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EN ESTE NÚMERO

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Posición de la OMS: Vacunas antineumocócicas conjugadas en lactantes y niños menores de 5 años

La OMS recomienda el uso de vacunas antineumocócicas conjugadas (PCV, por sus siglas en inglés) en los programas de inmunización infantil a nivel mundial. El enfoque más eficaz para prevenir la enfermedad neumocócica es asegurar una alta cobertura de 3 dosis de PCV en el calendario de vacunación infantil sistemático.

Elección de los esquemas de 3 dosis

La evidencia disponible no indica una clara superioridad de ninguno de los calendarios de 3 dosis (2p+1 o 3p+0) sobre el otro para la protección contra la enfermedad neumocócica o la portación.

La OMS recomienda el uso de cualquiera de los dos esquemas, según el contexto local. La elección del esquema puede verse influenciada por otros factores programáticos relevantes a nivel nacional (p. ej., la optimización del esquema de vacunación o la cobertura que se espera alcanzar con la dosis final) y factores epidemiológicos que harían que un esquema fuera óptimo (p. ej., la incidencia de enfermedades específicas por edad o los brotes que afectan a niños mayores y adultos).

Para cualquiera de los dos esquemas, la primera dosis puede administrarse a las 6 semanas o más de edad. Si se selecciona el esquema 2p+1, se recomienda un intervalo de 8 semanas o más entre las dos dosis primarias; el intervalo puede acortarse si existe una razón convincente para hacerlo, como mejorar la puntualidad de la segunda dosis o lograr una mayor cobertura con un intervalo de 4 semanas. Para el esquema 2p+1, la dosis de refuerzo debe administrarse entre los 9 y los 18 meses de edad, según las consideraciones programáticas; no existe un intervalo mínimo ni máximo definido entre la serie primaria y la dosis de refuerzo. Si se utiliza la pauta 3p+0, se debe mantener un intervalo mínimo de 4 semanas entre dosis.

Vacunación de refuerzo

Para niños no vacunados de 1 a 5 años, se recomienda la vacunación de refuerzo. Esta vacunación puede administrarse con una sola dosis de PCV para niños de ≥24 meses. Los datos actuales son insuficientes para una recomendación firme sobre el número óptimo de dosis (1 o 2) necesarias para la vacunación de refuerzo en niños de 12 a 23 meses, por lo que los países que opten por una sola dosis deben monitorear el impacto y los fallos de la vacuna.

Elección del producto de PCV

La evidencia epidemiológica hasta la fecha confirma que un esquema de PCV con cualquiera de los tres productos actualmente precalificados por la OMS (PCV13-PFZ, PCV10-GSK o PCV10-SII), administrado con alta cobertura mediante un esquema 3p+0 o 2p+1 para la inmunización de rutina de los lactantes, controlará la enfermedad neumocócica invasiva (ENI) de tipo vacunal y reducirá la incidencia de neumonía neumocócica infantil.

Intercambiabilidad

No existe evidencia sobre la intercambiabilidad entre todos los productos de PCV disponibles. Una vez iniciado un programa de vacunación con PCV, generalmente no se recomienda el cambio de producto a menos que se produzcan cambios sustanciales en la situación epidemiológica, programática o financiera que determinó la elección original del producto (por ejemplo, un aumento de la carga del serotipo 19A).

Cambiar a otra vacuna precalificada por la OMS que demuestre una inmunogenicidad similar a la de las PCV utilizadas actualmente puede ser aceptable por razones de ahorro. Si la serie no puede completarse con la misma vacuna, se puede utilizar la PCV disponible. No se recomienda reiniciar una serie con una PCV diferente, ni siquiera para la serie primaria.

PCV de valencia extendida

Los países deberían considerar las PCV de valencia extendida si ofrecen una mejor correspondencia con el rango de serotipos causantes de la enfermedad en su entorno. Al hacerlo, se deben considerar cuidadosamente las posibles desventajas, incluyendo: (i) posible aumento del precio; (ii) posible pérdida parcial de alguna protección directa o indirecta contra los serotipos incluidos en PCV10-GSK y PCV13-PFZ debido a la reducción de la inmunogenicidad, lo que conlleva una mayor incidencia de la enfermedad y/o una mayor adquisición de la portación; y (iii) la posible necesidad de un mayor número de dosis para compensar la pérdida de inmunogenicidad (p. ej., pasar de una pauta 2p+1 a una 3p+1). Si se planea cambiar a una vacuna antineumocócica de valencia extendida (PCV), se recomienda la vigilancia específica del serotipo para monitorear el impacto directo e indirecto en la carga de enfermedad neumocócica.

Estrategias alternativas de PCV en entornos con programas de PCV consolidados

Teniendo en cuenta que los países pueden economizar en costos de vacunas al optar por el uso de PCV menos costosas para el esquema de 3 dosis, existen enfoques adicionales que pueden considerarse en programas de PCV consolidados. Como otra forma de reducir costos y posiblemente la complejidad programática, la OMS recomienda la implementación de estrategias alternativas de PCV. Sin embargo, estas estrategias solo deben considerarse en entornos con programas de PCV consolidados de 3 dosis o con una inmunidad poblacional bien establecida, como se describe a continuación.

Actualmente, existe evidencia limitada en la práctica clínica para el uso de estrategias alternativas, incluso en ciertas poblaciones de alto riesgo (p. ej., niños inmunodeprimidos y desnutridos). La cantidad y la calidad de la evidencia mejorarán si estas estrategias se implementan y evalúan en entornos reales.

Esquemas con menos dosis (1p+1)

Los países que deseen reducir el costo de su programa de PCV o el número de inyecciones en el esquema de vacunación infantil pueden optar por un esquema 1p+1 como alternativa no autorizada a un esquema de 3 dosis, siempre que se cumplan los dos criterios siguientes:

a. Existe una inmunidad poblacional bien establecida entre los niños menores de 5 años. Esto puede indicarse por uno de los siguientes factores:
   - contar con un programa consolidado de PCV de 3 dosis con una cobertura media de la tercera dosis de PCV de rutina ≥ 80 % durante los 5 años anteriores;
   - una campaña reciente de PCV de cohorte multiedad, con una cobertura ≥ 80 % entre los niños menores de 5 años;
   - tener bajos niveles de portación o enfermedad de tipo vacunal, según lo indiquen estudios de vigilancia o de portación de alta calidad.

b. Evidencia de capacidad para administrar la vacunación entre los 9 y los 18 meses de edad (p. ej., refuerzo de PCV, vacuna contra el sarampión, vacuna contra la fiebre amarilla, vacuna conjugada antimeningocócica) con una cobertura promedio ≥80% durante los 5 años anteriores.

Además de lo anterior, se recomienda cumplir con los siguientes criterios antes de implementar un esquema 1p+1:

- una evaluación para sopesar los costos, riesgos y beneficios, incluyendo una posible reducción de la protección que se consideraría aceptable para el ahorro de costos;
- vigilancia adecuada de la ENI de tipo vacunal o de la portación para controlar la aparición de aumentos inesperados de la enfermedad y/o la transmisión neumocócica en el mediano o largo plazo después del cambio de esquema.

La primera dosis del esquema 1p+1 puede administrarse a las ≥ 6 semanas de edad, y la dosis de refuerzo a los ≥ 9 meses de edad. Para simplificar el programa, ambas dosis se pueden administrar en los puntos temporales del esquema de vacunación actual. La evidencia que respalda el uso del esquema 1p+1 se basa en estudios con PCV10-GSK o PCV13-PFZ. Actualmente no hay evidencia que respalde un esquema 1p+1 con PCV10-SII, aunque los datos de inmunogenicidad muestran no inferioridad con PCV10-GSK y PCV13-PFZ en esquemas de 3 dosis, lo que indica que PCV10-SII probablemente también sería eficaz en un esquema 1p+1. Los países que deseen utilizar la vacuna PCV10-SII en un esquema 1p+1 deben evaluar su eficacia contra la portación y/o la enfermedad. El uso de PCV de valencia extendida requiere una evaluación más exhaustiva antes de recomendar su uso en un esquema 1p+1 debido al fenómeno de "aumento progresivo de la inmunogenicidad".

Dosis fraccionada de PCV

Los países que deseen reducir costos podrían implementar el uso, fuera de indicación, de ≥ 40 % de dosis fraccionadas de PCV13-PFZ en su esquema de vacunación de rutina, utilizando un esquema de 3 dosis. La vía de administración (es decir, intramuscular) se mantiene; el número de dosis por vial aumentaría (por ejemplo, un vial de 4 dosis se utiliza como vial de 10 dosis para una dosis fraccionada del 40 %). Un esquema de dosis fraccionada debe considerarse solo en países que cumplen el criterio de inmunidad poblacional bien establecida entre niños menores de 5 años, como se indica para un cambio a un esquema 1p+1.

Ventajas y desventajas de las estrategias alternativas de PCV

Los países que consideren cualquiera de las estrategias alternativas de dosificación alternativas deben sopesar las ventajas y desventajas entre el ahorro en los costos del programa y la posible reducción del control de la enfermedad neumocócica, así como la mayor necesidad de vigilancia. Se deben considerar las incertidumbres, incluyendo la posible reducción del impacto en los resultados de la enfermedad y la posible reducción de la duración de la protección. Al tomar decisiones sobre el programa, es necesario considerar las áreas subnacionales con menor cobertura de inmunización sistemática y mayor prevalencia inicial de portación de serotipos (llamados tipos de vacuna o VT). En los países que adoptan una estrategia alternativa de forma temprana, se debe implementar la vigilancia específica por serotipos de la enfermedad neumocócica o la portación nasofaríngea para monitorear el impacto. Si el monitoreo revela un aumento inaceptable de la portación de VT, un aumento de la ENI por VT o una cobertura de la última dosis sustancialmente inferior al 80 % durante más de un año, se debe restablecer la inmunidad poblacional mediante una campaña de cohorte multiedad de PCV de dosis única o la reversión a un esquema de 3 dosis. Implementar múltiples ajustes al programa PCV al mismo tiempo (p. ej., reducir la cantidad de dosis e introducir un nuevo producto PCV) puede tener resultados impredecibles y no se recomienda.

Recomendaciones de vigilancia

La OMS recomienda que el impacto epidemiológico de las PCV se monitorice mediante la vigilancia sostenida de la ENI específica por serotipo o mediante encuestas periódicas de portación nasofaríngea, que

podrían ser más viables. Dicha vigilancia y estas encuestas deberían realizarse para monitorizar el efecto de diferentes productos y esquemas de PCV en diferentes entornos geográficos o epidemiológicos. En particular, es conveniente establecer la vigilancia de esquemas alternativos y PCV de valencia extendida en los países de adopción temprana e, idealmente, en algunos países de cada región de la OMS, para evaluar con mayor profundidad cualquier repunte imprevisto de la portación o la enfermedad y generar evidencia práctica para estas estrategias y productos. Es posible que no se observen cambios en la epidemiología de la enfermedad neumocócica de un programa establecido hasta dentro de 5 a 10 años. Por consiguiente, se recomienda la vigilancia a largo plazo para evaluar con mayor detalle cualquier repunte imprevisto de la portación o la enfermedad.

Prioridades de investigación

Esquemas de tres dosis

- Aclarar la relación entre los niveles circulantes de IgG y la protección contra la portación y la enfermedad en personas completamente vacunadas después del primer mes tras la vacunación.
- Determinar la duración de la protección siguiendo los esquemas 3p+0 y 2p+1.

