSV vaccinations for adults, particularly considering newly approved vaccines for older adults.

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

GAVI Alliance initiates $1b programme to boost vaccine production in Africa

Apr 8. Vaccine Manufacturing Accelerator (AVMA) to boost its production in Africa. AVMA is a financial instrument that addresses inequality in Access to vaccines, as witnessed during the COVID-19 pandemic.

Chief Executive Officer at GAVI, Sania Nishtar, who disclosed this at the weekend when the Executive Director of the National Primary Healthcare Development Agency (NPHCDA), Dr. Muyiwa Aina, led the GAVI team on a visit to the centre in Mabuchi, advised that Nigeria needed to have a right institutional environment with regulatory capacity.

She added that the most populous nation must create an investment environment for investors to contribute meaningfully.

In this remarks, NPHCDA´s Executive Director, Dr. Muyiwa Aina, said the government was working round the clock to sabe children from vaccine-preventable diseases.

Fuente: The Guardian. Disponible en https://acortar.link/QczKZv

Merck's V116 Vaccine Shows Promising Results in Phase 3 Studies at ISPPD: Key Findings and Real-World Impact

Apr 9. Merck's 21-valent pneumococcal vaccine, V116, exhibits strong immunogenicity and coverage in diverse adult populations against invasive pneumococcal disease and pneumococcal pneumonia. At the 13th Meeting of the International Society of Pneumonia and Pneumococcal Diseases (ISPPD) in Cape Town, South Africa, the pharmaceutical giant unveiled positive results from multiple Phase 3 studies.

The FDA granted V116 priority review with a Prescription Drug User Fee Act (PDUFA) of June 17, 2024.

V116, an investigational 21-valent pneumococcal conjugate vaccine explicitly designed for adults, showcased immunogenicity across the board. These Phase 3 trials demonstrated its effectiveness in a diverse range of adult populations, including those previously unvaccinated against pneumococcal diseases and individuals at higher risk, such as those with human immunodeficiency virus (HIV).

Merck also presented preliminary findings from the Pneumococcal Pneumonia Epidemiology, Urine Serotyping, and Mental Outcomes (PNEUMO) study conducted in the US. This real-world evidence study shed light on V116's tangible impact, showing that among 2,065 adults aged 50 and older hospitalized with community-acquired pneumonia, V116 covered approximately 84% of detected pneumococcal serotypes. Notably, a quarter of the identified serotypes were exclusively covered by V116, highlighting its unique efficacy profile.

To understand the implications of these results, Infection Control Today® (ICT®) asked Heather Platt, MD, distinguished scientist, Global Clinical Development for Vaccines, Merck, to discuss the company's pneumococcal vaccine development program and the potential impact of V116's approval for patients and their doctors.

Could you elaborate on the significance of Merck's positive Phase 3 data on V116, particularly its immunogenicity across adult populations and its potential impact on pneumococcal disease prevention?

Across all the Phase 3 studies, V116 elicited an immune response to all 21 serotypes covered by the vaccine in a variety of adult populations, including among vaccine-naïve and vaccine-experienced adults, as well as those with chronic medical conditions that increase the risk of pneumococcal disease. Results also showed that in all STRIDE studies presented, V116 elicited higher immune responses than the comparator (PCV20, PCV15, and PPSV23) for the serotypes unique to V116.

- In the STRIDE-3 sub-group analysis, which evaluated adults aged 50 years and above who had not received pneumococcal vaccine before, all 21 serotypes were found to be immunogenic across all age

groups studied (50 to 64, 65 to 74, and 75 years and above) at Day 30. This was determined by assessing the opsonophagocytic activity (OPA) geometric mean titers (GMTs) for each serotype. These findings support the potential clinical value V116 may provide to adults 50 and older.

- In STRIDE-6, which evaluated pneumococcal vaccine-experienced adults 50 years of age and older, V116 elicited comparable immune responses for the serotypes shared with PCV15 or PPSV23 and higher immune responses for the serotypes covered by V116 only, regardless of the previous pneumococcal vaccine received, as assessed by serotype-specific OPA GMTs at Day 30. Additionally, a sub-group analysis showed the V116 elicited comparable immune responses regardless of the time since the last pneumococcal vaccination (1–4 years, 5–9 years, or greater than 10 years). The findings from the STRIDE-6 main study and sub-group analysis support the potential clinical value V116 may provide to adults 50 years of age and older, regardless of the prior pneumococcal received or the time since the last pneumococcal vaccination.
- In STRIDE-7 evaluating adults 18 years of age and older living with HIV, V116 elicited comparable immune responses to the regimen of PCV15+PPSV23 for all 13 shared serotypes and higher immune responses for the eight serotypes unique to V116, as assessed by serotype-specific OPA GMTs and Immunoglobulin G (IgG) geometric mean concentrations (GMCs) at Day 30. These findings support the potential clinical value that V116 may provide to adults with a high risk for invasive pneumococcal disease.

