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VacCiencia es una publicación dirigida a investigadores y especialistas dedicados a la vacunología y temas afines, con el ojetivo de serle útil.

Usted puede realizar sugerencias sobre los contenidos y de esa forma crear una retroalimentación que nos permita acercarnos más a sus necesidades de información.

- Vacunas en la era de la Inteligencia Artificial: Acelerando el futuro de la Inmunización
- Noticias más recientes en la Web sobre vacunas.
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Vacunas en la era de la Inteligencia Artificial: Acelerando el futuro de la Inmunización

La inteligencia artificial (IA) se está utilizando como herramienta para apoyar la lucha contra enfermedades infecciosas que pudieran provocar futuras pandemias. La prensa y la comunidad científica se hacen eco de las muchas esperanzas de que la ciencia de los datos y la IA puedan utilizarse para hacer frente a dichas enfermedades.

El primer uso que se espera de la IA ante una crisis sanitaria es, sin duda, la ayuda a los investigadores para encontrar una vacuna capaz de proteger y contener la pandemia. La biomedicina y la investigación se basan en un gran número de técnicas, entre las cuales las diversas aplicaciones de la informática y la estadística ya han contribuido desde hace mucho tiempo. Por consiguiente, el uso de la IA forma parte de esta continuidad.

Esta puede actuar como un acelerador fundamental para el desarrollo de vacunas, transformando cada etapa del proceso. Su principal aporte es acortar drásticamente el tiempo de investigación que tradicionalmente lleva años, permitiendo una respuesta más rápida ante pandemias.

Las contribuciones clave de la IA se pueden evidenciar claramente en las diferentes etapas del ciclo de desarrollo de una vacuna:

En la **Predicción y la Vigilancia** ayuda a detectar brotes y predecir mutaciones virales por su capacidad de anticipar patrones de enfermedad. Mediante la integración de datos históricos y en tiempo real, los algoritmos identifican mutaciones probables y variantes emergentes. Así, es posible ajustar las investigaciones hacia vacunas que se mantengan eficaces frente a patógenos cambiantes.

En su momento se le atribuyó a la empresa canadiense BlueDot la detección precoz de un virus mediante una gripe aviar y su capacidad para examinar continuamente más de 100 conjuntos de datos, como noticias, datos de movilidad, demográficos, climáticos y poblaciones de animales. BlueDot detectó lo que entonces se consideró un brote de neumonía en Wuhan (China) el 31 de diciembre de 2019, e identificó las ciudades con más probabilidades de sufrir este brote.

Un equipo de investigadores que trabajan con el Hospital Infantil de Boston también ha desarrollado una IA para rastrear la propagación de coronavirus. Llamado HealthMap, el sistema integra datos de búsquedas en Google, medios sociales y blogs, así como foros de discusión: fuentes de información que los epidemiólogos no suelen utilizar, pero que son útiles para identificar los primeros signos de un brote y evaluar la respuesta del público.

Por su parte, el Centro Internacional de Investigación sobre Inteligencia Artificial (IRCAI) de Eslovenia, bajo los auspicios de la UNESCO, ha puesto en marcha una vigilancia "inteligente" de los medios de comunicación sobre el coronavirus denominada Corona Virus Media Watch, que proporciona actualizaciones de las noticias mundiales y nacionales basadas en una selección de medios de comunicación con información abierta en línea. El instrumento, desarrollado también con el apoyo de la OCDE y la tecnología de extracción de información del Event Registry, se presenta como una fuente de información útil para que los encargados de formular políticas, los medios de comunicación y el público observen las nuevas tendencias relacionadas con la COVID-19 en sus países y en todo el mundo.

En cuanto al **Diseño y Desarrollo** permite a través de modelos de aprendizaje automático, procesar datos genómicos, epidemiológicos y clínicos con una rapidez imposible para el análisis humano, lo que acelera la detección de antígenos con potencial inmunogénico. También permite el diseño *in silico* de nuevas moléculas, simulando cómo distintas combinaciones de proteínas y adyuvantes podrían inducir una respuesta inmune eficaz. Este enfoque evita experimentos innecesarios y facilita la selección temprana de las formulaciones con más posibilidades de éxito.

En la formulación, los algoritmos optimizan combinaciones de proteínas, adyuvantes y vectores de administración, incrementando la eficacia y reduciendo efectos adversos.

Optimización de formulaciones mediante aprendizaje automático

- Gracias al análisis de grandes volúmenes de datos, los algoritmos identifican patrones ocultos en la relación entre antígenos, adyuvantes y vectores de administración, lo que permite ajustar las combinaciones hacia aquellas con mayor potencial inmunogénico.
- Modelos con redes neuronales y árboles de decisión predicen estabilidad, eficacia y seguridad de formulaciones, reduciendo costos y ensayos innecesarios.
- Los algoritmos genéticos exploran miles de combinaciones en el diseño vacunal y generan soluciones que no surgen con métodos empíricos. En enfermedades como la tuberculosis o la gripe, este enfoque contribuye a ajustar dosis y aditivos con mayor rapidez, lo que acorta tiempos de investigación y acelera la llegada de vacunas más eficaces.

Un ejemplo relevante se encuentra en los estudios de vacunas terapéuticas contra el cáncer, donde la IA en el desarrollo de vacunas se ha utilizado para seleccionar neoantígenos tumorales y combinarlos con adyuvantes que maximicen la memoria inmunitaria.

La integración de aprendizaje automático en esta fase no sustituye la validación experimental, pero sí actúa como filtro inteligente que orienta la investigación hacia resultados más sólidos. De esta manera, se logra un proceso más eficiente, con menor riesgo y con una base científica reforzada por la capacidad predictiva de la Inteligencia Artificial.

Simulación de interacciones proteína-proteína

- Comprender cómo las proteínas virales se unen a receptores celulares o cómo los antígenos interactúan con moléculas del sistema inmunitario es esencial para diseñar inmunizaciones eficaces.
- Los algoritmos de aprendizaje profundo analizan estructuras 3D y predicen con precisión los puntos de unión más estables. Estas simulaciones reemplazan ensayos experimentales prolongados al ofrecer modelos que anticipan la viabilidad de una respuesta inmune protectora.

- Técnicas como la dinámica molecular simulan cómo cambian las proteínas en el tiempo, considerando factores como pH, temperatura y entorno celular. Así se detectan conformaciones transitorias clave para activar la respuesta inmune.
- La ventaja de este enfoque radica en la capacidad de reducir riesgos en fases tempranas. En lugar de ensayar decenas de formulaciones en laboratorio, los investigadores priorizan aquellas con mayor probabilidad de éxito, ahorrando recursos y tiempo. Al mismo tiempo, estas simulaciones permiten diseñar vacunas más estables y específicas, mejorando la eficacia en poblaciones diversas.

Herramientas como AlphaFold han demostrado que la IA puede predecir estructuras proteicas clave, acelerando el diseño de antígenos optimizados para vacunas contra virus respiratorios, coronavirus y patógenos emergentes.

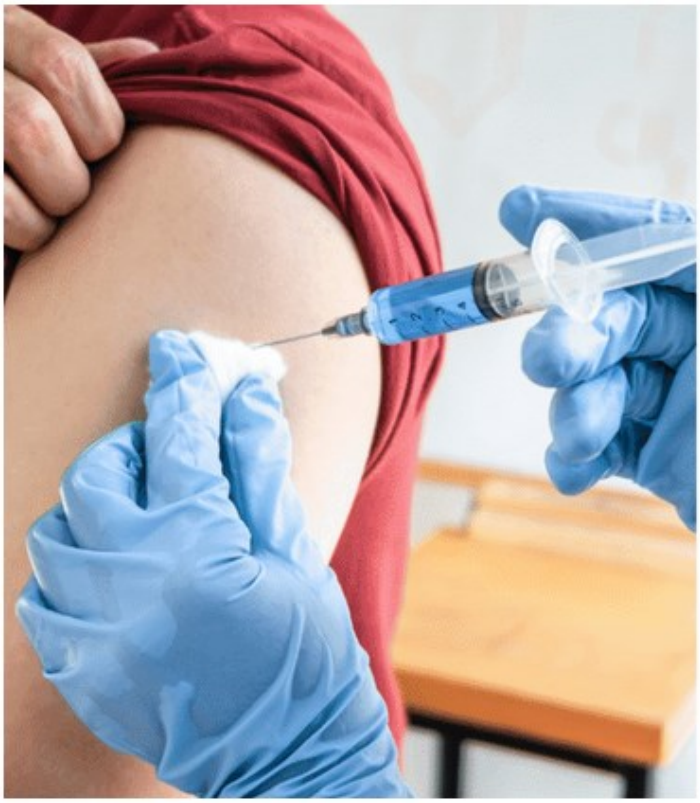
También, en la investigación frente al VIH, se han utilizado redes neuronales para identificar regiones del virus que se mantienen estables a pesar de su alta tasa de mutación. En el caso de la malaria, los modelos computacionales han permitido seleccionar antígenos con mayor capacidad de generar memoria inmunológica, reduciendo drásticamente el número de candidatos que pasan a fases preclínicas.

En definitiva, la simulación de interacciones proteína-proteína representa un puente entre la biología estructural y la inmunología computacional, marcando un camino más rápido y seguro hacia la creación de nuevas vacunas.

Estudios Preclínicos y Clínicos

Optimización del diseño de los ensayos

Los estudios preclínicos constituyen una fase decisiva en el desarrollo de vacunas, porque determinan si un candidato tiene la seguridad y la eficacia necesarias antes de pasar a los ensayos clínicos en humanos. La IA en el desarrollo de vacunas está transformando este proceso al permitir un análisis más profundo de datos moleculares, genómicos y toxicológicos que antes requerían años de trabajo experimental.



Los algoritmos de aprendizaje automático predicen la actividad biológica de nuevos compuestos y priorizan aquellos con mayor probabilidad de generar una respuesta inmune protectora. También ayudan a seleccionar los modelos animales o sistemas celulares más representativos, lo que evita ensayos redundantes y aumenta la relevancia traslacional de los resultados. Esto es especialmente importante en enfermedades como la malaria o el VIH, donde la complejidad del patógeno hace que la elección del modelo experimental sea crítica.

La identificación de biomarcadores anticipa reacciones adversas o respuestas insuficientes. Gracias al análisis de miles de parámetros, detecta toxicidad o ineficacia temprana y permite ajustar formulaciones antes de llegar a fases costosas. Por ejemplo, en estudios sobre vacunas contra la tuberculosis, los sistemas de IA han permitido reconocer patrones inmunológicos que predicen si un candidato inducirá memoria inmunitaria duradera.

En el caso de los estudios clínicos, mediante el entrenamiento de algoritmos de aprendizaje, los investigadores pueden realizar estas pruebas a una escala previamente inimaginable, incluso antes de administrar físicamente la vacuna experimental a los pacientes de prueba. Estos algoritmos se pueden usar para identificar y tomar muestras de anticuerpos para combatir enfermedades infecciosas con mejoras drásticas en velocidad y coste. El análisis avanzado y la visualización de datos de la respuesta humana a las posibles vacunas pueden utilizarse entonces para ayudar a realizar pruebas rápidas, lo que permite un análisis más complejo y reducir las tasas de error.

Selección de poblaciones y reclutamiento de participantes

La IA también se aplica en la selección de poblaciones representativas siendo este, uno de los desafíos más importantes de los ensayos clínicos en general. Mediante el uso de procesamiento de lenguaje natural, es posible extraer información relevante de los registros médicos electrónicos de los pacientes y así determinar su elegibilidad para un ensayo en específico.

La combinación de simulaciones inmunológicas, gemelos digitales humanos y modelos de respuesta en tiempo real apunta a un futuro donde: se reduzca la dependencia de pruebas animales, se optimicen los tiempos entre el diseño y la fase clínica y se generen vacunas personalizadas basadas en perfiles inmunológicos individuales. No obstante, aunque las contribuciones de la IA, son innegables, no eliminan la necesidad de fases de pruebas preclínicas y clínicas, ni sustituyen por completo a la experiencia humana.

Actualmente, estas estrategias ya están siendo aplicadas por instituciones como el NIH, la CEPI y centros de vacunología de sistemas en Europa y Asia. La FDA de Estados Unidos ha apoyado de manera explícita el uso de modelos computacionales para reemplazar parcialmente estudios en animales en el desarrollo de biológicos.

Fabricación y Distribución

Los algoritmos de aprendizaje profundo pueden optimizar los procesos de fabricación mediante la simulación de diversos escenarios de producción, como una réplica virtual de procesos, líneas de producción, fábricas y cadenas de suministro. Estos algoritmos analizan una multitud de factores, como la disponibilidad de materia prima, los plazos de producción y la capacidad de

almacenamiento en frío. Además, se pueden identificar ineficiencias y proponer mejoras, predecir rendimiento en tiempo real, cuellos de botella y ofrecer soluciones en tiempo real, lo que contribuye a mitigar posibles interrupciones en la cadena de suministro.

Incluso permite predecir la demanda de vacunas y ajustar la producción en consecuencia, evitando tanto escasez como excedentes. Esto es especialmente crucial en tiempos de pandemia, donde la demanda puede cambiar rápidamente y la capacidad de respuesta es vital.

Para lograr una mayor eficiencia en la cadena de suministro los fabricantes pueden aprovechar los datos granulares, combinando la IA y las tecnologías basadas en sensores. Esto ayuda a evitar los desajustes entre la demanda y la oferta en sus procesos de producción y minimiza el riesgo de que los productos se estropeen en la distribución.

El mantenimiento de la integridad de las vacunas termosensibles también depende de algoritmos de IA para impulsar sistemas de monitoreo en tiempo real. Estos monitorizan las condiciones de temperatura a lo largo de la cadena de suministro, lo que permite a los equipos logísticos ayudar a los distribuidores a cumplir con los estrictos requisitos de la cadena de frío para mantener la calidad de los biológicos.

Más allá del laboratorio: La IA en la salud pública

El rol de la IA no termina cuando la vacuna está lista. También es una herramienta clave en la salud pública:

Mejorar la cobertura: La IA resulta útil para analizar las estrategias de vacunación e implementar mejoras que ayuden a aumentar las coberturas de vacunación. Permite la explotación de una gran cantidad de datos para tomar decisiones, incorporar o ajustar medidas preventivas de salud pública. Tiene un gran potencial no solo a nivel individual, también de forma colectiva como estrategias de participación pública. Sistemas de IA conversacional (como LOLA en La Rioja, España) llaman a los ciudadanos para recordarles citas, responder dudas y aumentar la aceptación de las vacunas, especialmente en adultos.