Productos de PCV de valencia extendida

- Actualizar la distribución de serotipos de los datos de la enfermedad en entornos que utilizan diferentes productos de PCV.
- Recopilar datos de efectividad en condiciones reales para los productos de PCV de valencia extendida, en particular evaluando la posible reaparición de serotipos compartidos de PCV10/13 en poblaciones que utilizan los esquemas de vacunación recomendados por la OMS.
- Evaluar la efectividad comparativa de las vacunas de valencia extendida y PCV10/13 contra la adquisición de portación para predecir sus efectos indirectos.

Esquemas de dosis reducida y dosis fraccionada

- Recopilar datos de efectividad de la vacuna en múltiples entornos con seguimiento a medio y largo plazo.
- Generar más datos sobre el uso de dosis fraccionadas de PCV en otros esquemas de vacunación de rutina, además de 2p+1, así como con PCV10-SII y PCV de valencia superior.
- Evaluar la prevalencia de portación específica por serotipo luego del uso de dosis fraccionadas en los esquemas de vacunación de rutina.
- Realizar estudios de evaluación económica y costo-efectividad de esquemas con menos dosis o dosis fraccionadas de PCV, según la estrategia programática de distribución (esquema de rutina infantil; campañas de dosis única).

Campañas de cohortes multiedad (MAC)

- Evaluar los grupos de edad objetivo óptimos y la frecuencia de las campañas en diferentes entornos.
- Evaluar el uso de campañas MAC en poblaciones con baja cobertura inicial de PCV.
- Evaluar más a fondo el impacto de las campañas oportunas de PCV en respuesta a brotes.

Fuente: WHO. Disponible en https://n9.cl/xu8mb

Noticias en la Web

Vidal Health and Serum Institute collaborate on HPV vaccine access

Sep 23. TPA service provider Vidal Health, a subsidiary of Bajaj Finserv Health, and world's largest vaccine manufacturer Serum Institute of India (SII) on Tuesday announced a strategic collaboration to support national efforts in cervical cancer prevention and awareness.

Starting October 1, 2025, Vidal Health's platform will offer an end-to-end, convenient and cashless experience for human papillomavirus (HPV) vaccine - from digitally booking a doctor's appointment at a preferred location, to providing consent and receiving certification - all with zero paperwork, a joint statement said.

The fully managed health programme will provide complete support with timely dosage reminders, adherence monitoring, and efficient network management to ensure continuity of care, it said.

"At Bajaj Finserv Health, we are shaping this change by building a digital platform that empowers people to stay healthy, with preventive healthcare at its core. Our collaboration with Serum Institute marks a strong start to our vaccination programme," Bajaj Finserv Chairman and Managing Director Sanjiv Bajaj said.

Serum Institute of India CEO Adar Poonawalla said, "The HPV vaccine is an important step in preventing cervical cancer, but wider access and awareness are key to its impact. Our collaboration with Vidal Health helps bridge that gap by using technology to deliver the vaccine more efficiently and at scale."

The HPV vaccine will be directly available on Vidal Health's digital platform, ensuring high quality HPV vaccines with no intermediaries or delays. The platform will enable digital registration, cashless payment and automated tracking of the multi-dose vaccination schedule, it said.

Fuente: The Economic Times. Disponible en https://n9.cl/gfkpr

Razones científicas que explican por qué las vacunas no causan autismo

23 sep. Múltiples estudios científicos realizados durante más de 20 años han demostrado de manera concluyente que no existe relación entre las vacunas y el trastorno del espectro autista.

"Décadas de investigación desmienten las teorías antivacunas que resurgen tras las declaraciones de Robert F. Kennedy Jr. como secretario de Salud."

La evidencia refuta las tres principales teorías antivacunas: el conservante timerosal, la vacuna MMR y la "sobrecarga" del sistema inmunitario.

Con Kennedy Jr. al frente de la política sanitaria estadounidense, la comunidad médica internacional refuerza su posición, ya que durante décadas, Kennedy ha promovido la teoría desacreditada de que las vacunas causan autismo, una afirmación que la comunidad científica ha refutado repetidamente con evidencia sólida.

Durante su audiencia de confirmación ante el Comité del Senado, el senador Bill Cassidy, republicano de Luisiana y médico de profesión, presionó a Kennedy para que "tranquilizara a las madres de forma inequívoca y sin calificación" sobre la seguridad de las vacunas.

La respuesta de Kennedy fue evasiva: "Si los datos están ahí, definitivamente lo haré", prometiendo incluso disculparse por declaraciones previas. Sin embargo, los datos científicos han estado disponibles durante años, respaldados por instituciones de investigación de múltiples países y organizaciones internacionales de salud.

El timerosal

La primera gran teoría antivacunas se centró en el timerosal, un conservante que contiene mercurio utilizado en algunas vacunas.

Aunque este compuesto fue retirado de la mayoría de las vacunas infantiles hace más de 20 años como medida de precaución, las tasas de autismo continuaron aumentando, desmintiendo cualquier conexión causal.

El estudio más contundente provino de Dinamarca, que mantiene registros de salud centralizados. Un análisis de 2004 de todos los niños vacunados entre 1971 y 2000 encontró que "no hubo tendencia hacia un aumento en la incidencia de autismo durante el período en que se usó timerosal". Los aumentos continuaron incluso después de suspender el conservante.

Investigaciones adicionales en Reino Unido reforzaron estos hallazgos: un estudio de 14,000 bebés encontró que las vacunas, en todo caso, estaban asociadas con menos casos de autismo; otro de 103,403 niños confirmó la ausencia de relación entre timerosal y autismo.

La vacuna MMR: Estudio fraude

La teoría que vincula la vacuna contra el sarampión, paperas y rubéola (MMR) con el autismo se originó en un estudio fraudulento de 1998 publicado por Andrew Wakefield en The Lancet.

El trabajo, que analizó apenas 12 casos, propuso un nuevo trastorno basado en niños que habían perdido habilidades y desarrollado dolor abdominal tras recibir la vacuna MMR.

El estudio fue retractado tras una investigación que reveló que Wakefield había solicitado una patente para su propia vacuna contra el sarampión y no había obtenido permisos para realizar pruebas invasivas en niños. Wakefield perdió su licencia médica, pero el daño ya estaba hecho.

La respuesta científica fue contundente: al menos 20 estudios posteriores en países como Finlandia, Reino Unido, Estados Unidos y Dinamarca demostraron que los niños vacunados con MMR no tenían mayor probabilidad de desarrollar autismo. Un estudio danés publicado en el New England Journal of Medicine incluso mostró que el riesgo era menor entre los vacunados.

La teoría de "demasiadas vacunas"

La tercera línea argumenta que el número creciente de vacunas sobrecarga el sistema inmunitario infantil. Esta teoría, popularizada por Donald Trump en 2015 cuando escribió sobre "38 vacunas en un bebé" siendo "totalmente una locura", también carece de sustento científico.

Los investigadores han respondido señalando que las vacunas modernas son más específicas y contienen menos antígenos que las versiones anteriores.

Las vacunas actuales para enfermedades como la neumocócica contienen solo moléculas específicas, no el virus completo. Sumado a eso, los datos no muestran que las vacunas aumenten el riesgo de otras infecciones.

Un estudio crucial de 2013 de los CDC midió los niveles de anticuerpos generados por diferentes vacunas y encontró que no había relación entre estos marcadores y el riesgo de autismo.

¿Cuál es el verdadero origen del aumento del autismo?

El aumento en los diagnósticos de autismo se explica principalmente por cambios en los criterios clínicos, que hoy incluyen casos antes no reconocidos, así como por una mayor conciencia social y acceso a evaluaciones especializadas.

Los científicos han identificado múltiples factores genéticos asociados con el autismo, algunos de los cuales están relacionados con mutaciones espontáneas que ocurren durante el desarrollo fetal.

Estudios también sugieren que la edad avanzada de los padres —tanto paterna como materna— puede aumentar el riesgo de autismo en los hijos, posiblemente debido a mutaciones genéticas acumuladas con el tiempo.

Estas razones, tanto sociales como genéticas, resultan más sólidas que cualquier vínculo con las vacunas.

El costo de la desinformación

La vacuna MMR ha demostrado ser una de las intervenciones de salud pública más exitosas de la historia moderna. Antes de su introducción en 1963, Estados Unidos registraba 500,000 casos anuales de sarampión, resultando en 50,000 hospitalizaciones, 1,000 casos de inflamación cerebral y 500 muertes cada año. Para 2010, gracias a las altas tasas de vacunación, solo se reportaron 63 casos en todo el país, todos resultado de virus importados del extranjero.

Como advierte el oncólogo Vinay Prasad: "Si RFK Jr. usa su posición como secretario del HHS para disuadir a los padres de vacunar a sus hijos con la vacuna MMR, podrían resultar graves repercusiones negativas, incluidos brotes de sarampión y muertes infantiles".

De hecho, en Texas, el Departamento Estatal de Servicios de Salud (DSHS) ya enfrenta un brote significativo: desde enero se han confirmado alrededor de 762 casos, con 99 hospitalizaciones y la muerte de dos niños no vacunados sin condiciones previas. Aunque menos del 1% de los casos son actualmente contagiosos, la transmisión continúa en el condado de Lamar.

Por lo mismo, para los profesionales de la salud y los padres, esta evidencia ofrece la certeza científica necesaria para tomar decisiones informadas sobre la vacunación infantil, independientemente de las posiciones políticas del momento.

Fuente: Medicina y Salud Pública. Disponible en https://n9.cl/wc8rg

El CSIC desarrolla una vacuna intranasal experimental que elimina el COVID-19 en ratones

24 sep. Investigadores del Consejo Superior de Investigaciones Científicas (CSIC) han desarrollado una vacuna experimental de administración intranasal que ha demostrado eliminar por completo el virus del COVID-19 en ratones humanizados. El prototipo, liderado por el virólogo Luis Enjuanes desde el Centro Nacional de Biotecnología (CNB-CSIC), ha mostrado una protección del 100% con dos dosis y abre la puerta a nuevas generaciones de vacunas más eficaces frente a variantes recientes del

SARS-CoV-2.

Un diseño innovador basado en replicones de ARN

La vacuna utiliza replicones defectivos de ARN derivados del propio coronavirus, a los que se les han eliminado seis genes implicados en su propagación y virulencia. Estas partículas son capaces de replicarse dentro de la célula, pero no de infectar nuevas células, lo que garantiza un elevado perfil de seguridad. A diferencia de las vacunas de ARN mensajero actuales, este diseño incluye varias proteínas del virus, no solo la proteína S, activando así múltiples brazos de la respuesta inmune.

Resultados preclínicos: inmunidad esterilizante

Los ensayos realizados en ratones humanizados demuestran que, con una sola dosis, la protección alcanzaba el 60%. Tras la segunda dosis por vía intranasal, los animales alcanzaron un 100% de inmunidad, con niveles indetectables de virus en nariz y pulmones. Esto indica que la vacuna induce una inmunidad esterilizante, capaz de bloquear la infección desde el inicio e impedir la replicación viral.

Ventajas de la vía intranasal

Los investigadores destacan que esta vía de administración actúa directamente en las mucosas respiratorias, puerta de entrada del virus, generando una respuesta local más potente. Además, es un método no invasivo y cómodo, lo que podría facilitar campañas masivas de vacunación o su uso en colectivos vulnerables. La autoamplificación del replicón permite, además, emplear dosis más bajas sin perder eficacia.