The real-world evidence study PNEUMO revealed that V116 exclusively covered a significant portion of detected serotypes. How does this finding contribute to understanding V116's efficacy in preventing pneumococcal disease, especially considering its coverage compared to existing vaccines?

- The PNEUMO study evaluated adults 50 years of age and older hospitalized with community-acquired pneumonia. The results support that the serotypes in V116 account for the majority of pneumococcal disease (including invasive and non-invasive).
- Specifically, of the patients hospitalized with community-acquired pneumonia due to Streptococcus pneumoniae, approximately 84% were attributed to a serotype in V116. Of these, more than one-fourth of pneumococcal serotypes detected (~25%) were covered by V116 only and not covered by PCV15 or PCV20. These data are consistent with CDC surveillance data for invasive pneumococcal disease (IPD) from 2018 to 2021, which show that the eight serotypes covered by V116 and not by other licensed pneumococcal vaccines were responsible for approximately 30% of IPD in individuals 65 years and older.

Given the devastating impact of invasive pneumococcal disease, particularly in older adults and those with immunocompromising conditions, how does Merck envision V116 addressing these critical gaps in prevention, as indicated by the Phase 3 results and real-world evidence from the PNEUMO study?

- If approved, V116 will be the first vaccine specifically designed for adults by including the serotypes that cause the majority of invasive pneumococcal disease.
- We believe there is an opportunity for V116 to provide clinical value for adult patients (especially for older adults and those with risk conditions) who have yet to be vaccinated, as well as those who previously received a pneumococcal vaccine, due to the 8 unique serotypes for which V116 provides coverage.

- In the US alone, approximately 120 million pneumococcal vaccine-naïve and vaccine-experienced adults aged 50 and older may benefit from V116. Approximately half of these adults are in the 50 to 64 age group.
- Merck has a comprehensive strategy to advance options to help prevent invasive pneumococcal disease and pneumococcal pneumonia in all age groups, including adults. We remain focused on targeting the pneumococcal serotypes that pose the greatest risk of invasive pneumococcal disease for each population.

Fuente: Infection Control Today. Disponible en https://acortar.link/LZLD4v

Vaccine Player Vaxcyte Has Advantage Over Pfizer, Merck's Pneumococcal Shots - Analyst Says

Apr 10. The global market study pneumococcal conjugate (PCV) market is ~$8 billion per year, and Vaxcyte Inc (NASDAQ:PCVX) estimates it will grow to ~$12 billion in the next few years.

The market is currently split into 25% adults / 75% infants. Needham writes that Vaxcyte's management expects this split to morph into 60% adults /40% infants over the next 3-5 years, with adults representing the bulk of the growth opportunity.

In the U.S., there's discussion about lowering the age for vaccinations to 50 and above, potentially doubling the adult market. With around 60 million adults aged 65 and above and approximately 120 million aged 50 and above, this shift could significantly impact the market.

Additionally, there's potential for the universal vaccination age to decrease, creating an opportunity for boosters in the adult market.

Merck & Co Inc's (NYSE:MRK) 15-valent (Vaxneuvance) and Pfizer Inc's (NYSE:PFE) 20-valent (Prevnar20) are the available pneumococcal conjugate vaccines (PCVs).

Needham maintains the Buy rating with a price target of $95.

Market adoption is driven by vaccine coverage, with Prevnar20 currently dominating with a 97% market share in adults due to its broader valency. Merck's 15-valent and Pfizer's 20-valent PCVs are accessible for infants, with Merck initially targeting this market.

However, Prevnar20 is expected to capture the majority of the infant market as well.

Needham highlights that Pfizer, Merck, and Sanofi SA (NASDAQ:SNY) are currently limited to the 20/21 conjugate level in their vaccine development. However, Vaxcyte stands out with the capability to reach up to 24 conjugates, leading to a stronger immune response.

Vaxcyte also has a 31-valent vaccine. Regarding Merck's V116, Vaxcyte predicts its approval but doubts it will receive the preferred ACIP recommendation.

Fuente: Markets Insider. Disponible en https://acortar.link/QnUJbj

Pfizer Asks FDA to Approve RSV Vaccine for Adults as Young as 18 Years Old

Apr 10. It could be time for many Americans to add another vaccine to their list.

Pfizer recently announced the results of a study for its RSV vaccine. While the vaccine is already approved for older Americans, the results of the study reportedly show that it is also effective for adults as young as 18. As such, Pfizer is asking FDA to approve the vaccine for adults aged 18 to 59.

In a press release, Pfizer stated that Abrysvo met all of its primary endpoints for adults in specified age range who had an increased risk of RSV.1 The study was named MONeT, which is short for RSV Immunization Study in Adults at Higher Risk of Severe Illness. It was conducted to see the efficacy of the vaccine in adults who suffer from certain conditions, such as asthma, diabetes, and chronic obstructive pulmonary disease. These conditions put the patients at a higher risk of illness from RSV.