Facilitar el trabajo sanitario: Los profesionales usan la IA para traducir y comparar calendarios de vacunación de diferentes países, generando material educativo y manejando información compleja de forma más eficiente. Facilita la asignación eficiente de los recursos sanitarios, así como reducir costos y racionalizar tareas administrativas.

Una tecnología transformadora: aplicaciones actuales

La IA no es una promesa futura; ya se aplica en proyectos reales:

Enfermedades complejas: Se utiliza para identificar antígenos en la investigación de vacunas contra la malaria, el VIH y la tuberculosis, filtrando millones de opciones.

Virus estacionales: Modelos predictivos analizan la evolución del virus de la gripe para anticipar las cepas dominantes cada año, mejorando la efectividad de la vacuna anual.

Respuesta a pandemias: Durante la COVID-19, algoritmos como *Linearfold de Baidu* predijeron la estructura del ARN del virus en segundos (frente a 55 minutos de métodos tradicionales), dando una ventaja crucial a los investigadores.

Finalmente, la integración de la IA en el desarrollo de vacunas se ha convertido en una fuerza transformadora que redefine los paradigmas tradicionales de la investigación y el despliegue de la inmunización, revelando su capacidad para acelerar la innovación en vacunas en todo su ciclo de vida, desde el descubrimiento inicial de antígenos hasta la aceptación pública y la preparación ante pandemias.

Fuentes:

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Campus Health Tech. ¿Cómo se utiliza la IA en el desarrollo de vacunas? Disponible en https://campushealthtech.com/blog/como-se-utiliza-la-ia-en-el-desarrollo-de-vacunas/

Public Health Latam (PHLATAM). La IA está transformando los modelos del desarrollo de vacunas e inmunoterapias. Disponible en https://phlatames.com/la-ia-esta-transformando-los-modelos-del-desarrollo-de-vacunas-e-inmunoterapias/22955

AI Talks. Cómo la IA puede aportar velocidad y precisión en el desarrollo de vacunas. Disponible en https://aitalks.es/como-la-ia-puede-aportar-velocidad-y-precision-en-el-desarrollo-de-vacunas/

Fundación Muy Interesante. El uso de la inteligencia artificial en la biofísica computacional. Disponible en https://www.fundacionmuyinteresante.org/inteligencia-artificial-biofisica-computacional.html

SALUD DIGITAL. El rol de la Inteligencia Artificial en los ensayos clínicos. Disponible en https://saluddigital.com/big-data/el-rol-de-la-inteligencia-artificial-en-los-ensayos-clinicos/

GAVI. Uso de IA del laboratorio a la inyección: ¿cómo nos ayudó la inteligencia artificial a desarrollar y administrar vacunas contra la COVID-19? Disponible en https://www-gavi-org.translate.goog/vaccineswork/using-ai-lab-jab-how-did-artificial-intelligence-help-us-develop-and-deliver-covid?_x_tr_sl=en&_x_tr_tl=es&_x_tr_hl=es&_x_tr_pto=tc

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Asociación Española de Vacunología. Inteligencia artificial al servicio de las vacunas: desde cotejar y traducir calendarios hasta diseñar estrategias para aumentar las coberturas de vacunación. Disponible en https://vacunas.org/inteligencia-artificial-al-servicio-de-las-vacunas-desde-cotejar-y-traducir-calendarios-hasta-disenar-estrategias-para-aumentar-las-coberturas-de-vacunacion/

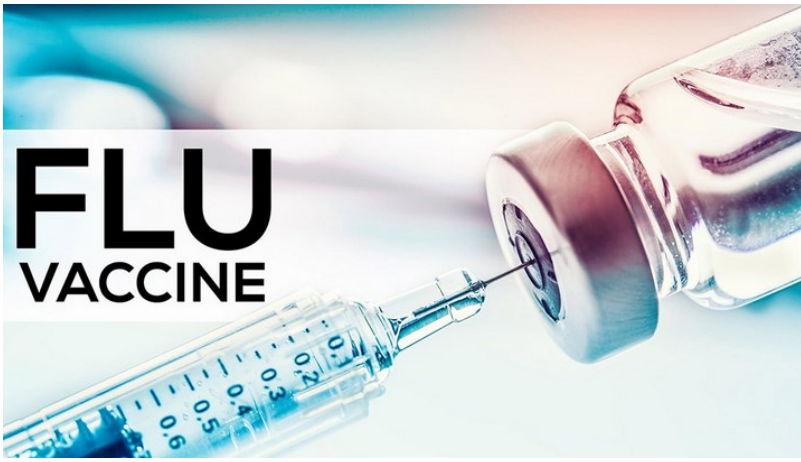
Comisión Europea. Inteligencia artificial en la asistencia sanitaria. Disponible en https://health.ec.europa.eu/ehealth-digital-health-and-care/artificial-intelligence-healthcare_es

Lapharcon. Inteligencia Artificial e Innovación en Vacunas: Acelerando el Futuro de la Inmunización. Disponible en https://lapharcon.com/inteligencia-artificial-e-innovacion-en-vacunas-acelerando-el-futuro-de-la-inmunizacion/

Noticias en la Web

mRNA flu vaccines are making their way through clinical trials

Nov 19. Flu vaccines that take a page from the COVID-19 vaccine platform are making progress in clinical trials.



In a phase 3 trial, Pfizer's mRNA flu vaccine outperformed a traditional vaccine, researchers report in the Nov. 20 New England Journal of Medicine. The trial compared the two vaccines during the 2022–2023 flu season, assessing whether the percentage of participants who got the flu at least 14 days after receiving a shot was lower for the mRNA vaccine. It was, by about 35 percent. This relative efficacy measure suggests that the mRNA vaccine prevented illness more often than the traditional vaccine that flu season.

More than 18,000 healthy adults ages 18 to 64 from the United States, South Africa and the Philippines participated in the trial. The mRNA vaccine targeted hemagglutinin, a protein that allows the influenza virus to enter cells, and included versions of the protein from four flu strains. A World Health Organization committee recommends which strains to cover for each flu season.

In June, Moderna announced phase 3 trial results for its mRNA flu shot in adults 50 and older. This vaccine had a relative efficacy of about 27 percent compared with a traditional flu vaccine. That trial included nearly 41,000 participants from 11 countries. People 65 and older are at higher risk of serious complications from the flu.

An mRNA flu vaccine could be a useful new tool against the influenza virus. The mRNA platform has a faster production turnaround, which should provide more time to figure out which strains to cover. Currently, the WHO's vaccine composition recommendation must come early enough to allow for the up to six months needed to produce traditional vaccines. If a late-breaking flu strain picks up steam, that season's vaccine won't be as good a match. This year, heading into the Northern Hemisphere's flu season, a variant that arose in the Southern Hemisphere's season is dominating flu samples in England and Japan, early data suggest. But the variant emerged too late to be recommended for the Northern Hemisphere's vaccine.

Fuente: Science News. Disponible en https://n9.cl/xxwp5

Serious pregnancy complications 'dramatically reduced' in HPV-vaccinated women

Nov 19. Pregnant women who were vaccinated against human papillomavirus (HPV) at school are less likely to experience serious pregnancy-related complications, according to University of Aberdeen research.

Incidences of pre-eclampsia, pre-term prelabor rupture of membranes (water breaking early) and antepartum hemorrhage (bleeding after 24 weeks) were significantly reduced in women who had been vaccinated against the virus.

This is the first study in the world to investigate the link between HPV vaccination and this broad range of adverse pregnancy outcomes. The paper is published in the European Journal of Obstetrics & Gynecology and Reproductive Biology.

The team of researchers from the University of Aberdeen examined data routinely collected from some 9,200 women in Aberdeen between 2006 and 2020. The data were collected as part of the Aberdeen Maternity and Neonatal Databank—a database of all pregnancies occurring in Aberdeen from 1950 onwards—a resource unique to Aberdeen and the longest running continuously recording database in the world.

The results showed a clear reduction in pre-eclampsia, pre-term prelabor rupture of membranes and antepartum hemorrhage in women who had been vaccinated against HPV.

Dr. Andrea Woolner, senior clinical lecturer at the University of Aberdeen and honorary consultant obstetrician and early pregnancy lead at NHS Grampian, led the research. Dr. Woolner states, "We know from previous research that if the pregnant mother had previously had HPV infection, or previously undergone treatment to the cervix for precancerous changes, they were at an increased risk of pregnancy complications such as preterm birth.

"So, we wanted to know if having the HPV vaccine, reducing the likelihood of HPV infection and thereby the need for cervical treatments would reduce the chances of some of these pregnancy complications.

"We found that women vaccinated against HPV had better outcomes than those who were not vaccinated for several common pregnancy complications.

"This reinforces the importance of uptake of the HPV vaccine before the age of 15 years. Not only does the HPV vaccine protect against cancer—we have found in our research, that the vaccine may also protect against serious pregnancy related complications."

The authors suggest that, as the HPV vaccination program has been gender neutral since 2019, future research should consider any potential benefits on male fertility outcomes.

Dr. Maggie Cruickshank, emeritus professor at the University of Aberdeen and consultant gynecologist at NHS Grampian adds, "Vaccinating boys alongside girls enhances herd immunity, significantly reducing the risk of HPV-related cancers in all genders and supporting healthier pregnancies in the future. These new findings also open the door to exploring additional benefits of the HPV vaccine for men."

Dr. Xiaoqian Xu, who collaborated on the study, says, "Our results highlight the benefits of HPV vaccination, and fundamentally, the benefits of the vaccination early.

"The HPV vaccine is most effective if administered before any sexual activity, so early HPV vaccination is vital. Delaying or catching up later may miss the best chance to protect both against cancer and pregnancy complications."

Fuente: MEDICAL XPRESS. Disponible en https://n9.cl/p16tgu

Quiénes son los infravacunados y por qué su existencia pone en jaque la salud de América Latina

22 nov. Crecen las cifras en la región y en el mundo de bolsones poblacionales que no reciben la totalidad o ninguna de las vacunas garantizadas - los llamados infravacunados- en sus territorios, para proteger su salud y evitar la reemergencia de enfermedades mortales, que ya estaban controladas como Sarampión, Polio, Tos convulsa o Coqueluche entre las principales.

Los infravacunados -la mayoría sin saberlo, ni quererlo- rompen y atentan contra un principio fundamental de la salud pública: la pérdida de la inmunidad colectiva.

Para argumentar el mayor descenso sostenido en la cobertura de vacunación infantil y adolescente de todos los tiempos, el alerta de las sociedades científicas de la región y el globo son fundamentales.

Con las paradojas del caso a cuestas: el mundo superó una pandemia global por efecto de la vacunación, y es alta la concientización general acerca de que las vacunas son el descubrimiento terapéutico junto al agua potable que salvaron más vidas en el último siglo, sin embargo el activo conceptual vacuna hoy está en crisis.

Las razones son multifactoriales: acceso, falta de confianza y desinformación, entre la trilogía más importante.

Pero el impacto más crítico de no vacunarse -con el aval que provee el consenso científico sobre la evidencia en eficacia y seguridad frente a las enfermedades de las vacunas- es la fragilidad inmunológica a la quedan expuestas las sociedades actuales y futuras por la reemergencia de males contagiosos, mortales e inmunoprevenibles que ya estaban controlados. Y reemergen.

Maridaje virtuoso y necesario: salud y derecho

Estas preguntas y otras fueron el núcleo del debate en la Jornada interdisciplinaria, “El derecho a la inmunización: desafíos sanitarios legales y comunicacionales en América Latina”, realizada en Buenos Aires el pasado martes 18 de noviembre, organizada por la Sociedad Latinoamericana de Vacunología (SLV) y el Observatorio de Derecho y Salud, de la Facultad de Derecho de la Universidad de Buenos Aires (UBA).

Allí un grupo de juristas, infectólogos, médicos y comunicadores debatieron acerca de los marcos normativos en inmunización en América Latina y el Caribe, el panorama comparado de leyes de vacunación. La interrelación entre salud, y sistema de justicia para abordar el descenso sostenido en la cobertura de vacunación infantil y adolescente en la región. Una jornada liderada por el compromiso e idoneidad científica del médico infectólogo argentino, Roberto Debbag, miembro de SLV y presidente de la Sociedad Latinoamericana de Infectología Pediátrica (SLIPE).

Hay una norma robusta sobre vacunación en la Argentina, que regula la inmunización en Argentina -la Ley 27.491, promulgada en 2018- que establece la obligatoriedad y gratuidad de las vacunas del Calendario Nacional de Vacunación, para todas las personas y para todo el país.

Esta Ley declara a la vacunación como un bien social, promueve el acceso equitativo a las vacunas y

establece responsabilidades para el cumplimiento de la inmunización, incluyendo la obligación para los padres de vacunar a sus hijos.

“Cuando una norma robusta en este caso en vacunas como la que ofrece la Argentina entra en crisis de cara a la sociedad -y no es un tema excluyente de la Argentina, sino del mundo entero- hay que bajar al territorio y ver que pasa allí. Este es el gran desafío hoy, porque la norma es sólida y tiene buen espíritu, pero no se aplica”, aportó el doctor Diego Mendy, profesor adjunto en Filosofía del Derecho de la Facultad de Derecho de la Universidad Nacional de Rosario (UNR)

El marco regulatorio en vacunas, lejos de la coerción

Para la doctora Marisa Aizemberg, directora académica del Observatorio de Salud, Facultad de Derecho (UBA), consultora docente e investigadora en temas vinculados al Derecho y la Salud, “para referirnos al derecho a la inmunización existen aún desafíos sanitarios, legales y comunicacionales en América Latina”.

Sostienen Aizemberg: “Es importante establecer los escenarios y los territorios en el que se inscriben estos conceptos y ver como dinamizarlos de manera transdisciplinar para lograr más eficacia en la mejora de las tasas de vacunación en donde se superponen distintos derechos: la embarazada, el del bebé recién nacido (RN), el de los niños, y otros”.