Potencial en mayores y adaptación rápida a variantes

El equipo apunta a que esta tecnología podría ofrecer mejores resultados en personas mayores, población en la que las vacunas actuales han mostrado eficacia limitada. Asimismo, la plataforma permite adaptar la secuencia del replicón a nuevas variantes en un plazo de dos a tres meses, lo que otorga gran versatilidad frente a la evolución del virus.

Hacia las vacunas de nueva generación

Los resultados, publicados en la revista *Proceedings of the National Academy of Sciences* (PNAS), consolidan a este prototipo como un candidato prometedor en la carrera por vacunas de segunda generación contra el COVID-19. Su diseño seguro, su capacidad de inducir inmunidad esterilizante y su potencial de adaptación lo sitúan como una de las apuestas más sólidas para reforzar la protección global en futuras campañas.

Fuente: ESTRELLA DIGITAL. Disponible en https://n9.cl/plixa

Evaxion offloads vaccine candidate to Merck for $592M biobucks

Sep 25. Merck & Co. is choosing to license one of Evaxion's AI platform-based vaccine candidates, offering the Danish biotech up to $592 million for rights to the preclinical asset.

Merck's licensing is part of a broader deal between the two that was inked back in 2024. That $1 billion biobucks deal granted the Big Pharma the option to pick up rights to two early-stage candidates.

Now, Merck is paying $7.5 million upfront to exercise its option for Evaxion's candidate dubbed EVX-B3.

The upfront payment will stretch Evaxion's cash runway into the first half of 2027, according to a Sept. 25 release.

Moving forward, Merck will have full responsibility for EVX-B3 development. In exchange, Evaxion is eligible to earn up to $592 million in biobucks as well as royalties.

Merck and Evaxion's partnership on EVX-B3 dates back even before 2024. The pair actually jointly discovered and developed the program in September 2023. Later that year, Merck's venture capital arm led a private placement financing for Evaxion.

EVX-B3 is in preclinical development and designed to address "a serious global medical issue," according to the release. The asset targets a pathogen tied to repeated infections, rising incidence and potentially serious complications. Currently, no vaccines are available to treat the undisclosed condition, according to the companies.

The vaccine program was identified with Evaxion's AI-Immunology platform, technology that is designed to detect new vaccine targets for cancer and infectious diseases.

"With its AI-Immunology platform, Evaxion has identified novel protective vaccine targets for a pathogen long considered difficult to address," Tarit Mukhopadhyay, Merck Research Laboratories vice president and head of infectious diseases and vaccine discovery, said in the release. "We look forward to further evaluating EVX-B3 as part of our early vaccine pipeline."

Fuente: FIERCE BIOTECH. Disponible en https://n9.cl/slcnu

Presenta Pfizer nueva vacuna contra Virus Sincicial Respiratorio (VSR)

25 sep. Cifras de la Organización Mundial de la Salud (OMS) revelan que el virus sincicial respiratorio (VSR) cada año causa aproximadamente 3.6 millones de hospitalizaciones y unas 100,000 muertes de niños menores de cinco años en todo el mundo. Cerca de la mitad de las defunciones eran de bebés de 6 meses o menos.

Por otro lado, que la tasa de hospitalización de los adultos infectados es mayor entre las personas con afecciones subyacentes como asma, enfermedad pulmonar obstructiva crónica (EPOC) o insuficiencia cardiaca congestiva.

Una vez que el VSR ingresa al cuerpo a través de los ojos, la nariz o la boca, se trasmite fácilmente por el aire en gotitas de saliva, por lo que cuando alguien infectado tose o estornuda el virus también se trasmite a otros a través del contacto directo. En promedio, cada persona infectada puede transmitir el virus a otras tres más, por lo que tiende a propagarse muy rápidamente en entornos colectivos como guarderías, escuelas o residencias asistidas.

Además, las personas pueden comenzar a propagar el virus uno o dos días antes de empezar a experimentar los síntomas y signos de la enfermedad.

Riesgo después de nacer

Se calcula que casi 100% de los bebés contraerán el VSR. Aunque los síntomas pueden ser similares a los del resfriado, también pueden ser más graves e incluso poner en peligro la vida.

"Este agente infeccioso puede ser responsable de enfermedades más graves, como bronquiolitis (inflamación de las pequeñas vías respiratorias de los pulmones) y neumonía (infección de los pulmones).

De hecho, es la causa más común de bronquiolitis y neumonía en niños menores de 1 año", señala el Doctor Gonzalo Pérez Marc, Pediatra y Especialista en Investigación Clínica Farmacológica y jefe de Docencia e Investigación de la Unidad Materno- Infantil del Hospital Militar Central de Buenos Aires, Argentina.

"Cada año, entre dos y tres de cada 100 bebés menores de 6 meses son hospitalizados por VSR, y es muy posible que requieran oxígeno, líquidos intravenosos (si no comen ni beben) y ventilación mecánica. La mayoría mejora con este tipo de cuidados de apoyo", agrega el especialista.

Los adultos mayores también están en gran riesgo

Quienes están en mayor riesgo de padecer una infección grave por VSR son los mayores de 60 años que padecen alguna de las siguientes afecciones: enfermedad pulmonar (como EPOC y asma), enfermedad cardíaca (como insuficiencia cardíaca y enfermedad coronaria), diabetes, enfermedades neurológicas, enfermedad renal, enfermedad hepática, trastornos sanguíneos o inmunosupresión.

Tan solo en Estados Unidos se registran anualmente entre 60,000 y 180,000 hospitalizaciones y 10,000 muertes en mayores de 60 años.

Cuando un adulto contrae el VSR, suele presentar síntomas leves similares a los del resfriado, pero algunos pueden desarrollar neumonía. "Sin embargo, los adultos que se enferman gravemente por el VSR pueden necesitar hospitalización ya que puede ser mortal para algunos de ellos. En ocasiones, el VSR también puede provocar el empeoramiento de afecciones graves como: asma, EPOC e insuficiencia cardíaca," mencionó el Doctor Rafael Rodríguez, Neumólogo por la Universidad de Panamá.

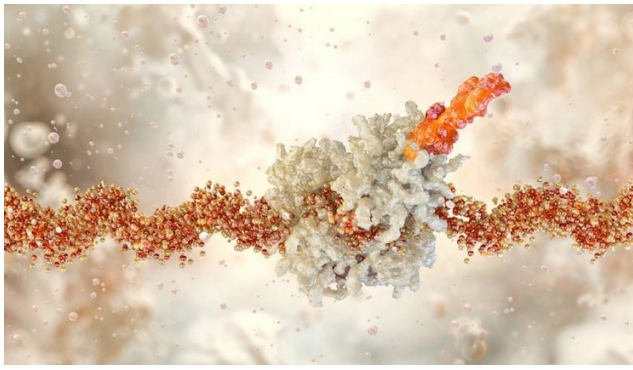
Una inyección que evita riesgos

La Comisión Federal para la Protección contra Riesgos Sanitarios (Cofepris) de México autorizó en diciembre de 2024 la vacuna Abrysvo contra el Virus Sincicial Respiratorio, aprobada para mujeres embarazadas durante el último trimestre de gestación para proteger a sus bebés de la enfermedad del tracto respiratorio inferior causada por este agente infeccioso.

Adicionalmente, esta inyección está aprobada para adultos de 60 años. "Esta innovación médica ayuda a reducir el riesgo de complicaciones derivadas de la infección por VSR en cualquier etapa de la vida, incluso desde el vientre materno. Abrysvo es una herramienta de prevención que ayudará un gran número de personas y aquellas que están por llegar", puntualiza del Dr. Pérez Marc.

Fuente: VÉRTIGO POLÍTICO. Disponible en https://n9.cl/bn5i8

Navigating evolving clinical and regulatory expectations as mRNA outgrows its vaccine roots



Sep 26. Messenger RNA (mRNA) technologies are rapidly redefining the boundaries of modern drug development. Initially recognised for their role in vaccines, mRNA platforms are now advancing into therapeutic areas including oncology, rare genetic disorders and metabolic diseases. These applications go far beyond transient immune stimulation, demanding sustained and systemic activity, precise expression control and robust safety profiles.

The shift from localised, prophylactic vaccine use to systemic, chronic treatment introduces scientific, regulatory and operational complexities. Pharmacokinetic (PK) and biodistribution profiles must be re-evaluated. Immunogenicity and stability must be carefully managed, particularly with repeated dosing regimens. And most importantly, developers must ensure the therapeutic protein is not only produced but also expressed at levels sufficient to deliver a meaningful clinical outcome. Each of these parameters requires sophisticated, multi-platform analytical strategies that are technically rigorous and comply with regulatory demands.

Today's mRNA therapies are being developed with increasingly diverse delivery systems, including lipid nanoparticles (LNPs), polymers and peptides. The complexity of these formulations, combined with the fragile nature of mRNA itself, underscores the need for thoughtful study design, integrated analytical tools and custom approaches aligned with each drug candidate's mechanism of action.

The new frontier for mRNA therapeutics

Modern mRNA platforms are being engineered for therapeutic protein expression, immune modulation and other advanced applications. These approaches are gaining traction where traditional small molecule or recombinant protein therapies have struggled, due to mRNA's modularity and programmability. Therapeutic formats now include neoantigen-based oncology vaccines, enzyme replacement strategies and other advanced constructs – all of which require precise bioanalytical support to guide development.

To meet regulatory and clinical expectations, scientists must adapt bioanalytical strategies to address the complexities of mRNA-based products.

"To meet regulatory and clinical expectations, scientists must adapt bioanalytical strategies to address the complexities of mRNA-based products ."

Pharmacokinetics

Unlike localised vaccine administration, delivering therapeutic mRNAs requires a detailed understanding of tissue distribution, expression kinetics and persistence. Bioanalytical platforms such as RT-qPCR, ddPCR and bDNA assays are essential for quantifying mRNA and its expression kinetics. In situ hybridisation and imaging technologies for spatial distribution may complement quantification, while LC-MS/MS may be used to characterise lipid nanoparticle (LNP) components.

Immunogenicity

Chronic or repeated dosing of mRNA therapeutics raises concerns over innate and adaptive immune activation. Reducing immunogenicity begins with optimising mRNA structure,incorporating modified nucleotides (including N1-methylpseudouridine) and refining LNP formulations.

From an analytical perspective, assessing immunogenicity requires a combination of ELISA, MSD and Luminex platforms for humoral responses, and ELISpot or flow cytometry for cellular responses. When multiple expression products are involved, multiplexed immunogenicity methods must be customised to each protein target.

PEGylated lipids, commonly used in LNPs, have also been associated with accelerated blood clearance (ABC) upon repeated administration. This effect can compromise therapeutic consistency and must be monitored through immunogenicity and PK analysis in both preclinical and clinical settings.

Expression analysis

A central measure of mRNA therapeutic success is accurately and reproducibly quantifying encoded protein expressions. This varies widely by therapeutic class, whether secreted proteins, membrane-bound receptors, or processed neoantigen peptides.

Expression analysis is complicated by the transient nature of mRNA expression and the varied half-lives of expressed proteins. In some cases, self-amplifying or circular RNA constructs may be used to extend expression. Assay development must account for temporal variation and ensure sensitivity across a relevant biological timeframe. As these analytical techniques evolve, they provide an essential foundation for robust regulatory submissions and risk-based development strategies.