In a press release, Pfizer's senior vice president and head of vaccine research and development Annaliesa Anderson, PhD., said, "These encouraging results provide evidence that Abrysvo can help protect adults with increased risk against RSV-associated illness. We are excited to address a significant unmet need, pending regulatory authority approval, as Abrysvo has the potential to become the first and only RSV vaccine for adults 18 years and older."

According to Pfizer, RSV is responsible for 60,000-160,000 hospitalizations and between 6,000-13,000 deaths each year in America. It is capable of causing serious infections in infants, older adults, and adults with chronic medical conditions, such as those previously stated in this article.

This is the most recent vaccine that Pfizer has sought approval for.

The company issued a press release on March 13, 2024, announcing that the European Commission had approved Pfizer's pneumococcal conjugate vaccine for infants and children.2 The vaccine, Prevenar 20 provides broad protection against 20 stereotypes responsible for the majority of pneumococcal infections across the globe.

In the press release, Pfizer's chief international commercial officer and executive vice president Alexandre de Germay, said, "The EC's authorization of Prevenar 20 for infants and children represents a significant opportunity to improve public health by helping to protect against the 20 serotypes responsible for the majority of currently circulating pneumococcal disease in the EU. Prevenar 20 builds on Pfizer's decades-long commitment to develop vaccines to help prevent potentially life-threatening infections, and we are proud to now provide the broadest serotype coverage of any pneumococcal conjugate vaccine for children in Europe."

In the US, Prevanar 20 is approved for the following indications: prevention of infection from 20 Streptococcus pneumoniae strains in children 6 weeks and older, the prevention of middle ear infection caused by 7 of the strains in children 6 weeks or older, and protection against the same Streptococcus penumonia strains in adults 18 years and older.

Fuente: PharmExec.com. Disponible en https://acortar.link/cmjLnl

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Estrategia de búqueda: *Vaccine in the title or abstract AND 20240401:20240410 as the publication date 34 records*

1.WO/2024/066288VACCINE ADJUVANT, VACCINE COMPOSITION, AND USE THEREOF
WO - 04.04.2024
Clasificación Internacional A61K 39/39 Nº de solicitud PCT/CN2023/087304 Solicitante SHENYANG PHARMACEUTICAL UNIVERSITY Inventor/a ZHAI, Jianxiu
Provided is a vaccine adjuvant, comprising a ginseng acidic polysaccharide (GAPS) adjuvant and an aluminum salt adjuvant. The mixture of the ginseng acidic polysaccharide (GAPS) and the aluminum salt can significantly improve the titer of a specific antibody (or a neutralizing antibody) after antigen immunization, can effectively enhance the immune response level of an organism to a vaccine, and has an activity significantly higher than that of a single aluminum salt adjuvant.

2.20240108717Nant COVID Vaccine Cross Reactivity
US - 04.04.2024
Clasificación Internacional A61K 39/215 Nº de solicitud 18533042 Solicitante ImmunityBio, Inc. Inventor/a Patrick Soon-Shiong
Recombinant SARS-CoV2 vaccine compositions and methods are presented that have unexpected cross-reactivity against a variety of other coronaviruses, and particularly against SARS-CoV1, MERS-CoV, OC43-CoV, and HKU1-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.

3.WO/2024/069549VACCINE CONSTRUCT AND USES THEREOF
WO - 04.04.2024
Clasificación Internacional A61K 39/12 Nº de solicitud PCT/IB2023/059738 Solicitante TOUCHLIGHT AQUACULTURE LIMITED Inventor/a THOMPSON, Ian
The present disclosure relates generally to vaccine constructs comprising a polynucleotide encoding a salmon alphavirus-like particle and uses thereof, including for inducing an immune response against salmonid alphavirus.

4.WO/2024/066080ARSENIC COMPOUND-BASED TUMOR VACCINE, PREPARATION METHOD THEREFOR, AND APPLICATION THEREOF
WO - 04.04.2024
Clasificación Internacional A01N 59/22 Nº de solicitud PCT/CN2022/139780 Solicitante SUZHOU INSTITUTE OF SYSTEMS MEDICINE Inventor/a MA, Yuting
An arsenic compound-based tumor vaccine, a preparation method therefor, and an application thereof. The arsenic compound-based tumor vaccine comprises tumor cells treated by an arsenic compound, may activate an anti-tumor immune response, and may not only effectively prevent the occurrence of tumors, but may also significantly delay the rapid development of existing tumors in vivo. The arsenic compound-based tumor vaccine may also be combined with an immune checkpoint blockade therapy to achieve synergistic interaction. A key molecule and a signaling pathway for determining the immunogenicity and tumor prevention and control effect of the tumor vaccine identify a plurality of important biomarkers which may be used for curative effect prediction. An effective combination therapeutic drug is also provided when the key molecule or signaling pathway is deficient, underexpressed, or poorly activated.