¿Por qué es importante establecer requisitos para que los niños se vacunen , lejos de la coerción de la obligatoriedad? “Para ponderar la idea potente que tienen a su alcance las sociedades actuales de prevenir enfermedades mortales a través de la vacunación, y alentar el concepto de inmunidad colectiva”, precisó la doctora Aizemberg.

Si se alcanza una tasa de vacunación del 95% el virus no persiste

Consultado por Infobae, sobre el estado actual de las inmunizaciones en América Latina, el doctor José Brea, presidente de la Sociedad Latinoamericana de Vacunología (SLV) aportó cifras actuales y contundentes: en 2024, los niños no vacunados a nivel mundial sumaron 14,3 millones; son los no recibieron ninguna vacuna. En las Américas, aproximadamente 1,2 millones de niños menores de un año siguen desprotegidos”, explicó Brea.

Todo se torna más aciago, cuando este mes de noviembre 2025, la Organización Panamericana de la Salud (OPS) instó a los países de las Américas a actuar tras su pérdida del estatus de región libre de sarampión.

Cifras indispensables

La Comisión de la OPS determinó que la transmisión endémica del sarampión se ha restablecido en Canadá, donde el virus ha circulado durante al menos 12 meses consecutivos. Como resultado, las Américas, que fue la primera región del mundo en eliminar el sarampión en dos ocasiones, ha perdido nuevamente su estatus de libre de sarampión.

Según el experto y presidente de la SLV, José Brea, "las enfermedades con potencial de brote en la actualidad son Sarampión, Difteria, Fiebre amarilla, Rubéola Tos ferina (tos convulsa, Pertussis), Influenza, Polio, Varicela, Meningococo y Dengue. Casi que en ese orden, la lista lamentablemente es larga.

Refuerza el infectólogo Roberto Debbag sobre el Sarampión, "el sarampión es altamente contagioso y una sola persona infectada puede transmitirlo hasta a 18 personas más. Puede además causar complicaciones graves como neumonía, encefalitis, ceguera y la muerte. Los brotes también alteran la vida cotidiana y generan una presión adicional sobre los sistemas de salud".

Valor de las inmunizaciones

Puntualizó Debbag a Infobae: "En los últimos 25 años, la vacuna contra el sarampión ha evitado más de 6 millones de muertes en las Américas, y se estima que ha prevenido alrededor de 15 millones de muertes en los últimos 50 años".

"No obstante, en 2024 la cobertura regional de la segunda dosis de la vacuna contra el sarampión, la rubéola y las paperas (SRP 2) fue, en promedio, del 79% -muy por debajo del 95% necesario para prevenir brotes", remató el doctor Brea.

Solo el 31% de los países alcanzó una cobertura de 95% o más para la primera dosis, y únicamente el 20% logró ese nivel para la segunda dosis.

La ausencia del riesgo

La Sociedad Argentina de Pediatría (SAP) fue contundente frente al tema: señalaron un escenario de fragilidad inmunológica colectiva. Y en su comunicado a la sociedad precisaron que las cifras actuales no solo comprometen la inmunidad individual, sino que ponen en riesgo la salud pública en su conjunto. Lo peor es que este cuadro favorece la reemergencia de enfermedades eliminadas como Hepatitis A, Polio, Tos convulsa y Sarampión, entre otras.

La prácticamente desaparición de enfermedades con resultados trágicos como la poliomielitis, la difteria y otras, ha hecho que una mayoría de la población nunca haya sufrido, convivido o tenido referencias directas de algún caso de estos males.

Esto ha conducido a la equivocada percepción de muchas personas y de nuevas generaciones de ausencia de riesgo y de la necesidad de continuar vacunando. Siguen los datos del doctor Brea que atesora la Sociedad Latinoamericana de Vacunología (SLV): "Entre los niños nacidos entre 1994 y 2023, las vacunaciones infantiles de rutina habrán prevenido aproximadamente 508 millones de casos de enfermedad; 32 millones de hospitalizaciones y 1.129.000 muertes.

Esto se traducirá en un ahorro directo de 540 mil millones de dólares y un ahorro social de 2,7 mil millones de dólares entre los diferentes eslabones del sistema de salud".

Con mirada de futuro y frente al panorama actual de la baja en las tasas de vacunación, la doctora Aizemberg precisó: " Las vacunas se inscriben en una Política pública de inmunización y contemplan dos derechos fundamentales: el Derecho a la Salud y los Derechos Humanos. Hay que decirlo, para la sociedad y la mirada jurídica del fenómeno existe una tensión, entre la autonomía de las personas y la salud pública".

Vacunas en el recién nacido, un derecho indisponible

Aizemberg y el médico infectólogo Debbag se refirieron específicamente al Recién Nacido (RN), donde el derecho a la inmunización -a esa protección vital de su salud - es un derecho indisponible. Porque no puede renunciarse; no puede cederse, no puede condicionarse. No puede ser objeto de acuerdos ni puede quedar librado a la voluntad de terceros. El criterio jurisprudencial debe comprender que es un deber jurídico".

"La inmunización materna y la del RN como derechos abarca las ideas de principios de beneficencia y no maleficencia, la equidad y acceso universal, la interpretación ampliada de los derechos fundamentales, el derecho del RN a la protección de su salud mediante inmunización materna, y el principio del interés superior del niño (hipervulnerabilidad)", sostuvo Debbag.

¿Por qué vacunar a las embarazadas?, disparó el médico infectólogo al auditorio, y explicó: "La madre tiene un alto riesgo de exposición a la enfermedad con mortalidad asociada.

"Toda infección representa un riesgo especial para la madre, el feto / bebé o RN con morbi mortalidades asociadas. Existen vacunas que los protegen, son seguras y reducen la morbimortalidad materna e infantil. En ese dueto irreemplazable entre madre-hijo hay 4 vacunas imprescindibles: Difteria – Tétamos – Pertussis; Influenza y COVID 19 para ambos, la embarazada y el RN; y la de VRS (Virus sincicial Respiratorio) solo para el RN", reforzó Debbag.

Aizemberg propone reconocer explícitamente la indisponibilidad del derecho del RN a la vacunación: "Hay que hacer un capítulo específico sobre inmunización materna y neonatal en las leyes de vacunación. Fortalecer los mecanismos de respuesta judicial. Identificar brechas normativas y actualizarlas, incorporando hallazgos en inmunización materna para traducirlos en propuestas regulatorias . Y pensar una estrategia jurídica contra la desinformación".

El sueño científico que con mucha emoción dejó el presidende de SLV doctor José Brea, para el cierre de la Jornada transdisciplinar en la imponente Facultad de Derecho de la UBA merece ser recordado: "Sueño con que en nuestra región, exista un tribunal local o internacional para defender a la población no vacunada, con capacidad de ordenar más vacunas y más acceso sobre todas las vacunas a lo largo de la vida".

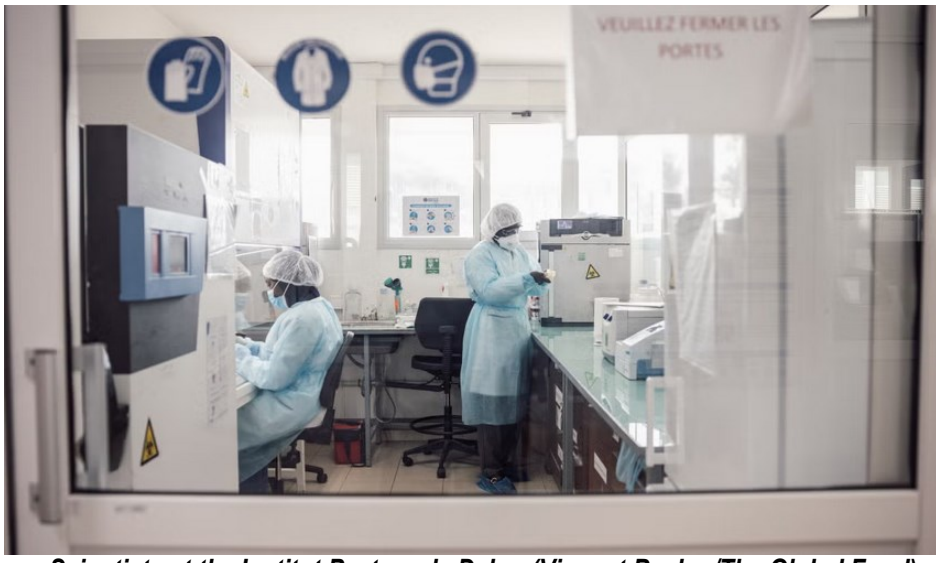
Fuente: infobae. Disponible en https://n9.cl/yl2bn

Inside the lab hunting for Disease X – and the next pandemic

Nov 24. t all starts with a fever. It's the first signal that an outbreak of disease could be moving silently through the population.

At a health centre in a busy area of the Senegalese capital, Dakar, no cases of dengue had been detected before 2023. In the following nine months, more than 200 cases were spotted. The illness had always been there – in homes and clinics, people were developing the warning signs of intense pain in the joints and bones that lend the mosquito-borne disease its nickname of "breakbone fever". But these cases were invisible until a surveillance site, set up by the Institut Pasteur de Dakar (IPD), brought them under the microscope.

Although it was founded almost 100 years ago and became known for medical testing and research, it is only in the past couple of years that the institute has grown to become the control room of a network of listening posts dotted across 11 West African countries, primed to spot clusters of disease before they spill out into uncontrollable outbreaks. It is trying to expand these efforts further across Africa, in the face of deep funding cuts from rich countries, as many shift their resources towards defence spending.



Scientists at the Institut Pasteur de Dakar (Vincent Becker/The Global Fund)

At the more than 40 surveillance sites making up this network, health workers take swabs from the nose or throat of any patient who comes in with a temperature higher than 37.5C.

Whether it's dengue, Ebola or more commonplace viruses like flu, they all share this symptom. "So the fever is the entry point," says Dr Boubacar Diallo, who leads the lab's outbreak response unit. Along with a host of other symptoms, it triggers an investigation which takes the patient's swab on a journey from their local clinic to Institut Pasteur's labs. There, millions or billions of copies of genetic material from the swab are made. This allows them to be studied to see if they match up with the genetic material of the virus suspected to be causing the infection.

The results go back to the clinics that are caring for the patients, and anything concerning is reported to the Ministry of Health. Pretty much every time, the sample will either be negative or test positive for a known virus. But the lab is also on the hunt for unfamiliar microbes that could alert them to what's known as Disease X – a new, currently unknown bug that could spark the next pandemic.

In Senegal, as in many countries in the region, disease outbreaks were for years a puzzle that could take months of an illness ripping through a community before the specific virus or bacteria was detected and action taken to stop its spread. The later it's spotted, the harder it is to contain, with countries then needing to wait for international organisations like the United Nations and big charities to fly in with help.

Now, with cuts to global aid thinning that help out, the institute is hoping its disease-tracking efforts can help the region spot pathogens and respond to them faster without relying on outside support.

Fuente: INDEPENDENT. Disponible en https://n9.cl/a5m5ic

Vax experts: Immunization can end deadly diseases

Nov 24. Vaccination saves lives and every Filipino deserves access to scientifically proven safe and effective vaccines in the fight against some of the world's deadliest diseases.

During a recent media roundtable of the 26th Philippine National Immunization Conference in Pampanga, pediatric infectious disease expert Dr. Josefina Carlos and Philippine Foundation for Vaccination (PFV) president Dr. Rose Capeding vouched for the proven safety and efficacy of vaccines.

"If we are able to save families [through vaccination], then everyone can be happy. If we don't get sick, then we are able to save. Immunization becomes an investment for our health," Carlos said.

Carrying the theme "Advancing Better Immunization for Every Filipino," the conference gathered some of the

country's top experts in infectious diseases, public health, and vaccinology for two days of learning with healthcare professionals.

The roundtable discussion "Novel Vaccine Advocacy and Public Health Priorities" included discussions on new vaccines for shingles and dengue.

PFV organized the event in partnership with Takeda Philippines, a company committed to advancing better health through innovative and science-based treatments.

Based on World Health Organization (WHO) data, vaccination saves an average of six lives every minute.

In the past 50 years, the WHO estimates that vaccination saved 154 million lives worldwide, most of them children.

In recent years, however, public trust in vaccination has been threatened by misinformation, particularly unverified or outright fake news found online.

On the brighter side, recent reports indicate that vaccine acceptance among Filipinos has been improving, with initial information showing the country is overcoming vaccine hesitancy. This is why the PFV has been active in its advocacy to provide accurate and science-backed information on vaccines and vaccine-preventable diseases.

"The Philippine Foundation for Vaccination is an advocacy group whose aim is for vaccination to become an essential part of protection for every Filipinos … in different stages of life -- infancy, childhood, adolescence, adulthood, and for the elderly. It's a life course [approach]," Capeding said.

PFV's advocacy covers not just families, but also the media and fellow doctors. The WHO recognizes the expertise of the group.

"PFV is a member of WHO's Vaccine Safety Net. Together with China, we are recognized by the WHO [providing] credible, science-based information regarding vaccination," Capeding said.

Awareness on shingles

The vaccine experts likewise issued a warning on the burden of shingles or herpes zoster, a viral infection caused by the varicella zoster virus (VZV), which also causes chickenpox.

More than 90 percent of adults 50 years and older are VZV carriers. The risk of developing shingles increases as they get older, if they are immunocompromised, or if they have a history of chickenpox.

Patients with shingles experience skin sensitivity, tingling, itching or pain, followed by skin rashes that turn into blisters. Some patients experience long-term, debilitating nerve pain.

Shingles vaccination, which is already available in the Philippines, has been shown effective against shingles and its complications, including long-term nerve pain.

Dengue cases

The doctors also addressed media questions on dengue and the importance of vaccination in integrated disease control and prevention.

The Philippines is one of the countries in the world where dengue is endemic. DOH surveillance data from January to Sept. 20 recorded 234,855 cases, with 912 deaths.

The Department of Health (DOH) recorded a decrease in dengue cases for the period Oct. 12 to 25, but emphasized the need for heightened vigilance as the country recovers from recent floodings.

The DOH said 14,038 dengue cases were logged from Oct. 12 to 25, an eight-percent decrease from the 15,182 cases logged Sept. 28 to Oct. 11.