Navigating regulatory expectations

In the absence of harmonised global regulations for mRNA therapeutics, developers must rely on existing guidelines for biologics, gene therapies and nucleic acid-based products while adapting them to the unique features of mRNA platforms. Regulators periodically issue drug-specific guidance, particularly in relation to biodistribution, immunogenicity and the use of novel excipients or delivery vehicles like LNPs.

To streamline regulatory interactions and avoid delays, drug developers and sponsors should prioritise early engagement with regulatory bodies via pre-IND or CTA meetings to align expectations for analytical methods, data requirements and safety strategies. Where applicable, they may reference established data from related mRNA constructs to support analytical method validation, manufacturing comparability, or toxicology bridging studies.

It is equally important to provide clear characterisation and justification for any novel excipients, LNP compositions or manufacturing process elements. These components are essential to therapeutic performance and may elicit additional regulatory scrutiny, especially if limited precedent exists.

Risk-based frameworks can also be developed to guide bioanalytical strategy. These frameworks must consider the drug's expression profile, route of administration, dosing frequency and patient population. A tailored, evidence-driven approach to study design and regulatory engagement can improve predictability and reduce the likelihood of late-stage setbacks.

"As mRNA therapeutics continue to evolve, strategic foresight will be essential for translating innovation into viable clinical products."

Given mRNA's dynamic landscape, maintaining awareness of evolving regulatory expectations is essential. Participating in public consultations and engaging with industry consortia, academic researchers and regulatory authorities can provide valuable insight. By treating regulatory strategy as a proactive and integrated element of development – not a reactive or isolated task – developers can position their programmes for accelerated progress and stronger regulatory confidence.

The future of mRNA therapeutics

As mRNA therapeutics continue to evolve, strategic foresight will be essential for translating innovation into viable clinical products. While the scientific foundation for these therapies is strong, success in development and regulatory approval depends on the ability to anticipate and navigate emerging challenges. Developers must look beyond individual studies and adopt a systems-level view: integrating bioanalytical rigour, delivery optimisation and regulatory alignment in all stages of development.

These strategic priorities can serve as guidelines for those advancing mRNA pipelines:

Stability: Codon optimisation and structural engineering can improve expression duration and translation efficiency. Enhancing the 5' cap, 3' poly(A) tail, and UTR regions are proven strategies for boosting stability.5

Targeted delivery: Next-generation LNPs and peptide carriers offer promise in improving biodistribution and tissue specificity. Ionisable lipids are especially important for endosomal escape and must be selected for low cytotoxicity and high efficacy.

Analytical rigour: Orthogonal validation of mRNA presence, expression and immune impact is essential for

clinical progression. Techniques like dual-platform verification (eg, RT-qPCR + ISH) can reduce false positives and increase regulatory confidence.

Regulatory strategy: Engage early with regulatory bodies and develop platform-aligned documentation that anticipates emerging expectations. A flexible, modular dossier format may help accommodate updates as the field evolves.

A final word: mRNA therapies across disease areas

mRNA therapeutics are no longer an experimental outlier, they are a rapidly advancing modality with the potential to transform treatment across disease areas. As use cases become more sophisticated and systemic, the need for precise, validated, and flexible analytical strategies will only grow.

Drug developers and sponsors must understand the nuanced interactions between formulation, delivery, immunogenicity and expression. In doing so, they position themselves not only for successful IND or CTA submissions, but for meaningful therapeutic impact in an expanding range of clinical applications.

Fuente: EUROPEAN PHARMACEUTICAL REVIEW. Disponible en https://n9.cl/mcuai

Líderes caribeños urgen fortalecer sistemas sanitarios de la región

27 sep. La exhortación se realizó durante la Quincuagésima Reunión del Consejo para el Desarrollo Humano y Social–Salud (Cohsod-Salud por sus siglas en inglés) de la Comunidad del Caribe (Caricom), con la presencia de autoridades sanitarias del Caribe.

«Las enfermedades conllevan profundas consecuencias financieras, que resultan en pérdidas debido a la reducción de la productividad y al aumento de los costos sanitarios. Estas realidades destacan que la salud es una prioridad social y un imperativo económico».

El ministro de Salud de Granada, Philip Telesford, y presidente de la 50 Cohsod-Salud enfatizó que el panorama económico actual añade complejidad a los desafíos sanitarios, con consecuencias en la fuerza laboral y los presupuestos nacionales.

Por su parte, la secretaria general adjunta de la Caricom para Desarrollo Humano y Social, Alison Drayton, alertó sobre la confluencia de múltiples crisis.

«Enfrentamos desafíos continuos, como enfermedades transmisibles emergentes, mortalidad prematura y escasez de personal sanitario. El cambio climático y el aumento de la criminalidad añaden más complejidades, todo en un contexto geopolítico global volátil», afirmó Drayton.

A pesar de los desafíos, la reunión sirvió para destacar logros clave en la cooperación sanitaria regional como preparación para pandemias, alianza estratégica con la Organización Panamericana de la Salud y el reconocimiento de la criminalidad como problema de Salud Pública.

El encuentro concluyó reafirmando el compromiso de la región con un liderazgo colaborativo y respuestas proactivas a las amenazas sanitarias emergentes.

Fuente: PRENSA LATINA. Disponible en https://n9.cl/64ke5

Virometix Announces Completion of Enrollment in Phase I Trial of V-212 — a Fully Synthetic, Serotype-Independent Vaccine Candidate Against *Streptococcus Pneumoniae*

Sep 29. Virometix AG, a Swiss clinical-stage biotechnology company pioneering fully synthetic vaccines, today announced that it has successfully completed enrollment in the Phase I clinical trial of V-212, a peptide-based, serotype-independent vaccine candidate targeting Streptococcus pneumoniae infections.

“Completing enrollment in this Phase I trial marks a significant milestone for V-212,” said Anna Sumeray, CEO of Virometix. “This fully synthetic, serotype-independent vaccine candidate is designed to advance our mission of delivering scalable, safe, and broad-spectrum protection against pneumococcal disease, while addressing the current limitations of existing PCV approaches. Through our collaboration with CEVAC, we are well-positioned to deliver high-quality Phase I data, with topline results anticipated in the first quarter of 2026.”

Prof. Isabel Leroux-Roels, Principal Investigator at CEVAC, added, “We are proud to collaborate with Virometix on this first-in-human study of V-212. Pneumococcal infections remain a major global health challenge, underscoring the urgent need for next-generation vaccines with broader and more durable protection. V-212’s fully synthetic, serotype-independent approach is highly innovative, and we look forward to advancing the clinical evaluation of this important candidate.”

About Virometix and the V-212 Program

Virometix develops structure-based, fully synthetic nanoparticle vaccines designed to elicit targeted, robust, and durable immune responses. Its proprietary Synthetic Virus-Like Particle (SVLP) platform employs conformational synthetic peptide mimetics displayed on self-assembling lipopeptidic nanoparticles that include built-in adjuvant elements, including T-helper epitopes and Toll-like receptor (TLR) ligands—eliminating dependence on biological components and simplifying manufacturing.

V-212, the lead pneumococcal vaccine candidate, is specifically engineered as a serotype-independent, peptide-basedimmunogen. Multiple conserved antigenic epitopes from key Streptococcus pneumoniae surface proteins are synthesized and conjugated to SVLP nanoparticles, aiming to induce broad immunity across diverse serotypes—addressing the limitations of current conjugate vaccines.

Preclinical studies have demonstrated robust, long-lasting immunogenicity in mouse and rabbit models. V-212 prevented lethal sepsis in a serotype 3 challenge, inhibited bacterial dissemination into blood, and reduced pulmonary burden. It also conferred protection against serotype 8 infections. Moreover, antisera elicited by V-212 recognized multiple pneumococcal serotypes, including non-PCV-13 types, underscoring its serotype-independent potential.

Phase I Trial Design and Enrollment Highlights

- Study ID: NCT06975319 (VMX-SPN-212-001)
- Design: A randomized, double-blind, placebo-controlled, first-in-human, Phase I trial in healthy adult volunteers.
- Participants: A total of 60 healthy subjects aged 18–45 years have been enrolled.
- Collaboration: The trial is being conducted in collaboration with CEVAC (Centre for Vaccinology) at Ghent University Hospital, a leading European clinical trial unit with extensive expertise in vaccine development.

- Dosing Regimen: Subjects receive three intramuscular injections of either V-212 or placebo, across low, medium, and high dose groups to assess safety, tolerability, and immunogenicity.
- Primary Objective: Evaluate safety and tolerability across dose levels.
- Secondary Objective: Assess immunogenicity to identify an optimal dose for subsequent studies.
- Next Milestone: Topline safety and immunogenicity data are expected in Q1 2026.

About Virometix

Virometix AG is a privately held Swiss biotechnology company developing a new generation of fully synthetic vaccines to generate targeted and protective immune responses against infectious diseases and cancer. There is a considerable medical need for vaccines to combat infectious as well as a number of chronic human diseases, including cancer. Rational molecular design, chemical synthesis and Virometix' proprietary “Synthetic Virus-Like Particle” platform technology allow for the rapid production and optimization of vaccine candidates with the potential to demonstrate superior properties in terms of safety, efficacy, ease and cost of manufacturing and stability. Learn more at www.virometix.com

Forward-Looking Statements

This release contains forward-looking statements regarding the clinical development of V-212. Trial outcomes, timelines, and future steps involve inherent risks and uncertainties.

Fuente: MORNING STAR. Disponible en https://n9.cl/q9trs

Informe anual del Director de la OPS destaca avances en seguridad sanitaria, eliminación de enfermedades y atención primaria de salud

29 sep. El Director de la Organización Panamericana de la Salud (OPS), el doctor Jarbas Barbosa, presentó su Informe Anual, donde destacó avances importantes en seguridad sanitaria, eliminación de enfermedades, atención primaria y salud digital, a pesar de los desafíos enfrentados en el último año.

“Este informe demuestra cómo la acción colectiva puede mejorar la salud y el bienestar en nuestra región. Hoy, la preparación y la resiliencia son pilares esenciales de la salud pública”, señaló el doctor Barbosa, en el 62.º Consejo Directivo de la OPS.

El informe, que cubre el período de julio de 2024 a junio de 2025, recoge esfuerzos regionales para mejorar la salud y el bienestar, fortalecer los sistemas de salud y mejorar la capacidad de respuesta ante emergencias, aprovechando aprendizajes clave de la pandemia.

Respuesta a emergencias y principales logros

Durante el último año, la OPS atendió más de 38 emergencias sanitarias, entre ellas epidemias de dengue, mpox e influenza aviar, además de desastres naturales como el huracán Beryl. También distribuyó 25 toneladas de suministros médicos a 23 países y territorios, incluidas 14,5 toneladas enviadas a Haití como parte de la respuesta al cólera y a la prolongada crisis humanitaria que atraviesa el país.

“Ante una epidemia récord de dengue, la reaparición de casos de sarampión y la propagación de la gripe

aviar, la OPS acompañó firmemente a los países para brindar una respuesta rápida", destacó el doctor Barbosa.

Las labores de inteligencia epidemiológica de la OPS, piedra angular de la seguridad sanitaria, detectaron más de 2,7 millones de piezas de información relacionadas con posibles eventos de salud pública, generando más de 1.800 informes de inteligencia críticos y más de 1.900 alertas tempranas para abordar amenazas como H5N1, el virus Oropouche y la fiebre amarilla.

En el marco de la Iniciativa para la Eliminación de Enfermedades, la región recuperó su estatusde libre de sarampión, con Brasil reverificado en 2024. No obstante, los brotes de sarampión en varios países amenazan con revertir estos avances.