5.20240108708IMMUNOGENIC AND VACCINE COMPOSITIONS AGAINST SWINE DYSENTERY
US - 04.04.2024
Clasificación Internacional A61K 39/02 Nº de solicitud 18259633 Solicitante HIPRA SCIENTIFIC, S.L.U. Inventor/a Jesús María OSORIO ARGUELLO
The invention relates to an immunogenic or vaccine composition comprising an inactivated bacterium from the species *Brachyspira hyodysenteriae*, to a method for producing said composition and to the medical use of this composition for inducing an immune response against a bacterium from the species *Brachyspira hyodysenteriae* or for protecting against an infection caused by a bacterium from the species *Brachyspira hyodysenteriae*. Further, the invention relates to a method for selecting a bacterium from the species *Brachyspira hyodysenteriae* useful for manufacturing a vaccine against swine dysentery.

6.WO/2024/071368ADJUVANT AND TRANSMUCOSAL VACCINE
WO - 04.04.2024
Clasificación Internacional A61K 39/39 Nº de solicitud PCT/JP2023/035586 Solicitante JUNTENDO EDUCATIONAL FOUNDATION Inventor/a SASAKI, Hiraku
The present invention provides an adjuvant and a transmucosal vaccine that are highly capable of inducing secretory IgA in addition to serum IgA and IgG when transmucosally administered. The invention relates to the adjuvant that comprises, as an active ingredient, one or more polypeptides selected from: (1) a polypeptide having at least one or two amino acid sequences represented by SEQ ID NO: 1; and (2) a polypeptide having 93% or more identity with the aforesaid amino acid sequence.

7.20240108575METHODS FOR INDUCING AN IMMUNE RESPONSE VIA BUCCAL AND/OR SUBLINGUAL ADMINISTRATION OF A VACCINE
US - 04.04.2024
Clasificación Internacional A61K 9/00 Nº de solicitud 18485625 Solicitante BOARD OF REGENTS, THE UNIVERSITY OF TEXAS SYSTEM Inventor/a Maria A. CROYLE

Vaccine compositions that may be administered to a subject via the buccal and/or sublingual mucosa are provided. Methods for administration and preparation of such vaccine compositions are also provided.

8.WO/2024/073766SAFE, DIVA-COMPATIBLE, SUBUNIT VACCINE FOR AFRICAN SWINE FEVER VIRUS
WO - 04.04.2024
Clasificación Internacional A61K 39/12 Nº de solicitud PCT/US2023/075683 Solicitante KANSAS STATE UNIVERSITY RESEARCH FOUNDATION Inventor/a RICHT, Juergen A.
ASFV is a devastating disease for swine for which there is no treatment or vaccine. The present disclosure provides immunological compositions and methods related to the production and administration of such compositions to reduce the severity of, incidence of and transmissibility of ASFV.

9.20240108696COMPOSITIONS AND METHODS FOR IMPROVING VACCINE THERAPY
US - 04.04.2024
Clasificación Internacional A61K 38/39 Nº de solicitud 18370941 Solicitante Lile Method Research, LLC Inventor/a Laura Lile
Glutathione support compositions and methods for increasing glutathione levels, especially intracellular glutathione levels, and/or methods for improving vaccine therapy and reducing gamma-glutamyltransferase (GGT) levels in an individual. In addition, the disclosure describes methods for boosting immunity, treating and preventing infectious diseases such as tuberculosis and MRSA, and combating the effects of aging and age-related stress, oxidative stress, and inflammation. The glutathione support compositions include a collagen source, a glutamate source, a cysteine source, and a selenium source, and, optionally, a boron source.

10.WO/2024/067888IMMUNE COMPOSITION PRODUCT FOR PREVENTING OR TREATING VARICELLA ZOSTER VIRUS-RELATED DISEASES AND PREPARATION METHOD THEREFOR
WO - 04.04.2024
Clasificación Internacional C07K 19/00 Nº de solicitud PCT/CN2023/126034 Solicitante YANTAI PATRONUS BIOTECH CO., LTD. Inventor/a JIN, Jing
Provided is a varicella zoster vaccine. Specifically, the vaccine comprises an immune composition, and the immune composition comprises an antigen component and a granulin component. The granulin component comprises a nanogranulin protein, and the antigen component and the granulin component covalently bind to each other by means of a binding peptide 1 and a binding peptide 1 to form an immunogenic complex. Provided is a preparation method for the varicella zoster vaccine.

11.20240109956RAPID ELICITATION OF BROADLY NEUTRALIZING BOVINE ANTIBODIES TO HIV ENV
US - 04.04.2024
Clasificación Internacional C07K 16/10 Nº de solicitud 18470044 Solicitante International AIDS Vaccine Initiative Inventor/a Devin SOK
The present disclosure relates to methods for generating broadly neutralizing bovine anti-HIV Env antibodies, compositions comprising the broadly neutralizing bovine antibodies, and methods of treatment or prevention of HIV using the broadly neutralizing bovine antibodies. In certain embodiments, a broadly neutralizing bovine antibody comprises a polyclonal F(ab) or F(ab')2 fragment. In certain embodiments, a broadly neutralizing bovine antibody comprises a humanized bovine monoclonal antibody.