Of the newer vaccines, Takeda's dengue vaccine, TAK-003, has demonstrated protection against all four serotypes of dengue.

Based on TAK-003's safety and efficacy data, the WHO has included it on its list of prequalified vaccines, recommending it for specific age groups living in areas where there is a high dengue burden.

It is also the first approved dengue vaccine in the European Union for individuals regardless of previous dengue exposure. Since 2022, it has been approved in 41 countries and 20 million doses have been distributed in 11 endemic countries as of September 2025.

The pivotal Phase 3 Tetravalent Immunization against Dengue Efficacy Study (TIDES) trial, which recently released TAK-003 data covering seven years, reinforced the vaccine's long-term safety profile and confirmed that the two-dose regimen provides sustained protection against dengue.

The Philippines is one of the dengue-endemic countries participating in the TIDES trial. TAK-003 is currently under review by the Food and Drug Administration.

"We should be prepared for the next pandemic. What could be the next pandemic? It could be dengue," PFV executive director Dr. Lulu Bravo, who joined online, said.

She said dengue is more prevalent globally.

"It used to be only in tropical countries like the Philippines. But now, more than 130 countries are affected by dengue," she said.

The PFV and its allies assure the public that they will continue to work to provide science and evidence-based, accurate information on vaccines, to inspire vaccine confidence and contribute to public health improvements.

"The Philippine Foundation for Vaccination is calling for action for everyone, including [the] media, to become vaccine warriors. Let us all work together to become vaccine champions," Bravo said.

Fuente: Philippine News Agency. Disponible en https://n9.cl/xvew8

The first national vaccine against dengue fever has been approved by Anvisa and will be offered by the SUS (Brazilian public health system)

Nov 27. The Ministry of Health will include the vaccine in the national vaccination schedule, and it will be offered exclusively through the Unified Health System (SUS). The expectation is to expand access to the vaccine in 2026.

The Brazilian National Health Surveillance Agency (Anvisa) has issued a favorable opinion on the safety and efficacy of the dengue vaccine produced by the Butantan Institute. It will be the first 100% Brazilian-made vaccine to combat the disease. The commitment agreement signed this Wednesday, November 26th, is the final stage of a long period of research and investment that had the support of the National Bank for Economic and Social Development (BNDES).

With the completion of this stage, the Ministry of Health will include the vaccine in the national immunization schedule for exclusive distribution through the Unified Health System (SUS). The expectation is to guarantee the supply and expand access to the vaccine in 2026, according to the laboratory's production capacity.

Next week, the Ministry of Health will take the topic to a committee of experts and SUS (Brazilian Public Health System) managers to define the vaccination strategy and the target groups that should be prioritized based on the study results. “The big news now is that we have a 100% national vaccine that will allow us to define a nationwide strategy to protect our population.

This vaccine was developed by the Butantan Institute through a partnership arranged by the Ministry of Health with the Chinese company WuXi, which is fundamental to expanding production capacity. Butantan alone would not have the scale to deliver large quantities, but the partnership makes this possible, allowing the vaccine to be integrated into the National Immunization Program as early as next year,” stated Health Minister Alexandre Padilha.

Fuente: First Word Pharma. Disponible en https://n9.cl/busd8z

Madrid destinará 86,4 millones de euros a vacunas contra neumococo y zóster

29 nov. El Consejo de Gobierno de la Comunidad de Madrid ha aprobado la adquisición de 790.000 dosis de vacunas para reforzar la protección frente al herpes zóster y las patologías causadas por el neumococo. Una actuación que cuenta con una inversión total de 86,4 millones de euros para los años 2026 y 2027. Del total, 80 millones de euros se destinarán a la compra de 640.000 viales para hacer frente al herpes zóster, indicadas para mayores de entre 65 y 80 años y para determinados grupos de riesgo. Este fármaco preventivo, incorporado al Calendario de Vacunación para toda la vida desde 2022, previene una enfermedad cuya incidencia aumenta a partir de los 50 años y que puede derivar en complicaciones graves, como la neuralgia posherpética.

Refuerzo de la lucha contra el neumococo

Asimismo, el segundo contrato aprobado por el Consejo de Gobierno permitirá a la sanidad pública madrileña disponer el año próximo de 150.000 dosis de vacuna neumocócica conjugada quincevalente. Para ello, el Gobierno autonómico programará un importe de 6,4 millones de euros.

Con este suministro se aspira a cubrir al cien por cien de los menores para quienes está indicada esta inoculación, especialmente los niños de un año, que reciben pautas a los dos, cuatro y 11 meses, y aquellos de hasta 18 años que no tengan completado el calendario vacunal. Y es que este grupo de la población se encuentra entre los más afectados por las afecciones derivadas del neumococo.

La inmunización frente a esta bacteria es la forma más efectiva de prevenir un elevado número de patologías y sus posibles complicaciones y ha conseguido disminuir de manera significativa la resistencia a los antibióticos que se utilizan cuando hay que tratar determinadas enfermedades.

Fuente: REDACCIÓN MÉDICA. Disponible en https://n9.cl/rgtwm

Safe, Effective DTaP Vaccine for 6-Year-Olds

Nov 29. In a groundbreaking advancement in pediatric immunology, researchers have unveiled promising findings on the immunogenicity and safety profile of a co-purified diphtheria, tetanus, and acellular pertussis (DTaP) vaccine specifically formulated for 6-year-old Chinese children. This study, recently published in Nature Communications, marks a significant milestone in vaccine development, addressing both efficacy and safety concerns in a critical age group. The implications of this research extend beyond China, potentially influencing global vaccination strategies for these historically challenging bacterial infections.

The co-purified DTaP vaccine evaluated in this study combines antigens derived through a meticulous purification process aimed at enhancing immune recognition while minimizing adverse reactions. Unlike traditional whole-cell pertussis vaccines that often come with higher reactogenicity, acellular formulations focus on select purified components of the Bordetella pertussis bacterium, thereby reducing side effects. The co-purification process employed here represents a refined technique that not only maintains the antigenic integrity of diphtheria toxoid, tetanus toxoid, and pertussis antigens but also standardizes the vaccine formulation to ensure batch-to-batch consistency.

Central to the research was a cohort of healthy 6-year-old children residing in diverse regions across China, selected to reflect the immunological landscape of this demographic. Immunogenicity was assessed by measuring seroconversion rates and antibody titers against diphtheria, tetanus, and pertussis components following a booster dose administration. The study utilized advanced immunoassays including enzyme-linked immunosorbent assays (ELISA) to quantify IgG antibodies and evaluated functional antibody responses using neutralization tests and pertussis toxin-specific assays. The robust immune responses elicited demonstrate that the co-purified vaccine effectively primes the immune system, sustaining protection through early school ages when children are at heightened risk of pertussis outbreaks.

Safety assessment was conducted in parallel, with stringent monitoring of adverse events categorized by severity and relatedness to vaccination. Participants were observed for immediate hypersensitivity reactions post-inoculation, as well as solicited local reactions such as pain, redness, and swelling at the injection site. Systemic reactions including fever, malaise, and fatigue were recorded, with findings indicating an excellent safety profile.

Notably, the incidence of severe adverse events was minimal and comparable to placebo controls, underscoring the tolerability of the vaccine in the pediatric population. These findings are particularly relevant given historical concerns regarding reactogenicity of pertussis vaccines in young children.

The study further incorporated analysis of potential immunological interference when the three antigens are combined in a single formulation. By dissecting the immune response to each component individually and in the combined vaccine, researchers confirmed that the co-purified DTaP does not compromise the immunogenicity of any constituent antigen. This aspect is crucial for ensuring comprehensive protection, as waning immunity against tetanus or diphtheria could have serious clinical consequences. The synergistic effect observed suggests that the co-purified formulation may actually enhance the overall immune response relative to monovalent vaccines.

From a public health perspective, the introduction of a co-purified DTaP vaccine tailored for six-year-olds addresses a significant immunization gap. While primary series vaccinations are routinely administered in infancy, the durability of immunity against pertussis diminishes over time, necessitating booster doses during early childhood to curb transmission. China's populous pediatric cohort represents a pivotal demographic for controlling pertussis infection cycles, which remain a persistent cause of morbidity globally. The results of this study suggest that widespread implementation of this vaccine could substantially reduce pertussis incidence, while reinforcing defenses against diphtheria and tetanus.

Technological innovations underpinning this vaccine development extend beyond immunology into bioprocessing refinement. The co-purification method employs chromatography-based techniques that selectively isolate antigenic components while removing impurities and residual toxins. This process improves the stability and shelf-life of the vaccine, an important characteristic for distribution in regions with limited cold chain infrastructure. Moreover, the antigen concentrations are precisely calibrated, optimizing the balance between efficacy and safety, an advancement that could set new manufacturing standards.

Immunologists have also highlighted the potential for this co-purified vaccine formulation to potentiate memory B and T cell responses, a key factor in long-term immunity. Preliminary data on T-cell cytokine profiles indicate a favorable Th1/Th2 balance, which is associated with durable protection and reduced risk of immunopathology. Furthermore, the absence of significant reactogenicity suggests that the vaccine could be integrated into existing childhood immunization schedules without substantial burden on healthcare systems or caregivers.

In addition to immediate immunological endpoints, the study explored the molecular signatures associated with vaccine-induced immunity using systems biology approaches. Transcriptomic analyses from peripheral blood mononuclear cells post-vaccination revealed activation of pathways involved in antigen presentation and adaptive immunity. This holistic view provides insights into the vaccine's mode of action at the cellular and genetic levels, advancing our understanding of host-pathogen interactions and vaccine responses.

The potential global impact of these findings cannot be overstated, as pertussis continues to cause outbreaks even in countries with high vaccination coverage. The use of acellular pertussis vaccines has been under scrutiny due to waning immunity; thus, innovations such as this co-purified vaccine offer hope for more sustained protection. Tailoring vaccine formulations and booster strategies to address age-specific immunological needs could reshape the vaccination paradigms worldwide.

Public health agencies and policymakers may soon consider adopting co-purified DTaP vaccines as part of national immunization programs, especially in regions with high pertussis prevalence. The study's comprehensive safety and immunogenicity profile supports regulatory approval and large-scale

manufacturing, pending further phase III trials and post-marketing surveillance. This advancement aligns with the World Health Organization's goals of enhancing vaccine coverage and preventing vaccine-preventable diseases in children.

Beyond clinical implications, the research highlights the importance of continuous innovation in vaccine development using state-of-the-art purification methods and immunological assays. It exemplifies a multidisciplinary approach combining microbiology, immunology, bioprocess engineering, and clinical evaluation. This integrative methodology is crucial to overcoming challenges posed by evolving pathogens and changing population immunity dynamics.

In conclusion, the co-purified diphtheria, tetanus, and acellular pertussis vaccine evaluated in Chinese 6-year -olds represents a notable leap forward in pediatric immunization. By achieving a superior balance of immunogenicity and safety, this vaccine has the potential to redefine booster immunization strategies globally. Continued surveillance, expanded clinical trials, and exploration of regional immunization practices will determine its ultimate role in controlling poxvirus-associated morbidity and mortality in children.

As the world navigates complex vaccination logistics amid emerging infectious threats, innovations such as this are vital. They embody a future where vaccines are not only effective but also safer and more acceptable to populations, paving the way for improved public trust and higher vaccination uptake. The co-purified DTaP vaccine is poised to become a cornerstone in the fight against diphtheria, tetanus, and pertussis, offering renewed hope for healthier generations to come.

Fuente: Bioengineer. Disponible en https://n9.cl/mmw62

Las ocho compañías que suministrarán las vacunas del acuerdo marco impulsado por el Ministerio de Sanidad

30 nov. Ya se han definido los laboratorios que forman parte del nuevo acuerdo marco de vacunas del Ministerio de Sanidad, que supone una inversión de 1.693 millones de euros. Tras la apertura de la documentación administrativa y la oferta económica del concurso, la Junta de Contratación ha confirmado la admisión provisional de ocho compañías farmacéuticas, que se disputarán los 25 lotes previstos para el suministro estatal de vacunas y productos inmunizantes. La imagen final, publicada en el acta oficial, revela un escenario de amplia competencia entre multinacionales con presencia consolidada en el mercado internacional.

En esta convocatoria concurren Bavarian Nordic, Bavarian Nordic Spain SLU, GlaxoSmithKline (GSK), Medicare Pharma, Merck Sharp & Dohme (MSD), Pfizer SLU, Sanofi Aventis, S.A. y Takeda Farmacéutica España S.A. Cada una de ellas se ha posicionado estratégicamente en los lotes que mejor encajan con su cartera de productos, configurando un mosaico muy diverso de ofertas.

GSK, la compañía más expansiva

Entre las ocho empresas participantes, GlaxoSmithKline destaca por su despliegue: presenta oferta para 14 de los 25 lotes (1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 16, 18 y 23).

Su propuesta incluye vacunas hexavalentes, combinadas para DTPa, hepatitis A y B, triple vírica, varicela, meningococo B, rotavirus y herpes zóster.

En la oferta económica, GSK combina precios que igualan los máximos permitidos con otros significativamente más bajos. Entre los importes más destacados figuran:

* Lote 1 (hexavalente): 29,95 €
* Lote 2 (DTPa + polio): 23,71 € (por debajo del máximo)
* Lote 3 (Hib): 8,09 €
* Lote 4 (dTpa): 13,87 €
* Lote 8 (hepatitis B adyuvada): 91,08 €
* Lote 16 (meningococo B): 62,90 €
* Lote 23 (herpes zóster): 120,25 €

La empresa se posiciona claramente como la candidata con mayor poder competitivo, tanto por volumen como por flexibilidad en los precios.

MSD y Pfizer

Merck Sharp & Dohme (MSD) participa en seis lotes (1, 11, 12, 13, 17 y 18) con un enfoque centrado en vacunas víricas y combinadas. Sus precios se mantienen completamente dentro de los valores máximos fijados en los pliegos:

* Hexavalente (lote 1): 29,95 €
* Triple vírica (lote 11): 10,80 €
* Varicela (lote 12): 29,07 €
* Tetravalente SRPV (lote 13): 49,50 €
* VPH nonavalente (lote 17): 90 €
* Rotavirus (lote 18): 118,20 €

Por su parte, Pfizer SLU centra su participación en tres lotes vinculados al meningococo (14, 15 y 16):

* Meningococo C (lote 14): 17 €
* Meningococo ACWY (lote 15): 35 €
* Meningococo B (lote 16): 68 €

Sanofi Aventis

Sanofi Aventis, S.A. presenta ofertas para siete lotes (1, 2, 4, 5, 10, 15 y 24). Incluye vacunas esenciales como la hepatitis A, la dT, vacunas combinadas y el anticuerpo monoclonal frente al virus respiratorio sincitial (VRS).