También hubo otros avances importantes: Surinam se convirtió en el primer país amazónico en recibir la certificación de país libre de malaria en junio de 2025, mientras que Brasil eliminó la filariasis linfática como problema de salud pública. Además, Brasil solicitó la verificación de la eliminación de la transmisión maternoinfantil del VIH, y Chile, la de la lepra.

Atención primaria, ENT y salud digital

La iniciativa Mejor Atención para las Enfermedades No Transmisibles (ENT), lanzada en 2023, se expandió rápidamente, con la implementación de HEARTS en más de 7.000 centros de atención primaria en 26 países.

Además, la Alianza para la Atención Primaria de Salud con el Banco Mundial y el BID permitió que Chile, República Dominicana y El Salvador acordaran inversiones para mejorar los servicios integrados de salud. En El Salvador, por ejemplo, se lanzó un proyecto de 120 millones de dólares para ampliar el acceso a la atención primaria.

A través de la Ruta Panamericana de Salud Digital y la plataforma de telesalud, se llevaron servicios esenciales a zonas desatendidas, incorporando herramientas como evaluaciones de preparación para el uso de inteligencia artificial en salud pública.

Innovación, producción regional y futuro del personal de salud

Los Fondos Rotatorios Regionales facilitaron la adquisición de 159 millones de vacunas, 9 millones de pruebas diagnósticas y 3,5 millones de tratamientos, mientras la región avanzó hacia la autosuficiencia en producción de vacunas, medicamentos y tecnologías. Destacan la producción de la vacuna neumocócica PCV20 en Argentina y el desarrollo de vacunas de ARNm en Argentina y Brasil.

La OPS también lanzó una Iniciativa de Medicamentos de Alto Costo para mejorar el acceso a tratamientos para cáncer, esclerosis múltiple y enfermedades raras.

De cara al futuro, el doctor Barbosa alertó sobre la necesidad urgente de formar más personal de salud, ante una posible escasez de 600.000 profesionales para 2030. En ese contexto, más de un millón de nuevos usuarios accedieron al Campus Virtual de Salud Pública de la OPS.

Transformación institucional y cooperación

La iniciativa OPS Adelante modernizó procesos internos, generando más de 3 millones de dólares en ingresos adicionales y reduciendo riesgos financieros. También avanzó con la Iniciativa de Servicios Compartidos, para hacer más eficientes las operaciones administrativas.

Durante el período, la OPS firmó 51 acuerdos de cooperación con nuevos socios financieros y no financieros, y adoptó 22 estrategias de trabajo conjunto con países y subregiones.

“Este año ha demostrado que el progreso en salud se logra mediante la colaboración continua”, concluyó el doctor Barbosa. “Estamos construyendo una región más fuerte y mejor preparada para proteger la salud ahora y en el futuro”.

Fuente: PAHO. Disponible en https://n9.cl/8f4kj

Future mRNA Vaccines Could Offer Protection Against Food and Seasonal Allergies

Sep 29. In a pioneering advancement that could revolutionize the treatment of allergic diseases, researchers from the Perelman School of Medicine at the University of Pennsylvania in collaboration with Cincinnati Children’s have engineered an innovative mRNA vaccine designed to preclude dangerous allergic responses. This groundbreaking study, recently published in the Journal of Clinical Investigation, signals a transformative shift in allergy therapeutics, leveraging mRNA technology previously validated by COVID-19 vaccines to modulate immune reactions to allergens in mice.

The research team, co-led by Nobel laureate Dr. Drew Weissman and Dr. Marc E. Rothenberg of Cincinnati Children’s, crafted an mRNA vaccine that encodes for proteins mimicking specific allergens. This mediated presentation effectively primes the immune system toward tolerance rather than hypersensitivity. Unlike conventional allergy immunotherapies that rely on repeated allergen injections over extended periods, this approach induces a controlled immune recalibration in response to allergens, reducing the risk of adverse reactions while fostering long-lasting protection.

Mechanistically, the vaccine utilizes lipid nanoparticles (LNPs) to deliver the allergen-encoding mRNA into host cells, where it directs intracellular synthesis of allergen-like proteins. These proteins are then processed and presented by antigen-presenting cells, inducing immunological pathways favoring immune tolerance. When mice vaccinated with this formulation were subsequently exposed to corresponding allergens, they

exhibited a substantial reduction in allergic symptoms, including diminished recruitment of eosinophils and other allergy-associated leukocytes.

Detailed immunophenotyping revealed that vaccinated mice produced significantly fewer pro-inflammatory cytokines implicated in allergy pathogenesis, such as interleukin-4 (IL-4) and interleukin-5 (IL-5). Concomitantly, these animals demonstrated lower mucus production in pulmonary tissues and preserved airway function, indicating protection against asthma-like airway hyperresponsiveness. Notably, there was an upregulation of allergen-specific immunoglobulin G (IgG) antibodies, which are believed to competitively inhibit IgE-mediated allergic cascades, further underpinning the immunity conferred by the vaccine.

This novel mRNA allergy vaccine platform offers unparalleled adaptability, whereby sequences encoding diverse allergenic proteins can be integrated into a single or multivalent vaccine formulation. Such versatility suggests broad applicability for various allergic diseases ranging from seasonal rhinitis caused by pollen to severe food allergies—many of which currently lack effective prophylactic vaccines. The capacity to modulate sensitization to multiple allergens simultaneously could usher in a new era of personalized allergy management.

The implications of this technology extend beyond efficacy. The mRNA vaccine platform inherently accelerates development timelines, enabling researchers to rapidly design, synthesize, and test vaccines against emerging allergenic triggers. This is especially crucial in light of the rising global prevalence of allergic disorders and the complex, heterogeneous nature of individual patient allergen profiles. The safety and robust immune priming demonstrated in this preclinical model augur well for translational prospects in human trials.

Dr. Weissman emphasized the profound social and clinical importance of these findings, noting that food allergies particularly impose severe lifestyle limitations and anxiety due to risks of anaphylaxis. A vaccine that prevents sensitization or diminishes allergic severity could significantly enhance quality of life and reduce healthcare burdens associated with emergency care for allergic reactions. Beyond food allergies, the approach holds promise for mitigating asthma exacerbations linked to allergen exposure, underscoring its potential multifaceted impact.

The study also serves as a compelling proof-of-concept that mRNA vaccines can transcend infectious disease paradigms, extending their scope to chronic immunological disorders where dysregulated immune responses contribute to disease pathology. Similar strategies may, in the future, be tailored to autoimmune diseases or other immune-mediated conditions, heralding a new frontier in immunotherapy.

Future research endeavours are focused on detailed safety profiling in human subjects, optimizing dosing parameters, and determining the longevity of immunological protection elicited by the vaccine. Additionally, critical questions remain regarding how many allergen-specific mRNAs can be safely multiplexed within a single vaccine dose without eliciting off-target effects or immune interference.

This innovative work benefited from funding by the Food Allergy Fund and support from the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), reinforcing the critical role of targeted research investments in catalyzing medical breakthroughs. The research teams' commitment to harnessing proven vaccine technologies for allergy therapy signals exciting developments ahead in combating a growing public health challenge.

Notably, the lipid nanoparticle delivery system integral to this vaccine underscores the synergy of nanotechnology and molecular biology in enabling precise immunomodulation. As researchers refine the biochemical and immunological parameters of this platform, the potential to customize vaccines for individual allergen profiles or specific patient immunotypes becomes increasingly tangible.

In summary, this advance represents a seminal leap forward, potentially supplanting traditional desensitization therapies with safe, effective, and adaptable mRNA vaccines. For the millions worldwide grappling with life-threatening allergic diseases, this novel approach offers renewed hope for prevention and management, leveraging the transformative power of RNA-based immunotherapy to rewrite allergy treatment paradigms.

Fuente: Bioengineer. Disponible en https://n9.cl/mqadt

Vaxcyte firma acuerdo de fabricación por 1.000 millones de dólares con Thermo Fisher

30 sep. Vaxcyte, Inc. (NASDAQ:PCVX), una compañía biotecnológica con una capitalización de mercado de 4.500 millones de dólares que cuenta con un fuerte respaldo de analistas y una calificación de consenso de "Compra", anunció el martes un nuevo acuerdo con Thermo Fisher Scientific para establecer la fabricación comercial de llenado y acabado para sus vacunas conjugadas neumocócicas en Estados Unidos.

El acuerdo, valorado en hasta 1.000 millones de dólares, proporcionará capacidad comercial personalizada de llenado y acabado para las vacunas conjugadas neumocócicas de amplio espectro de Vaxcyte en la instalación de Thermo Fisher en Greenville, Carolina del Norte. Según los datos de InvestingPro, Vaxcyte mantiene una posición financiera saludable con más efectivo que deuda en su balance y un sólido ratio de liquidez de 11,1 veces.

Esta expansión de fabricación es parte de la estrategia de suministro comercial a largo plazo de Vaxcyte en Estados Unidos y representa una inversión significativa en capacidades de biofabricación nacional.

"La decisión de expandir significativamente nuestra capacidad de fabricación de llenado y acabado en Estados Unidos representa un esfuerzo para ampliar nuestra estrategia de suministro de principio a fin y alinearnos con la creciente atención en la biofabricación nacional", dijo Grant Pickering, Director Ejecutivo y Cofundador de Vaxcyte.

El principal candidato a vacuna de Vaxcyte es VAX-31, una vacuna conjugada neumocócica 31-valente que actualmente avanza hacia un programa clínico de Fase 3 para adultos mientras también se evalúa en un programa clínico de Fase 2 para infantes. La cartera de la compañía también incluye VAX-24, un candidato a vacuna conjugada neumocócica 24-valente.

El acuerdo busca fortalecer la cadena de suministro de Vaxcyte en Estados Unidos y mejorar la preparación comercial para sus candidatos a vacunas, según el comunicado de prensa de la compañía.

Vaxcyte es una empresa de innovación en vacunas en fase clínica centrada en el desarrollo de vacunas contra enfermedades bacterianas. La compañía tiene su sede en Estados Unidos. Con objetivos de precio de los analistas que oscilan entre 38 y 163 dólares, los inversores que buscan conocimientos más profundos sobre el potencial de Vaxcyte pueden acceder a análisis exhaustivos a través de los informes de investigación detallados de InvestingPro, que ofrecen análisis expertos de las finanzas de la compañía, posición de mercado y perspectivas de crecimiento.

En otras noticias recientes, Vaxcyte ha avanzado su vacuna neumocócica VAX-31 a la etapa final de un estudio infantil. Este estudio está comparando el candidato a vacuna conjugada neumocócica 31-valente de Vaxcyte con Prevnar 20, el estándar actual de atención para prevenir la enfermedad neumocócica invasiva. Además, Guggenheim ha ajustado su objetivo de precio para Vaxcyte, reduciéndolo de 160 a 116 dólares, mientras mantiene una calificación de Compra. El ajuste se debe a cambios en el cronograma de los programas de vacunas VAX-31 de Vaxcyte. Mientras tanto, Goldman Sachs ha iniciado la cobertura de

Vaxcyte con una calificación Neutral y ha establecido un objetivo de precio de 38 dólares. El banco de inversión destacó la plataforma de descubrimiento y desarrollo de vacunas de Vaxcyte, señalando su potencial en el mercado de vacunas neumocócicas de 8.000 millones de dólares. Estos desarrollos reflejan los esfuerzos continuos de Vaxcyte y la atención que está recibiendo de las principales instituciones financieras.