12.20240109033Carbon Capture by Algal Inoculation of Ocean Ice and/or Sea Ice
US - 04.04.2024
Clasificación Internacional B01D 53/85 Nº de solicitud 18376832 Solicitante John Whittaker Inventor/a John Whittaker

The invention features a low cost nature-based carbon sequestering vaccine presenting capacity to restore global Carbon Dioxide to pre-industrial levels over a short, perhaps singly decade use across multiple deployments. This low tech, low cost, high impact, 100% nature based solution is carbon negative during its production and throughout deployment using multiple embodiments that capture and sequestrate carbon dioxide from at least a kiloton approaching a gigaton or beyond scale. The invention uses already developed technologies and biological methods in producing a “vaccine” for inoculating selected unpopulated or sparsely populated geozones with low potentials for disrupting human activities. Embodiments feature deployment of the vaccine into extreme cold environments with minor or non-existent negative externalities. Extremophilic algal cohorts are selectively adapted by growth in serial culture for spreading at sites where the algae growth and turn carbon dioxide from ambient air into biomass that sequesters the carbon for centuries.

13.20240110148MATERIALS AND METHODS FOR ALGAL INOCULATION TO EFFECT DIRECT CAPTURE OF CARBON DIOXIDE FROM AIR
US - 04.04.2024
Clasificación Internacional C12N 1/12 Nº de solicitud 18376827 Solicitante John Whittaker Inventor/a John Whittaker
The invention features a low cost nature-based carbon sequestering vaccine presenting capacity to restore global Carbon Dioxide to pre-industrial levels over a short, perhaps singly decade use across multiple deployments. This low tech, low cost, high impact, 100% nature based solution is carbon negative during its production and throughout deployment using multiple embodiments that capture and sequestrate carbon dioxide from at least a kiloton approaching a gigaton or beyond scale. The invention uses already developed technologies and biological methods in producing a “vaccine” for inoculating selected unpopulated or sparsely populated geozones with low potentials for disrupting human activities. Embodiments feature deployment of the vaccine into extreme cold environments with minor or non-existent negative externalities. Extremophilic algal cohorts are selectively adapted by growth in serial culture for spreading at sites where the algae growth and turn carbon dioxide from ambient air into biomass that sequesters the carbon for centuries.

14.4344741AUF DAS ZENTRALE NERVENSYSTEM GERICHTETE AAV-VEKTOREN
EP - 03.04.2024
Clasificación Internacional A61P 25/00 Nº de solicitud 23199459 Solicitante UNIV NORTH CAROLINA CHAPEL HILL Inventor/a GRAY STEVEN
The present disclosure relates to attenuated Old World alphavirus particles and methods of making same and using same as a vaccine and in gene therapy and immunotherapy methods.

15.20240108712ZIKA VIRUS VACCINE
US - 04.04.2024
Clasificación Internacional A61K 39/12 Nº de solicitud 18334497 Solicitante Valneva Austria GmbH Inventor/a Jana Barbero Calzado
Described herein are Zika virus vaccines and compositions and methods of producing and administering said vaccines to subjects in need thereof.

16.WO/2024/073697RSV VACCINES WITH TRUNCATED G-PROTEIN MUCIN DOMAINS
WO - 04.04.2024
Clasificación Internacional A61K 39/12 Nº de solicitud PCT/US2023/075562 Solicitante EMORY UNIVERSITY Inventor/a ROSTAD, Christina A.
The disclosure relates to Respiratory Syncytial Virus (RSV) vaccine compositions having truncated mucin domains in the G-protein. In certain embodiments, this disclosure relates to virus particles, virus-like particles, virosomes, nucleic acids, vectors, or attenuated live RSV vaccines for uses reported herein. In

certain embodiments, this disclosure relates to methods of vaccinating, treating, or preventing RSV infections by administering to a subject in need thereof an effective amount of a composition disclosed herein.

17.WO/2024/073525PROGNOSTIC AND THERAPEUTIC METHODS INCLUDING ANTI-GD2 IGA
WO - 04.04.2024
Clasificación Internacional Nº de solicitud PCT/US2023/075294 Solicitante MEMORIAL SLOAN-KETTERING CANCER CENTER Inventor/a CHEUNG, Nai-Kong V.
The present disclosure provides methods for predicting prognosis of a cancer patient treated with a GD2/GD3 vaccine, including detecting the levels of anti-GD2-IgA and/or anti-GD2-IgG3 antibodies in the patient. Also disclosed herein are methods for treating cancer (e.g., neuroblastoma) in a patient in need thereof comprising administering an effective amount of anti-GD2 antibodies of various isotypes (e.g., anti-GD2-IgA1 or anti-GD2-IgA2) to the patient.