Sus precios más destacados son:

* Hexavalente (lote 1): 29,95 €
* DTPa + polio (lote 2): 18,95 €
* dTpa (lote 4): 14,95 €
* dT (lote 5): 5,59 €
* Hepatitis A adultos (lote 10): 29 €
* Meningococo ACWY (lote 15): 35 €
* Anticuerpo monoclonal VRS (lote 24): 209 € (el importe más elevado de todos los lotes)

Sanofi combina precios ajustados con productos de alto valor añadido, como el del lote 24, destinado a bebés y población vulnerable.

Bavarian Nordic

La compañía danesa entra en la licitación por partida doble:

* Bavarian Nordic A/S licita el lote 20 (rabia).
* Bavarian Nordic Spain SLU participa en los lotes 19 (fiebre tifoidea) y 22 (cólera).

Sus ofertas reproducen exactamente los precios máximos marcados por Sanidad:

* Rabia: 44,08 €
* Fiebre tifoidea oral: 17,27 €
* Cólera: 31,64 €

Su candidatura es muy técnica y centrada en vacunas de uso internacional y profilaxis de viajes.

Takeda y Medicare Pharma

Takeda Farmacéutica España S.A. se presenta únicamente al lote 25 (dengue), con una oferta de 80,43 €, alineada con el precio máximo permitido.

Medicare Pharma, por su parte, concurre solo al lote 5 (dT) con un precio de 5,20 €, el más bajo entre todas las propuestas para ese lote.

Un lote desierto

El único lote que no ha recibido ninguna propuesta es el lote 21, destinado a la vacuna frente a la encefalitis japonesa, lo que obligará al Ministerio a decidir si vuelve a licitarlo por separado o si recurre a compras específicas fuera del acuerdo marco.

La Junta de Contratación ha admitido provisionalmente las ocho candidaturas, pero su continuidad depende de la verificación técnica de toda la documentación aportada. Solo entonces podrán pasar a la fase final de valoración económica y optar a convertirse en suministradoras oficiales.

A la espera del informe técnico

Con estas ocho compañías, el Ministerio de Sanidad configura uno de los mapas de competencia más amplios de los últimos años. La oferta cubre prácticamente todo el espectro vacunal: desde combinadas infantiles y vacunas de calendario hasta inmunizaciones frente a enfermedades importadas y anticuerpos monoclonales.

Ahora, la decisión final queda en manos del informe técnico y la valoración económica definitiva, que determinarán qué laboratorios garantizarán el suministro de vacunas en España durante el próximo ciclo.

Fuente: EL GLOBAL FARMA. Disponible en https://n9.cl/tjiyc

Estas son las 91 vacunas en desarrollo por la industria farmacéutica europea

1 dic. La industria farmacéutica europea trabaja en el desarrollo de 91 vacunas, que incluyen 86 vacunas profilácticas, dos terapéuticas y tres anticuerpos monoclonales (mAbs) profilácticos, todos dirigidos a agentes infecciosos. Así lo recoge Vaccines Europe en la cuarta edición de su revisión anual del Pipeline. Otro de los datos interesantes es el 41% de los candidatos están dirigidos a patógenos o enfermedades para los cuales no se han registrado vacunas ni anticuerpos monoclonales profilácticos, como el acné, la enfermedad de Lyme, la infección por el virus de Epstein-Barr (EBV) y el VIH.

Asimismo, los candidatos se desarrollan utilizando 12 tecnologías de inmunización distintas, como ARNm, vacunas basadas en proteínas, vacunas glicoconjugadas y otras; 46 candidatos para inmunización rutinaria, incluyendo virus del papiloma humano (VPH), sarampión, paperas, rubéola, varicela (vacuna combinada MMRV), enfermedades meningocócicas y otras; 68 candidatos dirigidos a infecciones transmitidas por vía respiratoria, incluyendo coronavirus, gripe, virus respiratorio sincitial (VRS), enfermedad neumocócica y otras; 17 candidatos dirigidos a 8 bacterias asociadas con una resistencia significativa a los antibióticos, siete de las cuales están en la lista de Patógenos Bacterianos Prioritarios de la Organización Mundial de la Salud: E. coli, P. aeruginosa, Salmonella spp., Shigella spp., S. aureus, Estreptococo del Grupo B y S. pneumoniae; y finalmente, 31 candidatos para infecciones originadas en animales, incluyendo fiebre dengue, enfermedad de Lyme, virus Nipah, fiebre amarilla y otras.

De este modo, el documento señala que los objetivos más frecuentes de los candidatos fueron la gripe estacional, con 13 candidatos, seguida de la gripe pandémica y la enfermedad neumocócica, con ocho candidatos cada una. Le siguen COVID-19 (SARS-CoV-2) con siete candidatos y el virus respiratorio sincitial (VRS) con seis candidatos. Además de estos, varios candidatos están diseñados para dirigirse a combinaciones de estos virus. Por ejemplo, hay seis candidatos que combinan COVID-19 y gripe estacional.

Por otro lado, la revisión señala que todas las fases del desarrollo clínico están bien representadas en los pipelines de los miembros de Vaccines Europe. A finales de agosto de 2025, había 17 candidatos en ensayos clínicos de Fase III, 42 candidatos en Fase II, 26 candidatos en Fase I y 6 candidatos bajo revisión regulatoria.

Mejora de las ya existentes

Asimismo, el informe señala que la innovación en inmunización no se limita al desarrollo de vacunas o anticuerpos monoclonales completamente nuevos, sino que también incluye la mejora de intervenciones existentes que han servido al público durante años, así como el desarrollo de nuevas estrategias para combatir las enfermedades de manera más efectiva. En este punto, el 59% de los candidatos tiene como objetivo abordar áreas de enfermedad para las cuales ya existen productos licenciados, mediante varias estrategias.

Entre ellas se incluyen mejorar las formulaciones para aumentar la comodidad tanto para los profesionales de la salud como para los pacientes; expandir el uso de una vacuna o mAb profiláctico a nuevas poblaciones; incluir más cepas objetivo en una vacuna; y desarrollar vacunas combinadas, lo que podría reducir el número de inyecciones, adaptarse mejor a los calendarios nacionales de vacunación e incrementar la tasa de cobertura de la vacuna. Además, algunos candidatos utilizan un enfoque completamente nuevo para abordar una enfermedad, como emplear una tecnología diferente o dirigirse a una parte distinta del antígeno.

Sibilia Quilici, directora ejecutiva de Vaccines Europe, expresa que "a medida que la investigación y el desarrollo en inmunización avanzan, Europa tiene una oportunidad única para liderar». Por tanto, considera que «invirtiendo de manera audaz, adoptando la inmunización a lo largo de toda la vida y estableciendo el estándar global de excelencia regulatoria, Europa puede ofrecer una protección más rápida y amplia a las personas, además de fortalecer su papel como líder mundial en vacunas e innovación en ciencias de la vida».

16 compañías

La revisión del pipeline de las compañías miembro de Vaccines Europe, —lanzada por primera vez en 2022— representa un avance importante en el seguimiento de la evolución de la innovación en vacunas. Ahora en su cuarta edición, el informe proporciona datos actualizados recopilados hasta finales de agosto de 2025 entre las 16 compañías miembro de Vaccines Europe (Abbott, AstraZeneca, Bilthoven Biologicals, CSL Seqirus, CureVac, GSK, HIPRA, Johnson & Johnson, Moderna, MSD, Novavax, Pfizer, Sanofi, Takeda, Valneva y Vaxcyte).

Fuente: EL GLOBAL FARMA. Disponible en https://n9.cl/hle6me

BARDA Seeks Next-Generation Vaccine Platforms to Accelerate National Preparedness

Dec 3. The Biomedical Advanced Research and Development Authority (BARDA), part of the Administration for Strategic Preparedness and Response (ASPR) within the U.S. Department of Health and Human Services (HHS), has released a new Request for Information (RFI) focused on "New Vaccine Platforms." This solicitation seeks to better understand the current landscape of vaccine platform technologies capable of delivering broad protection and accelerated development timelines. BARDA aims to identify platform approaches that can be adapted rapidly for a wide range of infectious disease threats, strengthening national readiness while ensuring safety, reliability, and manufacturing scalability.

RFI Overview

In this RFI, BARDA, through the Rapid Response Partnership Vehicle (RRPV), is gathering feedback from industry, academia, and research organizations on vaccine platform technologies that are well characterized, broadly applicable, and already demonstrated within licensed vaccines or candidates with active Investigational New Drug (IND) applications. These platforms should enable swift and standardized development across multiple vaccine candidates by leveraging common

expression systems, manufacturing processes, and formulation or adjuvant technologies. BARDA emphasizes that the technologies of interest must support rapid deployment, have established safety profiles, and demonstrate the potential for adaptation to newly emerging pathogens.

The platform technologies of interest include expression systems, manufacturing platforms, and formulation or adjuvant systems.

The solicitation specifically excludes nucleic acid based vaccine platforms and delivery device only innovations. Respondents are invited to engage deeply with topics such as expression system design, demonstrated drug substance (DS) and final drug product (FDP) manufacturing capabilities, nonclinical and clinical data, and regulatory history for platform components.

Program Goals and Requirements

The RFI outlines BARDA's desire to understand the technical capabilities of platform technologies and the maturity of those technologies. As part of their response, organizations must characterize projected timelines from antigen sequence to deployment, including anticipated IND submissions and initiation of clinical trials. BARDA is particularly interested in technologies with demonstrated manufacturing scale, yield, throughput, and timelines for DS and FDP production. Respondents must also describe the extent to which assays and testing methodologies can be applied across multiple candidates with minimal modification. This attribute is essential for any true vaccine platform.

Additionally, BARDA seeks comprehensive nonclinical and clinical data demonstrating safety, immunogenicity, and efficacy. Organizations should summarize FDA feedback on platform elements and highlight the use of regulatory programs such as Fast Track, Breakthrough Therapy, rolling reviews, or accelerated approval. Responses must clearly differentiate between demonstrated capabilities and projected performance based on anticipated process improvements.

Key Dates for Respondents

BARDA identifies one critical deadline for organizations interested in contributing to this RFI:

- January 9, 2026 at 1:00 PM EST: Responses are due to rrpv@ati.org. Late submissions will not be reviewed. This submission must include a cover page with administrative and organizational information and a technical response following the specified format that includes an Executive Summary, Organizational Overview, Platform Technology description, Platform Manufacturing details, a Nonclinical and Clinical Summary, and a Platform Regulatory Feedback section.

Funding Expectations

Because this is a Request for Information, BARDA does not announce funding levels, expected award numbers, or a period of performance. Instead, the RFI serves as critical market research that may inform future solicitations released through the Rapid Response Partnership Vehicle (RRPV). Only organizations that are RRPV members will be eligible to respond to any subsequent Requests for Project Proposals (RPPs). Respondents do not need to be RRPV members to participate in this RFI.

Advancing Human Health Through Rapid and Adaptable Vaccine Technologies

BARDA's focus on innovative and adaptable vaccine platform technologies underscores a national commitment to strengthening biodefense and pandemic preparedness. By identifying platform approaches

that can accelerate vaccine development timelines while maintaining robust safety and efficacy, this initiative supports the rapid deployment of countermeasures in response to emerging infectious threats. The insights gained from this RFI will help BARDA shape technologies that can protect global public health when rapid response is essential.

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Patentes registradas en Patentscope

Estrategia de búqueda: (Vaccine) AND DP:([18.11.2025 TO 30.11.2025]) *as the publication date 58 records.*

1.12475977HEALTH SAFETY SYSTEM, SERVICE, AND METHOD

US - 18.11.2025

Clasificación Internacional G16H 10/40Nº de solicitud 17744786Solicitante TensorX, Inc.Inventor/a N. Edward White

A vaccine system implementing a secure vaccine service to provide vaccine accounts for users, includes a display and user interface component providing user access to the vaccine service; a communications component providing third-party access to the vaccine service; a processor; and a non-transitory, computer readable storage medium having encoded thereon, machine instructions for operating the vaccine service. The processor executes the machine instructions to establish a secure vaccine account for the user, receive a vaccine transaction on behalf of the user, the vaccine transaction including a vaccine data package. The vaccine data package includes certified data for one or more vaccines administered to the user, the vaccine transaction provided by a medical facility administering the vaccines. The processor assigns a hash to the received vaccine transaction, and stores the hash and the vaccine data package in a block in a distributed ledger-architected database.

2.4649958DREIFACH-MRNA-IMPFSTOFF ZUR VORBEUGUNG VON RHINOTRACHEITIS, KATZENCALICIVIRUSERKRANKUNGEN UND KATZENPANLEUKOPENIE SOWIE HERSTELLUNGSVERFAHREN DAFÜR

EP - 19.11.2025

Clasificación Internacional A61K 39/295Nº de solicitud 24741164Solicitante UNIV ZHEJIANGInventor/a TANG JIANBIN

The present invention discloses a triple mRNA vaccine for feline rhinotracheitis, feline caliciviral disease, and feline panleukopenia, and a preparation method thereof. The triple mRNA vaccine is prepared by combining an mRNA expressing a feline herpesvirus gB protein, an mRNA expressing a feline herpesvirus gD protein, an mRNA expressing a feline calicivirus VP1 protein, and an mRNA expressing a feline parvovirus VP2 protein with a liposome encapsulation protocol, followed by mixing to prepare the mRNA vaccine. In addition, the vaccine is applied for prophylactic immunization against the feline rhinotracheitis, the feline caliciviral disease, and the feline panleukopenia. The resulting triple mRNA vaccine can effectively activate a specific antibody, and simplifies a vaccination procedure, and can achieve a goal of simultaneously preventing and controlling the feline rhinotracheitis, the feline caliciviral disease, and the feline panleukopenia through a single immunization.