Fuente: Investing.com. Disponible en https://n9.cl/8n587

Una vacuna antineumocócica para adultos entre los nuevos fármacos que tendrán financiación

Ministerio de Sanidad , España

30 sep. La vacuna antineumocócica 21-valente para adultos del laboratorio MSD ha recibido el visto bueno para su financiación en la Comisión Interministerial de Precios de los Medicamentos del Sistema Nacional de Salud de España del pasado 24 de septiembre. En esta reunión, la primera tras el parón del mes de agosto, recibieron luz verde para obtener precio-reembolso tres medicamentos, se autorizaron tres nuevas indicaciones de fármacos previamente autorizados y se aprobó la extensión de indicación de otros dos.

La vacuna polisacárida cojungada (21-valente) frente al neumococo comercializada con el nombre de Capaxive se dirige específicamente a prevenir en adultos a partir de 18 años la enfermedad invasiva y neumonía causada por *Streptococcus pneumoniae*. Esta vacuna protege frente a 21 serotipos de la bacteria: 3, 6A, 7F, 8, 9N, 10A, 11A, 12F, 15A, 15B, 15C, 16F, 17F, 19A, 20A, 22F, 23A, 23B, 24F, 31, 33F y 35B. Son los serotipos que causan la mayoría de enfermedad neumocócica invasiva.

La vacuna aprobada para financiación protege frente a 21 serotipos de *Streptococcus pneumoniae* y está indicada en adultos a partir de 18 años.

La Comisión Europea otorgó su autorización para esta vacuna el pasado mes de marzo y, seis meses después, obtiene su financiación en España, donde ya están disponibles otras vacunas destinadas también a adultos. Habitualmente, cada comunidad autónoma se encarga de adquirir estas vacunas. El calendario de vacunación para toda la vida recomienda la vacuna frente al neumococo en adultos a partir de los 65 años y en personas adultas con condiciones de riesgo.

Fuente: iSanidad. Disponible en https://n9.cl/pt8xm

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Estrategia de búqueda: (Vaccine) AND DP:([22.09.2025 TO 30.09.2025]) *as the publication date 36 records.*

1.20250295558WEARABLE ANIMAL VACCINE INSULATION APPARATUS

US - 25.09.2025

Clasificación Internacional A61J 1/16Nº de solicitud 19105229Solicitante Marnie FISHERInventor/a Marnie FISHER

A wearable animal vaccine insulation apparatus consists of an insulated container with an interior for a vaccine delivery bladder. It features a delivery opening to connect the bladder's neck to a dose administration hose. The apparatus also includes a body harness for wearing the container against the body. The container maintains the temperature integrity of the vaccine delivery bladder ensuring that the vaccine remains within the recommended temperature range, safeguarding its effectiveness.

2.20250295755MRNA VACCINE COMPOSITION

US - 25.09.2025

Clasificación Internacional A61K 39/215Nº de solicitud 18703109Solicitante Sail Biomedicines, Inc.Inventor/a Munir MOSAHEB

Disclosed herein are nucleic acid vaccine compositions including one or more polynucleotides encoding one or more antigenic polypeptide, formulated within a lipid reconstructed plant messenger packs (LPMPs)

comprising natural lipids and an ionizable lipid. The disclosure also includes a method for making a nucleic acid vaccine, comprising reconstituting a film comprising purified PMP lipids in the presence of an ionizable lipid to produce a LPMP comprising the ionizable lipid, and loading into the LPMPs with one or more polynucleotides encoding one or more antigenic polypeptides.

3.20250296962S-RBD TRIMER PROTEIN VACCINE FOR NOVEL CORONAVIRUS AND PREPARATION METHOD AND APPLICATION THEREFOR

US - 25.09.2025

Clasificación Internacional C07K 14/005Nº de solicitud 18275226Solicitante NATIONAL VACCINE AND SERUM INSTITUTE (NVSI)Inventor/a Qiming LI

The present invention discloses an S-RBD trimer protein for a novel coronavirus. The trimer protein is composed of amino acid fragments at positions 319-537 in an RBD domain of an S protein of the novel coronavirus n a trimer form. A body is immunized with a vaccine prepared in the present invention taking the S-RBD trimer protein as an antigen and supplemented by an adjuvant, and then a hic neutralizing antibody for the novel coronavirus may be produced and may be used for treating and/or preventing novel coronavirus (SARS-CoV-2) infection and/or a novel coronavirus disease.

4.20250295761METHODS FOR PREVENTING DENGUE AND HEPATITIS A

US - 25.09.2025

Clasificación Internacional A61K 39/295Nº de solicitud 18980441Solicitante Takeda Vaccines, Inc.Inventor/a Derek Wallace

The invention relates to a method for preventing dengue disease and hepatitis A in a subject or subject population by simultaneously administering a unit dose of a dengue vaccine composition and a hepatitis A vaccine on the same day. The unit dose of a dengue vaccine composition includes constructs of each dengue serotype, such as TDV-1, TDV-2, TDV-3 and TDV-4, at various concentrations in order to improve protection from dengue infection.

5.20250299838OPTIMIZING VACCINE PRODUCTION THROUGH SIMULATION

US - 25.09.2025

Clasificación Internacional G16H 70/40Nº de solicitud 18612632Solicitante AMAZON TECHNOLOGIES, INC.Inventor/a Samuel Anthony DANZIGER

Methods and systems are disclosed for selecting a set of peptides from a plurality of peptides for producing a drug product. A request may be received to produce a vaccine that meets specific requirements, including the desired immune response and the inclusion of certain types of peptides. The system may rank peptides using one or more metrics that factor in immunogenicity and/or manufacturability. Based on the ranking, the system may select a group of peptides for inclusion in a manufacturing simulation process, which returns a set of peptides that are predicted to be successfully manufactured. The system refines its selection to a subset of manufacturable peptides based on specific criteria. This iterative process continues until predefined conditions are met, such as the convergence of the simulation results. Based on these results, the system identifies an optimal or near-optimal set of peptides that can be used for effective drug production.

6.WO/2025/199315OPTIMIZING VACCINE PRODUCTION THROUGH SIMULATION

WO - 25.09.2025

Clasificación Internacional G16B 5/20Nº de solicitud PCT/US2025/020698Solicitante AMAZON TECHNOLOGIES, INC.Inventor/a DANZIGER, Samuel Anthony

Methods and systems are disclosed for selecting a set of peptides from a plurality of peptides for producing a drug product. A request may be received to produce a vaccine that meets specific requirements, including the desired immune response and the inclusion of certain types of peptides. The system may rank peptides using one or more metrics that factor in immunogenicity and/or manufacturability. Based on the ranking, the system may select a group of peptides for inclusion in a manufacturing simulation process, which returns a set of peptides that are predicted to be successfully manufactured. The system refines its selection to a subset of manufacturable peptides based on specific criteria. This iterative process continues until predefined conditions are met, such as the convergence of the simulation results. Based on these results, the system identifies an optimal or near-optimal set of peptides that can be used for effective drug production.

7.WO/2025/199518ENZYMES FOR DEPLETION OF GLUTAMINE

WO - 25.09.2025

Clasificación Internacional C12N 15/86Nº de solicitud PCT/US2025/021046Solicitante EDGE ANIMAL HEALTH, INC.Inventor/a MOORE, Kristi Mae

The present invention provides compositions and methods for immunizing a subject in need thereof again an avian pathogen. In one aspect, the invention provides a composition for immunizing an avian subject against a pathogen comprising: a) a recombinant laryngotracheitis virus vector (rLT); and b) a fusion gene of an avian virus (F) inserted into the recombinant laryngotracheitis virus vector (rLT/F); wherein the recombinant laryngotracheitis virus vector inserted with the fusion gene of the avian virus (rLT/F) is deoptimized to generate deoptimized rLT/F vaccine candidates; and wherein the deoptimized rLT/F vaccine candidates are administered to the subject in need thereof.

8.WO/2025/196262IMMUNOASSAY INVOLVING ANTIBODIES BINDING VACCINE ADJUVANTS

WO - 25.09.2025

Clasificación Internacional G01N 33/543Nº de solicitud PCT/EP2025/057789Solicitante AC IMMUNE SAInventor/a BAVDEK, Andrej

Provided herein are assays and methods of assessing a vaccine comprising a liposome, and antibodies and kits used in such assays and methods.

9.20250295753LARYGOTRACHEITIS VIRUS (LT) VECTOR VACCINES FOR USE WITH AVIAN RESPIRATORY PATHOGENS

US - 25.09.2025

Clasificación Internacional A61K 39/17Nº de solicitud 19087482Solicitante EDGE ANIMAL HEALTH, INC.Inventor/a Kristi Mae MOORE

The present invention provides compositions and methods for immunizing a subject in need thereof again an avian pathogen. In one aspect, the invention provides a composition for immunizing an avian subject against a pathogen comprising: a) a recombinant laryngotracheitis virus vector (rLT); and b) a fusion gene of an avian virus (F) inserted into the recombinant laryngotracheitis virus vector (rLT/F); wherein the recombinant

laryngotracheitis virus vector inserted with the fusion gene of the avian virus (rLT/F) is deoptimized to generate deoptimized rLT/F vaccine candidates; and wherein the deoptimized rLT/F vaccine candidates are administered to the subject in need thereof.

10.WO/2025/194221A PULMONARY VACCINE TO PREVENT TUBERCULOSIS

WO - 25.09.2025

Clasificación Internacional A61K 39/04Nº de solicitud PCT/AU2025/050276Solicitante THE UNIVERSITY OF SYDNEYInventor/a TRICCAS, James Anthony

A vaccine composition comprising an immunogen comprising one or more SAP components or at least one nucleic acid encoding one or more SAP components; and an expression vector that encodes a chimeric CD40L polypeptide or functional equivalent thereof.

11.4619032KÖDERIMPFSTOFFE

EP - 24.09.2025

Clasificación Internacional A61K 39/12Nº de solicitud 23818626Solicitante ZOETIS SERVICES LLCInventor/a SCHMIDT CHRISTIAN GORTAZAR

The instant disclosure provides a bait vaccine formulation for swine, the formulation comprising an antigen; optionally, an adjuvant, and a matrix, wherein said antigen is inside of a container, wherein said container is entirely within the matrix, wherein the matrix is not coated by a protective film, wherein said bait formulation is temperature stable and/or humidity stable and/or suitable for aerial deployment. Methods of using these bait vaccine formulations are also provided.

12.20250295751RNA VACCINES AGAINST INFECTIOUS DISEASES

US - 25.09.2025

Clasificación Internacional A61K 39/145Nº de solicitud 19222273Solicitante HDT Bio Corp.Inventor/a Steven Gregory Reed

The disclosure provides compositions, methods of treatment, and methods of making and using compositions to deliver a nucleic acid to a subject. Methods of using these compositions as a vaccine for treatment of an infectious disease are also provided.

13.20250295759METHOD FOR ENHANCING IMMUNITY

US - 25.09.2025

Clasificación Internacional A61K 39/215Nº de solicitud 18861366Solicitante Xanadu Bio, Inc.Inventor/a Akiko IWASAKI

The invention relates to a method of enhancing immunity, mRNA-based vaccines for SARS-COV-2 have demonstrated the enormous potential of mRNA therapeutics for safe and effective use in the general population. However, more recent studies have demonstrated decreasing vaccine effectiveness in terms of asymptomatic infection as well as symptomatic and severe infections starting around 4 months post second dose with mRNA-lipid nanoparticles (LNP) based regimens.