18.20240108715 2019-NCOV (SARS-COV-2) VACCINE
US - 04.04.2024
Clasificación Internacional A61K 39/215 Nº de solicitud 17800472 Solicitante VAXBIO LTD Inventor/a Gaurav GUPTA
The present invention relates to Coronavirus 2019-nCOV spike protein, polynucleotides encoding said spike protein, antibodies and vaccines for treatment or prevention of 2019-nCOV infection.

19.WO/2024/068265VIRUS-LIKE PARTICLES DISPLAYING SARS-COV-2 ANTIGENS AS BOOSTER VACCINES AND USES THEREOF
WO - 04.04.2024
Clasificación Internacional A61K 39/12 Nº de solicitud PCT/EP2023/075034 Solicitante BAVARIAN NORDIC A/S Inventor/a RAMBICHLER, Stephan
The present invention relates to the use of vaccines comprising virus-like particles displaying at least one SARS-CoV-2 antigen, such as the receptor-binding domain (RBD) of the SARS-CoV-2 spike protein, as vaccine boosters. Antigens are displayed on virus-like particles (VLPs) and produce an immune response in vaccinated subjects. The invention also relates to methods of treatment using the recombinant VLPs as boosters to treat and/or prevent infection with SARS-CoV-2, and methods of preparation thereof.

20.20240108682COMPOSITIONS AND METHODS FOR INCREASING GLUTATHIONE LEVELS
US - 04.04.2024
Clasificación Internacional A61K 38/01 Nº de solicitud 18370919 Solicitante Lile Method Research, LLC Inventor/a Laura Lile
Glutathione support compositions and methods for increasing glutathione levels, especially intracellular glutathione levels, and/or methods for improving vaccine therapy and reducing gamma-glutamyltransferase (GGT) levels in an individual. In addition, the disclosure describes methods for boosting immunity, treating and preventing infectious diseases such as tuberculosis and MRSA, and combating the effects of aging and age-related stress, oxidative stress, and inflammation. The glutathione support compositions include a collagen source, a glutamate source, a cysteine source, and a selenium source, and, optionally, a boron source.

21.20240108695COMPOSITIONS AND METHODS FOR PREVENTING AND/OR TREATING TUBERCULOSIS AND MRSA
US - 04.04.2024
Clasificación Internacional A61K 38/39 Nº de solicitud 18370931 Solicitante Lile Method Research, LLC Inventor/a Laura Lile

Glutathione support compositions and methods for increasing glutathione levels, especially intracellular glutathione levels, and/or methods for improving vaccine therapy and reducing gamma-glutamyltransferase (GGT) levels in an individual. In addition, the disclosure describes methods for boosting immunity, treating and preventing infectious diseases such as tuberculosis and MRSA, and combating the effects of aging and age-related stress, oxidative stress, and inflammation. The glutathione support compositions include a collagen source, a glutamate source, a cysteine source, and a selenium source, and, optionally, a boron source.

22.WO/2024/071509PHARMACEUTICAL COMPOSITION FOR PREVENTION OR TREATMENT OF ALZHEIMER'S DISEASE
WO - 04.04.2024
Clasificación Internacional A61K 38/17 Nº de solicitud PCT/KR2022/016873 Solicitante SEOUL NATIONAL UNIVERSITY R&DB FOUNDATION Inventor/a KIM, Byung Soo
The present invention may provide a pharmaceutical composition for the prevention or treatment of Alzheimer's disease, the composition containing: an amyloid-beta peptide or a nucleic acid encoding same; and rapamycin or a derivative thereof. The composition can generate antibodies against amyloid-beta to suppress the accumulation of amyloid-beta while inducing amyloid-beta-specific regulatory T cells to suppress inflammatory reactions in the brain affected by Alzheimer's disease. Therefore, the composition can be utilized as an Alzheimer's vaccine composition that is therapeutically excellent and preferably has few side effects.

23.WO/2024/067182CHARGE REGULATION-TYPE ANTIGEN PROTEIN CAPABLE OF ENHANCING SYNERGISTIC IMMUNE EFFICACY WITH ADJUVANT
WO - 04.04.2024
Clasificación Internacional A61K 39/39 Nº de solicitud PCT/CN2023/119273 Solicitante ACADEMY OF MILITARY MEDICAL SCIENCE, PLA Inventor/a ZAI, Xiaodong
Provided is a charge regulation-type antigen protein capable of enhancing the synergistic immune efficacy with an adjuvant. The surface charge of the antigen protein is accurately regulated, so that the synergistic effect with a charged adjuvant is changed, the immune efficacy of a vaccine is remarkably enhanced, and the use dosage of the antigen and the adjuvant is greatly reduced. Also provided are a variety of charge regulation-type antigen protein variants obtained by means of designing according to the described method and synergistic compositions with an adjuvant, and use thereof in therapeutic and prophylactic drugs or vaccines in the field of biomedicine.