3.20250360196COMBINATION VACCINE

US - 27.11.2025

Clasificación Internacional A61K 39/155Nº de solicitud 19204355Solicitante CureVac SEInventor/a Karl-Josef KALLEN

The present invention relates to a vaccine, especially a combination vaccine providing at least a first and a second antigenic function, the combination vaccine comprising at least one RNA encoding at least one or more proteins or fragments, variants or derivatives of proteins awarding antigenic function, wherein the first antigenic function being a Fusion (F) protein or a fragment, variant or derivative of a Fusion (F) protein derived from the virus family Paramyxoviridae and the second antigenic function being an Hemagglutinin (HA) protein or a fragment, variant or derivative of an Hemagglutinin (HA) protein derived from the virus family Orthomyxoviridae. Furthermore, the present invention is directed to a kit or kit of parts comprising the components of said combination vaccine and to said combination vaccine for use in a method of prophylactic or therapeutic treatment of diseases, particularly in the prevention or treatment of infectious diseases like RSV and influenza.

4.4653011HERSTELLUNG UND VERWENDUNG EINES MRNA-IMPFSTOFFS UND IMPFSTOFF AUS REKOMBINANTEN PROTEINUNTEREINHEITEN GEGEN SARS-COV-2 ODER MUTANT

EP - 26.11.2025

Clasificación Internacional A61K 39/215Nº de solicitud 23917312Solicitante WESTVAC BIOPHARMA CO LTDInventor/a WEI XIAWEI

Provided in the present invention is a recombinant protein vaccine and/or an mRNA vaccine for preventing and/or treating infections of SARS-CoV-2 or a mutant thereof, and particularly provided is a method of using the mRNA vaccine and the recombinant protein vaccine. The vaccine can induce the generation of an antibody response and a cellular immune response in vivo to block the binding of the S protein of SARS-CoV-2 to the ACE2 receptor of host cells, so that the host resists coronavirus infections.

5.20250360193VACCINE AGAINST CAMPYLOBACTER JEJUNI

US - 27.11.2025

Clasificación Internacional A61K 39/02Nº de solicitud 18836121Solicitante Envirotech Innovative Products LimitedInventor/a Patrick WARD

The invention provides a polypeptide that is antigenic in a host. The invention also provides a vaccine for use

in reducing or preventing *Campylobacter* colonization in a host. The vaccine comprises a polypeptide of the present invention and/or antibodies against the polypeptide of the present invention. The host may be a human, cow, sheep, goat, and chicken. The invention has particular application for reducing or preventing *Campylobacter jejuni* colonization in poultry. The invention also provides a vaccine for use in reducing or preventing campylobacteriosis; and a vaccine composition comprising the polypeptide of the present invention; or antibodies raised against the polypeptide of the present invention, in association with a pharmaceutically acceptable vehicle useful for inducing an immune response in a host.

6.20250360188MYCOPLASMA HYOPNEUMONIAE SUBUNIT VACCINE AND PREPARATION METHOD AND USE THEREOF

US - 27.11.2025

Clasificación Internacional A61K 39/02Nº de solicitud 19271842Solicitante JIANGSU ACADEMY OF AGRICULTURAL SCIENCESInventor/a Yanfei YU

A *Mycoplasma hyopneumoniae* (Mhp) subunit vaccine and a preparation method and use thereof are provided. An antigen for the Mhp subunit vaccine is a fusion protein of Mhp, and has an amino acid sequence shown in SEQ ID NO: 1. The preparation method includes the following steps: (1) preparing an aqueous phase including the fusion protein; and (2) mixing an oil phase with the aqueous phase according to a volume ratio of 1:(0.8-1.2), and emulsifying to produce the vaccine. The Mhp subunit vaccine can effectively protect pigs in the long term, which provides an effective means for the prevention and control of mycoplasma pneumonia of swine.

7.WO/2025/242034USE OF SIP PROTEIN IN PREPARATION OF CAPSULAR POLYSACCHARIDE CONJUGATE VACCINE, AND CONJUGATE COMPRISING SIP PROTEIN AND PREPARATION METHOD THEREFOR AND USE THEREOF

WO - 27.11.2025

Clasificación Internacional A61K 39/385Nº de solicitud PCT/CN2025/095715Solicitante ACADEMY OF MILITARY MEDICAL SCIENCE, ACADEMY OF MILITARY SCIENCE, PLAInventor/a CHEN, Shaolong

A use of a Sip protein in the preparation of a capsular polysaccharide conjugate vaccine, and a conjugate comprising the Sip protein and a preparation method therefor and a use thereof, relating to the technical field of polysaccharide conjugate vaccines. The present invention provides the use of a Sip protein in the preparation of a capsular polysaccharide conjugate vaccine. The capsular polysaccharide comprises the group B streptococcus (GBS) capsular polysaccharide. Also provided are the conjugate comprising the Sip protein and the preparation method therefor and the use thereof. By using the technical solution of the present invention, an antigen can be transformed from a T-cell independent antigen to a T-cell dependent antigen, and an antibody that generates specificity can be induced to generate a good immunoprotective effect; moreover, immunogenicity is stable, and good immunological memory can be generated; and furthermore, the protection scope of the prepared capsular polysaccharide conjugate vaccine against infections caused by different serotypes of GBS can be expanded, so that the vaccine can have multiple protections, and has good prospects for application in infections caused by uncommon serotypes of GBS.

8.20250360202HERPES ZOSTER MRNA VACCINE, PREPARATION METHOD THEREFOR, AND USE THEREOF

US - 27.11.2025

Clasificación Internacional A61K 39/25Nº de solicitud 19031360Solicitante Hangzhou Tianlong Pharmaceutical Co., Ltd.Inventor/a Gengshen Song

The present disclosure belongs to the technical field of mRNA vaccines, and specifically relates to a herpes zoster mRNA vaccine, a preparation method therefor, and a use thereof. The herpes zoster mRNA vaccine provided by the present disclosure comprises an RNA encoding a varicella-zoster virus gE glycoprotein or a variant thereof. The vaccine can prevent herpes zoster infection and its complications.

9.4653454PROTEIN UND IMPFSTOFF GEGEN INFEKTIONEN MIT DEM SARS-COV-2-OMIKRON-MUTANTENSTAMM UND SUBTYP DAVON

EP - 26.11.2025

Clasificación Internacional C07K 14/165Nº de solicitud 23917311Solicitante WESTVAC BIOPHARMA CO LTDInventor/a WEI XIAWEI

The present invention relates to the field of medicines, and relates to a protein and vaccine for resisting infection from a SARS-CoV-2 Omicron mutant strain and a subtype thereof. In order to solve the problem of lack of drugs for effective prevention and treatment for infections from the SARS-CoV-2 Omicron mutant strain and the subtype thereof, the present invention provides the protein and the vaccine for resisting infection from the SARS-CoV-2 Omicron mutant strain and the subtype thereof. The vaccine is optimally designed on the basis of an RBD sequence in an S protein of the SARS-CoV-2 Omicron mutant strain and substrains BA.4/5, BQ.1.1, and XBB.1.5, can help a host to resist a coronavirus infection, and particularly has a relatively good prevention and treatment effect on a cross infection caused by a SARS-CoV-2 Omicron mutant strain and subtype viruses thereof.

10.WO/2025/237213TARGETED IMMUNOTOLERANCE VACCINE, PREPARATION METHOD THEREFOR, AND USE THEREOF

WO - 20.11.2025

Clasificación Internacional A61K 39/00Nº de solicitud PCT/CN2025/094137Solicitante SOOCHOW UNIVERSITYInventor/a ZHENG, Yiran

Disclosed in the present invention are a targeted immunotolerance vaccine, a preparation method therefor, and use thereof. The present invention separately modifies a rheumatoid arthritis-related autoantigen peptide and CTLA4 Ig with DSPE-PEG (DP) to prepare a targeted formulation DP-antigen peptide and a targeted formulation DP-CTLA4, which are then mixed to obtain the vaccine. The vaccine described in the present invention, after intravenous injection, binds to albumin in vivo by means of DSPE, “hitchhiking” on albumin to target and enrich in inflammatory lesions, the spleen, the liver, and other tolerance-inducing sites, inhibiting T cell activation, and inducing anergy and apoptosis of rheumatoid arthritis autoantigen-specific T cells, thereby achieving immunotolerance treatment and prevention of rheumatoid arthritis.

11.4648795GLYCOPROTEIN-D-VARIANTEN ALS IMPFSTOFFADJUVANTIEN

EP - 19.11.2025

Clasificación Internacional A61K 39/12Nº de solicitud 24706254Solicitante VIRION THERAPEUTICS LLCInventor/a ERTL HILDEGUND CJ

Disclosed herein are compositions for increasing the immunogenicity of a vaccine antigen and methods of inducing an immune response in a subject using the compositions described herein. Disclosed herein are compositions for a therapeutic vaccine to HPV- associated cancers and methods of inducing an immune response to HPV in a subject using the compositions described herein.

12.20250352642NEW MULTIVALENT HVT VECTOR VACCINE

US - 20.11.2025

Clasificación Internacional A61K 39/255Nº de solicitud 18862717Solicitante INTERVET INC.Inventor/a Martijn Alexander LANGEREIS

The present invention regards a new recombinant HVT (rHVT) construct, useful as multivalent vector vaccine for poultry. The rHVT comprises 4 heterologous genes from poultry pathogens: the VP2 gene from IBDV, the F gene from NDV, and the gD and gI genes from ILTV. The VP2 and F genes are inserted in the Us genome region of the rHVT. The gD-gI genes are inserted in the UL genome region, between the UL54 and the LORF3 genes. The new rHVT-VP2-F-gD-gI proved to be genetically stable in vitro and in vivo, and expressed all inserted genes well. Also it was an effective vaccine against severe challenge infections with NDV, IBDV, and ILTV.

13.20250352627MUTANT CALR-PEPTIDE BASED VACCINE

US - 20.11.2025

Clasificación Internacional A61K 39/00Nº de solicitud 18872886Solicitante Ichan School of Medicine at Mount SinaiInventor/a Nina BHARDWAJ

The presently claimed and described technology provides vaccine compositions comprising at least two mutant-calreticulin (CALR)-peptides, wherein the at least two peptides have overlapping sequences and methods for administration of the vaccine compositions to induce or elicit an antitumor response or improve or enhance antitumor T cell immunity and methods of preventing, treating, reducing, or slowing progression or development of a hematological malignancy in a subject with a calreticulin mutation.

14.20250352635RECOMBINANT FOOT-AND-MOUTH DISEASE VIRUS TYPE O FOR INDUCING ROBUST ADAPTIVE IMMUNE RESPONSE AND OVERCOMING MATERNALLY-DERIVED ANTIBODY INTERFERENCE, AND FOOT-AND-MOUTH DISEASE VACCINE COMPOSITION COMPRISING SAME

US - 20.11.2025

Clasificación Internacional A61K 39/135Nº de solicitud 18710537Solicitante REPUBLIC OF KOREA(ANIMAL AND PLANT QUARANTINE AGENCY)Inventor/a Min Ja LEE

Proposed are a foot-and-mouth disease vaccine composition including recombinant foot-and-mouth disease viruses and an antigen isolated and purified from the viruses. In the early stages of vaccination, a humoral immune response is simultaneously induced through the induction of a robust cellular immune response, while in the presence of maternally-derived antibodies (MDAs), B cell receptors are stimulated. Through this, it is possible to provide the vaccine composition that enables active immunity and overcomes the interference of the maternally-derived antibodies and to provide a method of preventing or treating foot-and-mouth diseases using the same composition.

15.20250360192STAPHYLOCOCCUS AUREUS VACCINE

US - 27.11.2025

Clasificación Internacional A61K 39/085Nº de solicitud 18872768Solicitante THE REGENTS OF THE UNIVERSITY OF CALIFORNIAInventor/a George Yen-Hsi LIU

A vaccine for *Staphylococcus aureus* is disclosed. A method for producing a vaccine for *S. aureus* is also disclosed. A method for immunizing a human against *S. aureus* infection is further disclosed.

16.WO/2025/245267A MULTI-ANTIGEN DIAGNOSTIC IMMUNOASSAY AND VACCINE AGAINST BABESIOSIS

WO - 27.11.2025

Clasificación Internacional C07K 14/44Nº de solicitud PCT/US2025/030433Solicitante TRUSTEES OF

TUFTS COLLEGEInventor/a CHISHTI, Athar

A method for detecting *Babesia microti* in a biological sample by detecting antibodies in the sample that bind to a set of *Babesia microti* antigens that includes BmSAl-PLl and one or more of BmSAl-RBD, BMN1-20-PC1, and BM4.12-4PC2. Also provided is a vaccine for ameliorating *Babesia microti* infection in which the vaccine includes one or more polypeptides having the amino acid sequences of BmSAl-PLl, BmSAl-RBD, BMN1-20-PC1, and BM4.12-4PC2. Further disclosed are a composition and a kit for detecting *Babesia microti*, and a method for treating *Babesia microti* infection.

17.20250352594YEAST PLATFORM FOR THE PRODUCTION OF VACCINES

US - 20.11.2025

Clasificación Internacional A61K 36/062Nº de solicitud 18036852Solicitante SERYMUN YEAST GmbHInventor/a Constance MEHLGARTEN

The invention relates to the provision of recombinant yeast cells for the efficient and stable expression of transgenes, preferably for the expression of one or more immunogenic polypeptide(s) derived from a pathogen. The invention further relates to vaccine compositions comprising said recombinant yeast cells, uses of said recombinant yeast cells in methods for vaccination and 5 methods for the production of a whole yeast vaccine comprising at least one diploid recombinant yeast cell of the invention. Further encompassed are methods for the provision of a diploid yeast cell from a wild type yeast strain.