14.WO/2025/194374CAT ALLERGEN POLYPEPTIDE FRAGMENT AND USE

WO - 25.09.2025

Clasificación Internacional A61K 39/35Nº de solicitud PCT/CN2024/082635Solicitante SHENZHEN HERZ LIFE SCIENCE TECHNOLOGY CO., LTDInventor/a ZHA, Lisha

Provided are a cat allergen polypeptide fragment and use thereof. Fel d1 is divided into a plurality of polypeptides of 10-20 amino acids, which are then co-expressed with VLPs proteins; subsequently, hyperimmune serum of Fel d1 is used for screening; and 2 Fel d1 polypeptides with relatively good immunogenicity are successfully screened. The 2 polypeptides are used for co-expression with VLPs and then formulated into a vaccine to immunize a cat. The secretion amount of Fel d1 in the cat saliva is detected, and the secretion amount of Fel d1 can be reduced by 80% or more. The described polypeptides effectively reduce the secretion amount of the Fel d1 protein in the cat saliva, and reduce the spread of Fel/d1 in the air.

15.WO/2025/195378IMMUNE COMPOSITION AND USE THEREOF

WO - 25.09.2025

Clasificación Internacional A61K 39/39Nº de solicitud PCT/CN2025/083237Solicitante NATIONAL CENTER FOR NANOSCIENCE AND TECHNOLOGYInventor/a NIE, Guangjun

An immune composition, a vaccine comprising the immune composition, and a preparation method therefor and use thereof in the prevention and/or treatment of diseases or conditions, particularly tumors. The immune composition comprises: (1) a cell membrane derived from pluripotent stem cells, (2) a first adjuvant inserted into the cell membrane, and (3) a second adjuvant encapsulated within the cell membrane.

16.20250295744TREATMENT INVOLVING NON-IMMUNOGENIC RNA FOR ANTIGEN VACCINATION AND PD-1 AXIS BINDING ANTAGONISTS

US - 25.09.2025

Clasificación Internacional A61K 39/00Nº de solicitud 18696518Solicitante BioNTech SEInventor/a Ugur SAHIN

The present disclosure relates to methods and agents for antigen vaccination and inducing effective antigen-specific immune effector cell responses such as T cell responses. These methods and agents are, in particular, useful for the treatment of diseases characterized by diseased cells expressing an antigen the immune effector cells are directed to. In some embodiments, the present disclosure relates to methods comprising administering to a subject (i) non-immunogenic RNA encoding a peptide or polypeptide comprising an epitope for inducing an immune response against an antigen in the subject, i.e., non-immunogenic RNA encoding vaccine antigen; and (ii) a PD-1 axis binding antagonist such as an anti-PD-1 antibody and/or an anti-PD-L1 antibody.

17.20250295591SINGLE VIAL VACCINE FORMULATIONS

US - 25.09.2025

Clasificación Internacional A61K 9/19Nº de solicitud 19030868Solicitante ACCESS TO ADVANCED HEALTH INSTITUTEInventor/a Christopher B. FOX

The invention provides for thermostable lyophilized formulations, including vaccines and pharmaceutical compositions for inducing or enhancing an immune response, and methods of use thereof. The lyophilized

formulations generally comprise an antigen and/or an adjuvant, a metabolizable oil, and a cake-forming excipient.

18.20250295754METHOD FOR OBTAINING SARS-COV-2 AEROSOL VARIANTS FOR ORAL VACCINES INDUCING GUT-BASED IMMUNITY AGAINST COVID-19

US - 25.09.2025

Clasificación Internacional A61K 39/215Nº de solicitud 18615492Solicitante Steven Mark HaydenInventor/a Steven Mark Hayden

A method involving collecting viral particles from exhaled breath for developing oral vaccines against diseases like COVID-19. Infected individuals exhale breath into sterile equipment to separate viral particles through centrifuging and filtering, excluding saliva and other pathogens. The process avoids heat or methods that could destroy the viruses, ensuring the aerosol's vitality. Purified extracts, suspended in cold saline or water, undergo optional screening for contaminants and multiplication in sterile conditions. The final product is a quantified, purified aerosol extract of the virus, used for oral vaccine development.

19.4147047IDENTIFIKATION AF TUMORSPECIFIKKE ANTIGENER

DK - 22.09.2025

Clasificación Internacional G01N 33/543Nº de solicitud 21724267Solicitante University of HelsinkiInventor/a CERULLO, Vincenzo

The invention concerns a device for tumour antigen identification and a method for tumour antigen identification; a tumour antigen identified following use of said device and/or method; a pharmaceutical composition comprising said tumour antigen; a method of treating cancer using said device and/or said method; a method of stratifying patients for cancer treatment using said device and/or said method; a treatment regimen involving stratifying patients for cancer treatment using said device and/or method and then administering a cancer therapeutic; and a tumour antigen identified using said device and/or said method for use as a cancer vaccine or immunogenic agent or cancer therapy.

20.20250295752VACCINE AGAINST INFECTIOUS BRONCHITIS

US - 25.09.2025

Clasificación Internacional A61K 39/155Nº de solicitud 18943288Solicitante Zoetis Services LLCInventor/a Carla Maria Batista de Freitas

Poultry vaccines against infectious bronchitis and Turkey Rhinotracheitis are provided. The vaccines are adjuvanted with oil emulsion containing an immunostimulatory oligonucleotide. The methods of using the vaccines are also provided.

21.20250296985POTENTLY NEUTRALIZING NOVEL HUMAN MONOCLONAL ANTIBODIES AGAINST SARS-COV-2 (COVID-19)

US - 25.09.2025

Clasificación Internacional C07K 16/10Nº de solicitud 18686251Solicitante TRANSLATIONAL HEALTH SCIENCE AND TECHNOLOGY INSTITUTEInventor/a Jayanta BHATTACHARYA

The present invention relates to seven novel neutralizing human monoclonal antibodies (mAbs) THSC20.HVTR04, THSC20.HVTR06, THSC20.HVTR11, THSC20.HVTR26 THSC20.HVTR39, THSC20.HVTR55 and THSC20.HVTR88 and their nucleotide sequences isolated from a convalescent

individual of Indian origin by antigen (RBD)-specific single B cell sorting and cloning of variable heavy and light IgG chain genes. The isolated mAbs demonstrate neutralization of wild type Wuhan strain and the following variants of concern: South African variant of concern (B.1.351), UK variant of concern (B.1.1.7), Brazilian variant of concern (PI), Delta (B.1.617.2) and Omicron (B.1.1.529) with exception of THSC20.HVTR39 unable to neutralize Gamma (P1). Of these THSC20.HVTR04 is able to potently neutralize Omicron BA.2 and BA.4/BA.5, THSC20.HVTR06 is able to neutralize Omicron BA.1, BA.2 and BA.5 with low potency, THSC20.HVTR11 potently neutralizes Omicron BA.1 and BA.2 and THSC20.HVTR26 neutralizes Omicron BA. 1 only with moderate potency. The present invention also discloses the binding affinity of the neutralizing mAbs to the receptor binding domain (RBD) representing Wuhan isolate (wild type). The present invention also, discloses the use of neutralizing monoclonal antibodies (mAbs) against SARS-CoV-2 for its diagnostic, prognostic, preventive and therapeutic purposes.

22.4619988AUSWAHL VERSCHIEDENER KANDIDATENPEPTIDE FÜR PEPTIDTHERAPEUTIKA

EP - 24.09.2025

Clasificación Internacional G16B 40/00Nº de solicitud 23828290Solicitante GENENTECH INCInventor/a THRIFT WILLIAM JOHN

A method for developing a therapeutic such as, for example, a peptide vaccine. A machine learning model is trained using a metric learning algorithm, training peptide sequence data, and training allele presentation data corresponding to the training peptide sequence data. Peptide sequence data identifying peptide sequences that correspond to peptides is received. A peptide sequence vector is generated, via a machine learning model, for each peptide sequence using the peptide sequence data to form a plurality of peptide sequence vectors. An output is generated using the plurality of peptide sequence vectors. The output provides an indication of similarity between peptide sequences of the plurality of peptide sequences. A group of candidate peptides is selected from the plurality of peptides for development of the therapeutic based on the output such that the group of candidate peptides includes at least two dissimilar candidate peptides.

23.3036962HBV VACCINE

ES - 25.09.2025

Clasificación Internacional A61K 39/29Nº de solicitud 18719248Solicitante Oxford University Innovation Ltd.Inventor/a BARNES, Eleanor

24.WO/2025/195467RECOMBINANT POLIOVIRUS-LIKE PARTICLE COMPOSITION, PREPARATION METHOD THEREFOR, AND USE THEREOF

WO - 25.09.2025

Clasificación Internacional A61K 39/13Nº de solicitud PCT/CN2025/083811Solicitante CANSINO BIOLOGICS INC.Inventor/a YAN, Qiaoling

Provided are a recombinant poliovirus-like particle immune composition, a preparation method therefor, and use thereof. The recombinant poliovirus-like particle immune composition comprises type I, type II, and/or type III poliovirus-like particles, wherein the type I, type II, and/or type III poliovirus-like particles have a suitable particle content. The prepared recombinant poliovirus-like particle immune composition and vaccine have a simple constituent and a weak side effect, and have significant advantages in the aspects

of safety, immune efficacy, stability, and adaptability relative to existing inactivated vaccines and attenuated vaccines.

25.2025230686FELINE LEUKEMIA VIRUS VACCINE

AU - 25.09.2025

Clasificación Internacional Nº de solicitud 2025230686Solicitante Intervet International B.V.Inventor/a TARPEY, Ian

26.2639479METHOD FOR MANUFACTURING RECOMBINANT TRANSFERRIN BINDING PROTEINS AND VACCINE COMPOSITIONS COMRPISING SAME

GB - 24.09.2025

Clasificación Internacional C07K 14/22Nº de solicitud 202507547Solicitante SERUM INSTITUTE OF INDIA PVT LTDInventor/a ABHIJEET JAGANNATH KARALE

The present disclosure relates to manufacturing transferrin binding proteins. Specifically, the present disclosure relates to a simple, scalable, commercially viable fermentation and purification process for obtaining recombinant transferrin binding protein (rTbp-B) along with high recovery, low impurity/ aggregate content, and at the same time retains the integrity of the protein. The method uses a single chromatographic step and does not require tagging of proteins as compared to multiple chromatographic steps used previously and still manages to provide r-Tbp-B with at least 95 % purity.

27.WO/2025/199501HUMAN PAPILLOMAVIRUS (HPV) VACCINES

WO - 25.09.2025

Clasificación Internacional C07K 14/025Nº de solicitud PCT/US2025/021020Solicitante GRITSTONE BIO, INC.Inventor/a TEIGLER, Jeffrey

Disclosed herein are vaccine compositions that include HPV MHC epitope-encoding cassettes and/or full-length HPV proteins. Also disclosed are nucleotides, cells, and methods associated with the compositions including their use as vaccines.

28.20250297267UTR SEQUENCE FOR CONTROLLING PROTEIN EXPRESSION LEVEL AND EXPRESSION LOCATION, AND MRNA SEQUENCE INCLUDING SAME

US - 25.09.2025

Clasificación Internacional C12N 15/67Nº de solicitud 18862258Solicitante INDUSTRY-ACADEMIC COOPERATION FOUNDATION, DANKOOK UNIVERSITYInventor/a Sunjoo JEONG

The present invention relates to an mRNA including the UTR of polymorphic β-catenin. When used, the mRNA molecule, nucleic acid molecule, expression construct, and/or expression vector of the present invention can effectively enhance the expression efficiency of a target protein and extend the expression location of the target protein to the cytoplasm, thus allowing for stable extracellular secretion. In addition, the mRNA functions to regulate an expression level of exogenously introduced mRNA and thus can be utilized as an mRNA vaccine in the future.