24.WO/2024/071954ADJUVANT COMPOSITION COMPRISING OAT-DERIVED B-GLUCAN AS ACTIVE INGREDIENT
WO - 04.04.2024
Clasificación Internacional A61K 39/39 Nº de solicitud PCT/KR2023/014753 Solicitante CLIPSBNC CO.,LTD. Inventor/a JI, Joon Hwan
The present invention relates to an adjuvant comprising Oat-derived β-(1,3; 1,4)-D-glucan as an active ingredient, and a vaccine composition comprising same. In the present invention, linear β-(1,3; 1,4)-D-glucan isolated and purified from a fermentation culture solution of lactic acid bacteria by using oats as a substrate is used such that innate and humoral immune responses to antigens derived from various pathogens, including Staphylococcus and Bordetella pertussis, are consistently enhanced to a remarkable level. Therefore, the present invention can be effectively used as an efficient naturally-derived adjuvant having excellent properties of immune-enhancing activity, ease of supply, and stability during long-term administration.

25.20240108703Improved LAMP Constructs Comprising Cancer Antigens
US - 04.04.2024

Clasificación Internacional A61K 39/00 Nº de solicitud 17769050 Solicitante Immunomic Therapeutics, Inc. Inventor/a Teri Heiland
The present invention provides improved LAMP Constructs comprising specific fragments of the LAMP lumenal domain to deliver cancer antigens to immune cells for enhanced processing. These LAMP Constructs can be used for the treatment of disease and in particular hyperproliferative disorders and/or cancer. The improved LAMP Constructs allow for presentation of properly configured three dimensional epitopes for production of an immune response when administered to a subject. The improved LAMP Constructs can be multivalent molecules, and/or can be provided as part of a multivalent vaccine containing two or more LAMP Constructs. The improved LAMP Constructs as described herein can also be used to generate antibodies when administered to a non-human vertebrate.

26.WO/2024/067725RESPIRATORY SYNCYTIAL VIRUS RECOMBINANT FUSION PROTEIN WITH PREFUSION CONFORMATION, AND PREPARATION METHOD THEREFOR AND USE THEREOF
WO - 04.04.2024
Clasificación Internacional C07K 14/135 Nº de solicitud PCT/CN2023/122160 Solicitante BEIJING BENEWILL TECHNOLOGY DEVELOPMENT CO., LTD. Inventor/a YAN, Jinghua
Provided are a respiratory syncytial virus subtype B (RSV-B) recombinant F protein, a polynucleotide, a nucleic acid construct, an expression vector, a host cell, a stabilized trimer of the recombinant F protein, and an immunogenic composition. Provided is use of the immunogenic composition in the preparation of a vaccine for preventing and/or treating infections caused by a respiratory syncytial virus. The recombinant F protein comprises at least one specific epitope of a prefusion F protein, and can form a stable F protein trimer with a prefusion conformation, with stable expression, homogeneous form, and increased yield. The F protein trimer has good immunogenicity and can simulate the body to generate a high-level antibody titer.

27.WO/2024/067723RESPIRATORY SYNCYTIAL VIRUS RECOMBINANT FUSION PROTEIN HAVING PRE-FUSION CONFORMATION, AND PREPARATION METHOD THEREFOR AND USE THEREOF
WO - 04.04.2024
Clasificación Internacional C07K 19/00 Nº de solicitud PCT/CN2023/122155 Solicitante BEIJING BENEWILL TECHNOLOGY DEVELOPMENT CO., LTD. Inventor/a YAN, Jinghua
A respiratory syncytial virus subtype A (RSV-A) recombinant F protein, a polynucleotide, a nucleic acid construct, an expression vector, a host cell, a stabilized trimer formed by the recombinant F protein, an immunogenic composition comprising any one of the foregoing, and the use thereof in the preparation of a vaccine for preventing and/or treating respiratory syncytial virus infections. The RSV-A recombinant F protein comprises at least one specific epitope of pre-fusion F protein, can form a stable F protein trimer having pre-fusion conformation, and has stable expression, uniform form and increased yield. The formed F protein trimer has good immunogenicity and can stimulate the body to produce a high level of antibody titer.

28.20240108711COMPOSITIONS COMPRISING STREPTOCOCCUS PNEUMONIAE POLYSACCHARIDE-PROTEIN CONJUGATES AND METHODS OF USE THEREOF
US - 04.04.2024
Clasificación Internacional A61K 39/09 Nº de solicitud 18505504 Solicitante Merck Sharp & Dohme LLC Inventor/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.

29.20240108709PATHOGEN VACCINES AND METHODS OF PRODUCING AND USING THE SAME
US - 04.04.2024
Clasificación Internacional A61K 39/108 Nº de solicitud 18186588 Solicitante President and Fellows of Harvard College Inventor/a Michael Super
The present invention provides vaccine compositions and methods of producing such compositions. Other embodiments of the invention include methods of treating a pathogen infection, methods of vaccinating a subject against a pathogen infection, and methods for treating an antibiotic-resistance bacterial infection in a subject in need thereof. In further embodiments, the invention includes methods of decreasing the level of a pathogen in a subject having a pathogen infection, methods of increasing the surviving rate of a subject having a pathogen infection, methods of reducing the level of pain associated with a pathogen infection, and methods of reducing the level of distress associated with a pathogen infection in a subject in need thereof. Novel scaffold compositions and opsonin-bound or lectin-bound pathogen compositions, and uses thereof, are also provided herein.