18.4649964VERBUNDLIPIDNANOPARTIKEL UND HERSTELLUNGSVERFAHREN DAFÜR, RNA-IMPFSTOFF, ARZNEIMITTEL UND VERWENDUNG

EP - 19.11.2025

Clasificación Internacional A61K 47/69Nº de solicitud 24213380Solicitante BISHENG BEIJING BIOTECHNOLOGY CO LTDInventor/a CAO YUHONG

The present disclosure belongs to the technical field of lipid nanoparticle biological application, and discloses a composite lipid nanoparticle and a preparation method thereof, an ribose nucleic acid (RNA) vaccine, a drug and use. The composite lipid nanoparticle provided by the present disclosure includes a lipid composition and a recombinant antibody protein containing a streptavidin tag; and the lipid composition comprises an ionizable lipid, an auxiliary lipid, cholesterol, a polyethylene glycol lipid and a biotinylated polyethylene glycol lipid in a mass ratio of (40-90):(0.1-20):(20-50):(0.5-10):(0.5-10). Through strong interaction between the recombinant antibody protein with the streptavidin tag and the biotinylated polyethylene glycol lipid in the composite lipid nanoparticle, the composite lipid nanoparticle achieves safe, convenient, rapid, efficient, and stable linkage between a lipid nanoparticle (LNP) and a recombinant antibody protein, and the recombinant antibody protein can be adaptively replaced according to target cells and/or tissues, with high flexibility and applicability. Moreover, the recombinant antibody protein on the obtained composite lipid nanoparticle still has a good ability to specifically recognize and bind a corresponding protein.

19.WO/2025/236311COMPOSITE LIPID NANOPARTICLE AND METHOD FOR PREPARING SAME, RNA VACCINE, MEDICAMENT, AND USE

WO - 20.11.2025

Clasificación Internacional A61K 9/51Nº de solicitud PCT/CN2024/094374Solicitante BISHENG (BEIJING) BIOTECHNOLOGY CO., LTD.Inventor/a CAO, Yuhong

The present invention relates to the field of lipid nanoparticle biological application technology, and in particular, to a composite lipid nanoparticle and a method for preparing same, an RNA vaccine, a medicament, and use. The provided composite lipid nanoparticle comprises a lipid composition and a

streptavidin-labeled recombinant antibody protein; and the lipid composition comprises an ionizable lipid, a helper lipid, cholesterol, a polyethylene glycol lipid, and a biotinylated polyethylene glycol lipid in a mass ratio of (40-90):(0.1-20):(20-50):(0.5-10):(0.5-10). The composite lipid nanoparticle, by means of strong interaction force between the streptavidin-labeled recombinant antibody protein and the biotinylated polyethylene glycol lipid in the composite lipid nanoparticle, can achieve safe, convenient, rapid, efficient, and stable connection between the LNP and the recombinant antibody protein, and the recombinant antibody protein can be adaptively replaced according to the target cells and/or tissues, resulting in high flexibility and applicability. The recombinant antibody protein on the obtained composite lipid nanoparticle still has good specific recognition and binding capabilities to the corresponding protein.

20.20250360198MRNA-BASED HIV VACCINE FOR ACUTE AND LATENT INFECTIONS

US - 27.11.2025

Clasificación Internacional A61K 39/21Nº de solicitud 18741686Solicitante Matthias MagoolaInventor/a Matthias Magoola

The Human Immunodeficiency Virus (HIV) infection and recurrent infection prevention mRNA vaccine comprising epitopes of HIV-1 and HIV-2 viruses and their corresponding Nef proteins.

21.WO/2025/238219MODIFIED VACCINIA VIRUS ANKARA (MVA) ENCODING ANTIGEN-DISPLAYING PROTEIN NANOPARTICLES

WO - 20.11.2025

Clasificación Internacional A61K 39/02Nº de solicitud PCT/EP2025/063562Solicitante BAVARIAN NORDIC A/SInventor/a BROD, Florian

The present invention relates to recombinant poxvirus, such as recombinant Modified Vaccina Virus Ankara (MVA), encoding a fusion protein comprising a disease-associated antigen that is joined to a subunit of a self-assembling protein nanoparticle, and to medical uses thereof.

22.WO/2025/241623TRANSLATION REGULATORY ELEMENT, EXPRESSION VECTOR, PHARMACEUTICAL COMPOSITION, VACCINE COMPOSITION, CONSTRUCTION METHOD, METHOD FOR EXPRESSING TARGET PROTEIN, AND USE THEREOF

WO - 27.11.2025

Clasificación Internacional C12N 15/113Nº de solicitud PCT/CN2025/077865Solicitante NATIONAL CENTER FOR NANOSCIENCE AND TECHNOLOGYInventor/a CAO, Yuhong

Provided are a translation regulatory element, an expression vector, a pharmaceutical composition, a vaccine composition, a construction method, a method for expressing a target protein, and the use thereof. The translation regulatory element is selected from recombinant IRES sequences having sequences as shown in SEQ ID NOs: 8-11, and/or one or more segments of recombinant IRES sequences complementary to the sequences as shown in SEQ ID NOs: 8-11; and can show high translation efficiency when being used for regulating gene expression, thereby realizing high-level expression of a target gene.

23.4653453REKOMBINANTES CHIMÄRES ANTIGEN FÜR POXVIRUS, UNTEREINHEITSIMPFSTOFF DAMIT UND VERWENDUNG DAVON

EP - 26.11.2025

Clasificación Internacional C07K 14/065Nº de solicitud 23917005Solicitante UNIV BEIJINGInventor/a XI JIANZHONG JEFF

Provided are a recombinant chimeric antigen for a poxvirus, in particular for a Mpoxvirus, a

subunit vaccine comprising the recombinant chimeric antigen, and a use thereof. The recombinant chimeric antigen of the present application comprises two immunogens arranged in a specific manner: a Mpoxvirus A35 protein or an antigenic fragment thereof or derivative peptides of same, and a Mpoxvirus M1 protein or an antigenic fragment thereof or derivative peptides of same, and can excite an immune response to two infectious virus particles of intracellular mature virus (IMV) particles and extracellular enveloped virus (EEV) particles.

24.20250360200VACCINE COMPOSITIONS AND USES THEREOF

US - 27.11.2025

Clasificación Internacional A61K 39/215Nº de solicitud 18866636Solicitante The Regents of the University of MichiganInventor/a Wei Cheng

Provided herein are vaccine compositions and uses thereof. In particular, provided herein are synthetic viral-like structures (sVLSs) based vaccines and the use of such vaccines to prevent infection by a pathogen (e.g., viral pathogen).

25.WO/2025/236842VZV RECOMBINANT PROTEIN, AND PREPARATION METHOD THEREFOR AND USE THEREOF

WO - 20.11.2025

Clasificación Internacional C07K 14/04Nº de solicitud PCT/CN2025/082865Solicitante UNIVERSALVAX BIOTECHNOLOGIES (TAIZHOU) CO., LTD.Inventor/a LI, Jianping

A VZV recombinant protein, and a preparation method therefor and a use thereof. A VZV recombinant protein adopted by a recombinant protein vaccine contains an amino acid fragment obtained by truncating a VZV gE protein having an amino acid sequence as shown in SEQ ID NO.1; the amino acid fragment obtained by truncating contains a part of or all sequences of a mature antigenic region of the VZV gE protein; in addition, F at position 341 in the amino acid fragment obtained by truncating is mutated into C, and A at position 488 is mutated into C. The amino acid sequence of the VZV gE protein is rationally optimized and designed by utilizing protein gene engineering means, and compared with the VZV gE protein, the VZV gE recombinant protein subjected to amino acid mutation modification and structural design has improved stability and immunogenicity.

26.WO/2025/242766PNEUMOCOCCAL VACCINE

WO - 27.11.2025

Clasificación Internacional A61K 39/00Nº de solicitud PCT/EP2025/064048Solicitante ABERA BIOSCIENCE ABInventor/a JONG, Wouter Simon Petrus

The present invention relates to immunogenic compositions and vaccine compositions comprising the antigens AliA or immunogenic fragments thereof and PnrA and immunogenic fragments thereof from Streptococcus pneumoniae and uses thereof in the treatment and/or prevention of infections by S. pneumoniae.

27.20250360197MRNA-BASED HIV VACCINE FOR ACUTE AND LATENT INFECTIONS

US - 27.11.2025

Clasificación Internacional A61K 39/21Nº de solicitud 18674840Solicitante Matthias MagoolaInventor/a Matthias Magoola

The Human Immunodeficiency Virus (HIV) infection and recurrent infection prevention mRNA vaccine comprising epitopes of HIV-1 and HIV-2 viruses and their corresponding Nef proteins.

28.20250352637METHOD FOR SUSTAINED DELIVERY OF MRNA VACCINES

US - 20.11.2025

Clasificación Internacional A61K 39/155Nº de solicitud 18871320Solicitante Merck Sharp & Dohme LLCInventor/a Andrew Bett

The invention relates to a method of treating a disease or disorder in a patient in need thereof that includes providing an active pharmaceutical ingredient (API) to the patient by administering more than one split-dose of the API over a pre-determined period of time. In embodiments of the invention, the API is an mRNA encoding an antigen. The attractiveness of mRNA as a vaccine modality is supported by several advantages. As a non-infectious agent that does not require incorporation into the host's genome to confer activity along with its well-defined chemical composition, mRNA is regarded as a relatively safe vaccine modality.

29.4648796PRÄFUSIONSSTABILISIERTE MENSCHLICHE PARAINFLUENZAVIRUS 3F PROTEINE

EP - 19.11.2025

Clasificación Internacional A61K 39/155Nº de solicitud 24741859Solicitante UNIV TEXASInventor/a MCLELLAN JASON

Provided herein are engineered parainfluenza virus fusion protein (PIV F) polypeptides. In some aspects, the engineered PIV F polypeptides exhibit enhanced conformational stability and/or antigenicity. Methods are also provided for use of the engineered PIV F polypeptides as diagnostics, in screening platforms, and/or in vaccine compositions.

30.4652184MANIPULIERTE LÖSLICHE FUSIONSPROTEINE DES PARAMYXOVIRUS UND VERWANDTE IMPFSTOFFE

EP - 26.11.2025

Clasificación Internacional C07K 14/135Nº de solicitud 24745045Solicitante SCRIPPS RESEARCH INSTInventor/a HE LINLING

The present invention provides engineered soluble F proteins of paramyxoviruses such as respiratory syncytial viruses (RSVs), human metapneumoviruses (hMPVs), and human parainfluenza viruses (hPIVs). These engineered proteins are stabilized via specific modifications in the wildtype soluble F sequences, e.g., substitutions in the 023 strand and/or introducing an engineered disulfide bond in a 0 hairpin in the Fl subunit. Also provided in the invention are nanoparticle vaccines that contain the engineered soluble F immunogens displayed on self-assembling nanoparticles. The invention also provides methods of using such vaccine compositions in various therapeutic applications, e.g., for preventing or treating viral infections such as RSV, MPV and PIV infections.

31.WO/2025/243328A BIOCHEMICAL COMPOSITION AS AN ALTERNATIVE FOR FETAL BOVINE SERUM

WO - 27.11.2025

Clasificación Internacional C12N 5/07Nº de solicitud PCT/IN2025/050777Solicitante GENEXIS BIOTECH PVT. LTD.Inventor/a KUMAR, Vipul Kumar

The present invention belongs to the field of biotechnology, in particular the field of biochemical composition and process of preparation thereof. The present invention more particularly relates to composition of ingredients as a serum alternative from an animal origin free source for fetal bovine serum and development of serum alternative from the same. More particularly, the present invention further relates to the specific composition as a serum alternative and application thereof in animal cell culture, biopharmaceutical ingredients in antibody and vaccine preparation, formulation of final drug components and other translation

research work like stem cell research.

32.20250354873TEMPERATURE INTEGRITY SENSOR

US - 20.11.2025

Clasificación Internacional G01K 1/024Nº de solicitud 18871843Solicitante UNIVERSITÀ DEGLI STUDI DI CAGLIARIInventor/a Giuseppe SFORAZZINI

A temperature integrity sensor or more precisely a temperature continuity sensor of a product which needs to be kept at a temperature below its degradation temperature, is provided. The product includes a refrigerated or frozen edible product; a pharmaceutical product such as a vaccine, or an antibiotic; or a biological-medical product such as a sample of a body fluid or tissue, or an organ. The sensor is based on RFID technology, in particular passive RFID technology.

33.20250352577TUMOR NEOANTIGENIC PEPTIDES AND USES THEREOF

US - 20.11.2025

Clasificación Internacional A61K 35/17Nº de solicitud 18549995Solicitante MNEMO THERAPEUTICSInventor/a Sebastian AMIGORENA

The present disclosure provides tumor neoantigenic peptide sequences and nucleotide sequences encoding such peptide sequences; a vaccine or immunogenic composition capable of raising a specific T-cell response comprising one or more of the neoantigenic peptides, or comprising nucleic acid encoding one or more of the neoantigenic peptides; an antibody, or an antigen-binding fragment thereof, a T cell receptor (TCR), or a chimeric antigen receptor (CAR) that specifically binds such neoantigenic peptides; methods of producing such antibodies, TCRs or CARs; polynucleotides encoding such neoantigenic peptides, antibodies, CARs or TCRs, optionally linked to a heterologous regulatory control sequence; immune cells that specifically bind to such neoantigenic peptides; and dendritic cells or antigen presenting cells that have been pulsed with one or more of the neoantigenic peptides; and methods of using such products in particular therapeutic uses of these products.

34.WO/2025/243263ALPHAVIRUS (MAYARO VIRUS) CONSTRUCTS ATTENUATED FOR HUMAN AND METHOD OF THEIR USE

WO - 27.11.2025

Clasificación Internacional A61K 35/00Nº de solicitud PCT/IB2025/055372Solicitante INSTITUT PASTEUR DE MONTEVIDEOInventor/a MORATORIO, Gonzalo

Genetically engineered alphavirus constructs (e.g., Mayaro virus) attenuated in normal human by increasing CpG dinucleotides frequency and its oncolytic potential against lung and pancreatic cancer. The modified virus may also be used as a live attenuated vaccine against MAYV.

35.2025905333MALARIA VACCINE

AU - 20.11.2025

Clasificación Internacional Nº de solicitud 2025905333Solicitante Griffith UniversityInventor/a Given, Not

36.20250360201SARS-COV-2 VARIANTS OF CONCERN-SPECIFIC MULTI-ANTIGENS UNIVERSAL VACCINE

US - 27.11.2025

Clasificación Internacional A61K 39/215Nº de solicitud 18872496Solicitante THE REGENTS OF THE UNIVERSITY OF CALIFORNIAInventor/a Lbachir BenMohamed

Pan-coronavirus vaccines for inducing efficient, powerful and long-lasting protection against all Coronaviruses infections and diseases, comprising multiple highly conserved large sequences which may comprise one or more conserved B, CD4 and CDS T cell epitopes that help provide multiple targets for the body to develop an immune response for preventing a Coronavirus infection and/or disease. In certain embodiments, the large sequences are conserved proteins or large sequences, e.g., sequences that are highly conserved among human coronaviruses and/or animal coronaviruses (e.g., coronaviruses isolated from animals susceptible to coronavirus infections).