29.4619030MULTIVALENTE IMPFSTOFFZUSAMMENSETZUNGEN UND VERWENDUNGEN DAVON

EP - 24.09.2025

Clasificación Internacional A61K 39/108Nº de solicitud 23892409Solicitante JANSSEN PHARMACEUTICALS INCInventor/a GEURTSEN JEROEN

Compositions and methods are described for inducing an immune response against extra-intestinal pathogenic Escherichia coli (ExPEC) to thereby provide immune protection against diseases associated with ExPEC. In particular, compositions are described comprising conjugates of E. coli polysaccharide antigen O1, 02, 04, 06, 08, 015, 016, 018, 025, and 075 and further comprising 0153 or 021 or both 0153 and 021 covalently bound to a carrier protein for the prevention of invasive ExPEC disease.

30.3534945VACCINE AGAINST PORCINE PARVOVIRUS

PL - 22.09.2025

Clasificación Internacional A61K 39/23Nº de solicitud 17801619SolicitanteInventor/a ERIC MARTIN VAUGHN

31.20250295749INACTIVATED STAPHYLOCOCCUS COMPOSITIONS AND METHODS OF MAKING AND USING THE SAME

US - 25.09.2025

Clasificación Internacional A61K 39/085Nº de solicitud 18863030Solicitante Biological Mimetics, Inc.Inventor/a Stephen J. Dollery

Presented herein are inactivated Staphylococcal bacterial immunogens. Also described herein are compositions including Staphylococcal immunogens. Methods for preparing and using the same are also described. Immunogens may enable a host immune response that can protect the host from infection and/or disease. Differential analysis of antigens that stimulate protective (immunogenic) and non-protective immunity can be used to identify correlates of protection that can be developed as subunit vaccine candidates.

32.20250295750CHIMERIC ZIKA VIRUS ANTICANCER VACCINE OBTAINED THROUGH BREAST CANCER CELL PASSAGE

US - 25.09.2025

Clasificación Internacional A61K 39/12Nº de solicitud 18860888Solicitante SK BIOSCIENCE CO., LTD.Inventor/a Seung Hye HONG

The present invention relates to a pharmaceutical composition for prevention or treatment breast cancer, containing a chimeric Zika virus obtained through breast cancer cell passages as an active ingredient.

33.4426270LIPID NANOPARTIKLER TIL FORSYNING AF OLIGONUCLEOTIDER

DK - 22.09.2025

Clasificación Internacional A61K 9/51Nº de solicitud 22813505Solicitante ZIPHIUS NVInventor/a HAQUE, AKM, Ashiqul

The current invention relates to ionizable lipid-like compound according to Formula (I) or pharmaceutically acceptable salt, tautomer, or stereoisomer thereof. The present invention also provides a lipid nanoparticle

comprising an ionizable lipid-like compound according to Formula (I) and one or more RNA molecules, as well as a pharmaceutical composition or vaccine, comprising such lipid nanoparticles.

34.202502957 56LIVE ATTENUATED SARS-COV-2 AND A VACCINE MADE THEREOF

US - 25.09.2025

Clasificación Internacional A61K 39/215Nº de solicitud 18730516Solicitante FREIE UNIVERSITÄT BERLINInventor/a Jakob TRIMPERT

It is provided a polynucleotide encoding a) severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) spike protein; and/or b) at least one non-structural SARS-CoV-2 protein selected from the group consisting of non-structural protein 7, non-structural protein 8, non-structural protein 9, non-structural protein 10, non-structural protein 11, non-structural protein 12, an endoribonuclease, and a 2'-O-methyltransferase, wherein the polynucleotide comprises or consists of at least one sequence part comprising codon-pair deoptimizations in comparison to the SARS-CoV-2 genome.

35.4619015HYPOALLOGEN-IMMUNOGENE PLURIPOTENTE STAMMZELLEN ALS IMPFSTOFF GEGEN KREBS

EP - 24.09.2025

Clasificación Internacional A61K 35/545Nº de solicitud 23892244Solicitante UNIV LELAND STANFORD JUNIORInventor/a WANG LIN

Compositions and methods are provided for immunization against cancer cells, by the administration of non-self, hypoallogenic iPSCs. To reduce host rejections against the iPSCs after vaccination, the cells are engineered to knock out or otherwise reduce expression of MHC class I and MHC class II proteins. To further reduce rejection responses against the iPSCs after vaccination, the cells are engineered to over-express CD47. The tumor-associated antigens (TAAs) and tumor-specific antigens (TSAs) expressed by the engineered cells can activate both specific cellular immunity and humoral immune response to prevent tumor growth and/or eradicate tumor cells, in the absence of undesirable graft-versus-host diseases.

36.4619024ZUSAMMENSETZUNGEN UND VERFAHREN ZUR MAIT-ZELLAKTIVIERUNG

EP - 24.09.2025

Clasificación Internacional A61K 38/20Nº de solicitud 23892422Solicitante IMMUNITYBIO INCInventor/a SOON-SHIONG PATRICK

B cell proliferation and/or memory B cell formation/proliferation can be enhanced by contacting MAIT cells with nogapendekin alfa inbakicept (N-803) to produce stimulated MAIT cells that in turn stimulate B cell proliferation and/or memory B cell formation/proliferation. Such stimulation may be performed in the presence of an antigen or antigen presenting cell. In especially contemplated embodiments, MAIT cell stimulation is performed in vitro to produce immune stimulating compositions and vaccines, or in vivo to enhance an immune response in airway tissues. Most typically, *in vivo* immune stimulation will be performed by inhalation or intranasal delivery of a composition comprising N-803 and optionally a vaccine component.

Patentes registradas en United States Patent and Trademark Office (USPTO)

Estrategia de búqueda: *vaccine.ti. AND @PD>="20250923"<=20250930 28 records*

Document ID	Title	Inventor	Applicant Name
US 12427191 B1	SARS-CoV-2 fusion protein vaccine/regimen	Deisseroth; Albert B.	MicroVAX, LLC
US 12427189 B2	Vaccine comprising epitope of heat shock protein, and use thereof	Park; Kyong Hwa et al.	ASTON SCI. CO., LTD.
US 12427190 B2	VLP-based monovalent ebola vaccines and methods of making and using same	Chen; Xuemin et al.	Children's Hospital Medical Center,Chen; Xuemin
US 12427118 B2	Injectable cryogel vaccine devices and methods of use thereof	Bencherif; Sidi A. et al.	President and Fellows of Harvard College
US 20250295591 A1	SINGLE VIAL VACCINE FORMULATIONS	FOX; Christopher B. et al.	ACCESS TO ADVANCED HEALTH INSTITUTE
US 20250295752 A1	VACCINE AGAINST INFECTIOUS BRONCHITIS	de Freitas; Carla Maria Batista et al.	Zoetis Services LLC
US 20250296962 A1	S-RBD Trimer Protein Vaccine for Novel Coronavirus and Preparation Method and Application Therefor	LI; Qiming et al.	NATIONAL VACCINE AND SERUM INSTITUTE (NVSI)
US 20250295756 A1	LIVE ATTENUATED SARS-COV-2 AND A VACCINE MADE THEREOF	TRIMPERT; Jakob et al.	FREIE UNIVERSITÄT BERLIN
US 20250295758 A1	NOVEL PEPTIDE CONJUGATE VACCINES	GRIFFIOEN; Arjan Willem et al.	STICHTING AMSTERDAM UMC
US 20250295755 A1	MRNA VACCINE COMPOSITION	MOSAHEB; Munir et al.	Sail Biomedicines, Inc.
US 20250295751 A1	RNA VACCINES AGAINST INFECTIOUS DISEASES	Reed; Steven Gregory et al.	HDT Bio Corp.
US 20250295750 A1	CHIMERIC ZIKA VIRUS ANTICANCER VACCINE OBTAINED THROUGH BREAST CANCER CELL PASSAGE	HONG; Seung Hye et al.	SK BIOSCIENCE CO., LTD.

US 20250295745 A1	CROSS-LINKED TUMOR LYSATE SPHERICAL NUCLEIC ACIDS AS CANCER VACCINES	Mirkin; Chad A. et al.	NORTHWESTERN UNIVERSITY
US 20250295558 A1	WEARABLE ANIMAL VACCINE INSULATION APPARATUS	FISHER; Marnie	FISHER; Marnie
US 20250295754 A1	Method for Obtaining SARS-CoV-2 Aerosol Variants for Oral Vaccines Inducing Gut-based Immunity Against COVID-19	Hayden; Steven Mark	Hayden; Steven Mark
US 20250299838 A1	OPTIMIZING VACCINE PRODUCTION THROUGH SIMULATION	DANZIGER; Samuel Anthony et al.	AMAZON TECHNOLOGIES, INC.
US 20250295747 A1	RECOMBINANT ATTENUATED SALMONELLA VACCINES (RASVS) AGAINST INFECTIONS BY AVIAN PATHOGENIC ESCHERICHIA COLI (APEC)	Baek; Chang-Ho et al.	Huvepharma Inc.
US 20250295753 A1	Larygotracheitis Virus (LT) Vector Vaccines for use with Avian Respiratory Pathogens	MOORE; Kristi Mae et al.	EDGE ANIMAL HEALTH, INC.
US 12419947 B2	Inorganic polyatomic oxyanions for protecting against antigenic damage during pathogen inactivation for vaccine production	Amanna; Ian J. et al.	Najít Technologies, Inc.
US 12419945 B2	Vaccines against Zika virus	Weiner; David et al.	The Trustees of the University of Pennsylvania,The Wistar Institute of Anatomy and Biology
US 12419944 B2	DNABII vaccines and antibodies with enhanced activity	Bakaletz; Lauren O. et al.	Research Institute at Nationwide Children's Hospital
US 12419946 B2	Stabilized 9 and 10 segmented influenza viruses as a vaccine platform and methods of making and using same	Heaton; Nicholas S. et al.	Duke University
US 12419950 B2	Saponin-based vaccine adjuvants	Wang; Pengfei	THE UAB RESEARCH FOUNDATION

US 12419951 B2	Preparation of zinc risedronate micro/nano adjuvant and use thereof as vaccine adjuvant	Zhao; Qinjian et al.	XIAMEN UNIVERSITY,XIAMEN INNOVAX BIOTECH CO., LTD.
US 12419952 B2	Saponin conjugate and vaccine or pharmaceutical composition comprising the same	Liang; Pi-Hui et al.	Liang; Pi-Hui
US 12419912 B2	Epstein-Barr virus (EBV) antigen composites and dendritic cell (DC)-based vaccine, and use thereof	Liu; Helen et al.	KOUSAI Bio Co., Ltd,Liu; Helen
US 12419939 B2	Vaccine and methods for detecting and preventing filariasis	Kalyanasundaram; Ramaswamy	THE BOARD OF TRUSTEES OF THE UNIVERSITY OF ILLINOIS
US 12419941 B2	Poultry drinking water-based vaccine delivery system and method	Jenkins; Mark C et al.	The United States of America, as Represented by the Secretary of Agriculture,Zoetis Services LLC

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