30.11944771Personal medical device for administering treatment via mucous membrane
US - 02.04.2024
Clasificación Internacional A61M 31/00 Nº de solicitud 17690755 Solicitante Andrada Bucataru Inventor/a Andrada Bucataru
The invention claims a new type of handheld medical device is meant to help the medical community by enabling them to treat patients remotely. This solves the problem of patient suffering or death due to lack of access to a medical professional or long wait times by enabling a patient-centred response to diseases, such as COVID-19. The device is hand-held, with incorporated germicidal UVC lights, an internal application tip and the delivery mechanism focuses on the mucous membrane. The top chamber connects to a removable container which can be used with the prescribed treatment/therapy, vaccine, or viral testing fluid/reagent, as needed. The versatility, non-invasive nature and germicidal properties constitute distinct improvements over other similar medical devices. This device also promotes the development of non-invasive inoculation and drug delivery systems via the mucous membrane.

31.WO/2024/069028VACUNA PARA LA PREVENCIÓN DE LA INFECCIÓN DE ANAPLASMA PHAGOCYTOPHILUM (RICKETTSIALES: ANAPLASMATACEAE)
WO - 04.04.2024
Clasificación Internacional A61K 39/02 Nº de solicitud PCT/ES2023/070565 Solicitante CONSEJO SUPERIOR DE INVESTIGACIONES CIENTÍFICAS (CSIC) Inventor/a CONTRERAS ROJO, Marinela
La invención hace referencia a una proteína quimérica que contiene péptidos protectores frente a la infección por el patógeno Anaplasma phagocytophilum. El antígeno quimérico comprende los epítopos de la proteína MSP4 Anaplasma phagocytophilum, específicamente el antígeno quimérico de la presente invención comprende 4 subsecuencias de aminoácidos de MSP4. El antígeno quimérico de la presente invención produjo una respuesta inmunológica mayor en comparación con la administración de la proteína completa MSP4 y con un péptido control cuando este se administró a animales susceptibles de padecer infecciones por Anaplasma phagocytophilum. De manera que el antígeno quimérico de la presente invención presenta una ventaja para la prevención y/o tratamiento de infecciones causadas por bacterias pertenecientes a la familia Anaplasmataceae.

32.20240108707CHAGAS DISEASE VACCINE ANTIGENS WITH IMPROVED STABILITY AND DECREASED AGGREGATION
US - 04.04.2024
Clasificación Internacional A61K 39/005 Nº de solicitud 17769113 Solicitante Baylor College of Medicine Inventor/a Bin ZHAN
Provided herein are compositions and methods for the prevention and treatment of Chagas disease and acute and chronic symptoms thereof. The compositions comprise recombinant proteins based on an amino terminal fragment of the TSA-1 protein from *Trypanosoma cruzi*. In the fragment, one or more Cys residues is mutated to prevent the formation of disulfide bonds and to enhance solubility. The recombinant proteins also include a carboxyl terminal fragment of the TSA-1 protein from *Trypanosoma cruzi* to provide additional stability and solubility. The resulting recombinant protein remains soluble upon prolonged storage at low temperatures and elicits a robust immune response upon administration, including decreasing the number of inflammatory cells in heart tissue of subjects.

33.20240108871SYSTEMS AND METHODS FOR ADMINISTERING VACCINE COMPOSITION USING MODULAR MULTI-VIAL MICROCHANNEL DELIVERY ADAPTER DEVICES
US - 04.04.2024
Clasificación Internacional A61M 37/00 Nº de solicitud 18276572 Solicitante AQUAVIT PHARMACEUTICALS, INC. Inventor/a Sobin Chang
The present invention provides microneedle delivery adapter devices, and methods of administering compositions using the devices, including methods for generating an immune response in a subject, comprising administering to the subject's skin an immunizing composition from a SARS-CoV-2 pathogen.

34.WO/2024/072954COLD ATMOPSHERIC PLASMA TREATED PAN-CANCER EPITOPE PEPTIDE WITHIN THE COLLAGEN TYPE VI A-3 (COL6A3) PROTEIN AS CANCER VACCINE
WO - 04.04.2024
Clasificación Internacional H01J 37/30 Nº de solicitud PCT/US2023/033964 Solicitante JEROME CANADY RESEARCH INSTITUTE FOR ADVANCED BIOLOGICAL AND TECHNOLOGICAL SCIENCES Inventor/a CANADY, M.D., Jerome
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.

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Edición: Annia Ramos Rodríguez aramos@finlay.edu.cu
Randelys Molina Castro rmolina@finlay.edu.cu
Irina Crespo Molina icrespo@finlay.edu.cu
Yamira Puig Fernández yamipuig@finlay.edu.cu

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