37.WO/2025/238429IRREDUCIBLE CARTESIAN TENSORS FOR MACHINE LEARNING PROPERTIES OF BIOLOGICAL MATTER AND MATERIALS

WO - 20.11.2025

Clasificación Internacional G16B 15/30Nº de solicitud PCT/IB2025/052665Solicitante NEC LABORATORIES EUROPE GMBHInventor/a ZAVERKIN, Viktor

A computer-implemented, machine learning method for predicting molecular properties includes embedding an atomic system of a molecule using irreducible Cartesian tensors. Interactions between rotation-equivariant features are computed using a message passing neural network trained to apply equivariant convolutions defined by an irreducible Cartesian tensor product of the irreducible Cartesian tensors. Many-body features of the molecule are computed using the message passing neural network based on the irreducible Cartesian tensor product. The molecular properties for the molecule are predicted based on the many-body features. The method has applications including, but not limited to, use cases in computational biology and medical Al and healthcare for optimizing vaccine design or supporting decision making in diagnosis and treatment of patients.

38.20250354172ADENOVIRAL VECTORS COMPRISING PARTIAL DELETIONS OF E3

US - 20.11.2025

Clasificación Internacional C12N 15/86Nº de solicitud 19286114Solicitante THE WISTAR INSTITUTEInventor/a Hildegund C.J. Ertl

This disclosure provides replication-incompetent adenoviral vectors useful in vaccine development and gene therapy. The disclosed vectors comprise a selective deletion of E3 and are particularly useful for preparation of vaccines development and for gene therapy using toxic transgene products that result in vector instability that occurs when the entire E3 domain is deleted.

39.4652284IMPFSTOFF

EP - 26.11.2025

Clasificación Internacional C12N 15/62Nº de solicitud 24701815Solicitante ASTRAZENECA ABInventor/a LOO YUEH-MING

The present disclosure relates to methods of inducing a pan-sarbecoronavirus variant immune response for the treatment and prevention of coronavirus infections.

40.4651891NUKLEINSÄUREMOLEKÜLE

EP - 26.11.2025

Clasificación Internacional A61K 39/12Nº de solicitud 24701814Solicitante ASTRAZENECA ABInventor/a LOO YUEH-MING

The present disclosure relates to a nucleic acid molecule comprising 5'-UTR and/or 3'-UTR sequences that yield high translation levels. Aspects of the disclosure further relate to nucleic acid molecules suitable for use

as a vaccine in the treatment and prevention of infectious diseases, including those caused by a coronavirus, compositions comprising said nucleic acid molecules and methods of treating or preventing infectious diseases.

41.4652458SYSTEME UND VERFAHREN FÜR DEN MULTIPLEXNACHWEIS VON BIOMARKERN

EP - 26.11.2025

Clasificación Internacional G01N 33/543Nº de solicitud 24708575Solicitante VERAVAS INCInventor/a SOLDO JOSHUA CAINE

Provided herein are methods and systems for multiplex detection and/or measurement of biomarkers of a sample. The methods and systems can be used for rapid disease detection and/or monitoring, vaccine efficacy and immune response monitoring, therapeutic drug monitoring, and/or therapeutic safety and efficacy monitoring.

42.WO/2025/240926NEISSERIA GONORRHOEAE VACCINES AND TREATMENTS AND METHODS OF USE THEREOF

WO - 20.11.2025

Clasificación Internacional C07K 14/22Nº de solicitud PCT/US2025/029861Solicitante UNIVERSITY OF IOWA RESEARCH FOUNDATIONInventor/a APICELLA, Michael A.

The present disclosure provides a vaccine and methods of vaccination effective to immunize a susceptible subject against *Neisseria gonorrhoeae*. Certain aspects provide a composition comprising an *N. gonorrhoeae* outer membrane Phospholipase A protein, or variant thereof, and a pharmaceutically-acceptable, non-toxic vehicle, wherein the *N. gonorrhoeae* outer membrane Phospholipase A protein comprises an amino acid sequence having at least about 90% identity to SEQ ID NO:1, and optionally an effective amount of an immunological adjuvant. Certain aspects provide a composition comprising an *Neisseria gonorrhoeae* outer membrane, and a pharmaceutically-acceptable, non-toxic vehicle, wherein the *N. gonorrhoeae* outer membrane comprises an *N. gonorrhoeae* outer membrane Phospholipase A protein, or variant thereof, wherein the *N. gonorrhoeae* outer membrane Phospholipase A protein comprises an amino acid sequence having at least about 90% identity to SEQ ID NO:1. Certain aspects provide a method of treating a *Neisseria gonorrhoeae* infection by administering an effective amount of a therapeutic composition comprising an inhibitor of the *N. gonorrhoeae* outer membrane Phospholipase A protein and a pharmaceutically-acceptable, non-toxic vehicle, to a patient in need thereof.

43.3639849ATTENUATED AFRICAN SWINE FEVER VIRUS VACCINE

PL - 24.11.2025

Clasificación Internacional A61K 39/00Nº de solicitud 19192963SolicitanteInventor/a CHARLES ABRAMS

44.4650005HISTONDEACETYLASEHEMMER ZUR VERWENDUNG IN DER IMMUNTHERAPIE

EP - 19.11.2025

Clasificación Internacional A61P 35/00Nº de solicitud 25206159Solicitante VIRACTA SUBSIDIARY INCInventor/a WOODY JAMES N

Provided are methods and compositions for the treatment of cancer. The methods comprise administering to a subject an HDAC inhibitor and an immunotherapeutic. In certain instances the immunotherapeutic is a chimeric antigen receptor T cell, an antibody or polypeptide that binds a checkpoint inhibitor, or a vaccine.

45.4649161PHAGENVEKTOR

EP - 19.11.2025

Clasificación Internacional C12N 15/86Nº de solicitud 24701262Solicitante IMPERIAL COLLEGE INNOVATIONS LTDInventor/a HAJITOU AMIN

The invention relates to phage vectors, and to novel phage vectors comprising transgenes, in particular conventional mammalian transgene cassettes. The invention extends to the use of such phage vectors as a research tool, and for the delivery of transgenes in a variety of gene therapy applications, DNA and/or peptide vaccine delivery and imaging techniques.

46.20250360190IMMUNOGENICITY OF A CPG-ADJUVANTED RECOMBINANT PLAGUE VACCINE

US - 27.11.2025

Clasificación Internacional A61K 39/02Nº de solicitud 19239819Solicitante Dynavax Technologies CorporationInventor/a Robert S. JANSSEN

The present disclosure relates to immunogenic compositions comprising at least one *Yersinia pestis* (*Y. pestis*) antigen, an aluminum salt adjuvant, and an oligonucleotide comprising an unmethylated cytidine-phospho-guanosine (CpG) motif. The immunogenic compositions are suitable for stimulating an immune response against *Y. pestis* in a subject in need thereof. The present disclosure also relates to kits and methods using the immunogenic compositions, or two separate compositions which together comprise the antigen, the aluminum salt adjuvant, and the oligonucleotide.

47.WO/2025/245361T CELL VACCINE

WO - 27.11.2025

Clasificación Internacional C12N 5/10Nº de solicitud PCT/US2025/030609Solicitante THE SCRIPPS RESEARCH INSTITUTEInventor/a JARDINE, Joseph

The present invention relates to antigen presentation to $CD8^+$ T cells. Systems and methods are provided for efficient presentation of diverse peptide antigens and induction of stimulatory and regulatory $CD8^+$ T cell responses.

48.WO/2025/245466IMMUNOGENIC COMPOSITIONS FOR THE PREVENTION OF HERPES ZOSTER

WO - 27.11.2025

Clasificación Internacional A61K 39/25Nº de solicitud PCT/US2025/030809Solicitante CUREVO, INC.Inventor/a WANG, Aijun

The present disclosure provides immunogenic and vaccine compositions comprising a Varicella Zoster Virus (VZV) glycoprotein E (gE) antigen comprising SEQ ID NO: 2 and an SLA adjuvant for use in the prevention of herpes zoster.

49.20250352631POLYVALENT PNEUMOCOCCAL POLYSACCHARIDE CONJUGATE VACCINE COMPONENT AND APPLICATION THEREOF

US - 20.11.2025

Clasificación Internacional A61K 39/116Nº de solicitud 18858257Solicitante Shanghai Reinovax Biologics Co., LtdInventor/a Xianchao ZHU

The present invention relates to a polyvalent pneumococcal polysaccharide protein conjugate and immunogenicity thereof, and specifically provides an immunogenic composition containing capsular polysaccharides of *Streptococcus pneumoniae* from different serotypes, and a carrier, the serotypes at least comprising 2, 8, 9N, 10A, 11A, 12F, 15B, 17F, 20, 22F and 33F. The immunogenic composition can improve the immunogenicity of polysaccharides of different serotypes, and may prevent invasive infection caused by pneumococci of various different serotypes.

50.4650453ANTIBIOTIKAFREIES MINIPLASMAID UND HERSTELLUNGSVERFAHREN DAFÜR UND VERWENDUNG DAVON

EP - 19.11.2025

Clasificación Internacional C12N 15/85Nº de solicitud 24741377Solicitante MAXIRNA SHANGHAI PHARMACEUTICAL CO LTDInventor/a ZHANG PINGJING

Provided is an antibiotic-free miniplasmid comprising a nucleotide sequence encoding an antitoxin protein and a replicon. The antibiotic-free miniplasmid has a small backbone controlled within 1000 bp, redundant and useless fragments are reduced and the miniplasmid does not contain a resistance gene expression cassette, so that the utilization rate of a target sequence in the plasmid is increased, and the production burden is reduced. The miniplasmid has higher efficiency and safety in genetic engineering such as plasmid DNA-mediated non-viral vector delivery, gene therapy, vaccine immunization, virus production, antibody production, etc. Further provided is a system for producing a plasmid on the basis of a toxin-antitoxin system. The bacterial host cell contains a gene expression cassette capable of inducing expression of a toxin protein, and the antibiotic-free miniplasmid contains a gene expression cassette for expressing the antitoxin protein, which is used for efficiently maintaining replication and amplification of the antibiotic-free miniplasmid.

51.20250354150ALU SINES OF THE MIR-498(46) CISTRON MEDIATE INTRINSIC INTERFERON AND ANTIVIRAL RESPONSE IN HUMAN PLACENTA

US - 20.11.2025

Clasificación Internacional C12N 15/113Nº de solicitud 18868690Solicitante UNIVERSITY OF SOUTH FLORIDAInventor/a Hana TOTARY-JAIN

Described herein relates to novel methods for determining susceptibility for infection and/or disease (e.g., pregnancy complication and/or cancer), and/or predicting severity of infection and/or disease by measuring circulating Alu RNA by RT-PCR (e.g., circulating blood, serum, and/or plasma). Additionally, described herein relates to novel methods of treating infection and/or disease (e.g., pregnancy complication and/or cancer), via increasing immune response, optimizing vaccine delivery, via administering at least one Alu RNA into the subject.

52.20250352664METH0DS OF ADMINISTERING LIPID NANOPARTICLES INCLUDING POLY(ETHYLOXAZOLINE)-LIPID CONJUGATES WITHOUT RAISING IMMUNE RESPONSE TO POLYMER

US - 20.11.2025

Clasificación Internacional A61K 47/69Nº de solicitud 19279845Solicitante Serina Therapeutics (AL), Inc.Inventor/a Randall Moreadith

Methods of administering lipid nanoparticle compositions including poly(ethyloxazoline)-lipid conjugates (PEOZ-lipid LNPs) without triggering a PEOZ-associated immune response. In some aspects, the PEOZ-lipid LNPs trigger a protective response based on the encapsulated payload but do not trigger an IgM or IgG response. also provides an absent or. In other aspects, the PEOZ-lipid LNPs trigger a protective response based on the encapsulated payload but trigger an IgM and IgG response that is markedly reduced (as compared to a comparable PEG-lipid currently used in LNP vaccine delivery systems). PEOZ-DMA LNPs incorporating payloads such as oligonucleotides payloads mRNA, DNA, and siRNA for delivery into living cells is also contemplated.

53.20250352633COMPOSITIONS, METHODS AND USES FOR THERMALLY STABLE BROAD-SPECTRUM HUMAN PAPILLOMAVIRUS FORMULATIONS

US - 20.11.2025

Clasificación Internacional A61K 39/12Nº de solicitud 19069038Solicitante THE REGENTS OF THE UNIVERSITY OF COLORADO, A BODY CORPORATEInventor/a Robert L. Garcea

Embodiments of the present invention provide for novel compositions and methods for making and using a thermally stable broad spectrum human papilloma virus (HPV) vaccine or immunogenic formulation. Certain embodiments concern lyophilizing HPV formulations in the presence or absence of adjuvants. Other embodiments concern lyophilizing HPV capsomere vaccines and other immunogenic agents to increase stability or reduce degradation of HPV peptides to prolong storage, delivery and use. In yet other embodiments, a single immunogenic formulation can include a thermally stable composition of a broad-spectrum HPV immunogenic composition against multiple HPV types. In some embodiments, a stabilizing formulation can include RG1 HPV16VLP antigens in a hypertonic mixture of a disaccharide and a volatile buffer.

54.20250352636NUCLEIC ACID COMPRISING OR CODING FOR A HISTONE STEM-LOOP AND A POLY(A) SEQUENCE OR A POLYADENYLATION SIGNAL FOR INCREASING THE EXPRESSION OF AN ENCODED PATHOGENIC ANTIGEN

US - 20.11.2025

Clasificación Internacional A61K 39/145Nº de solicitud 18981382Solicitante CureVac SEInventor/a Andreas THESS

The present invention relates to a nucleic acid sequence, comprising or coding for a coding region, encoding at least one peptide or protein comprising a pathogenic antigen or a fragment, variant or derivative thereof, at least one histone stem-loop and a poly(A) sequence or a polyadenylation signal. Furthermore the present invention provides the use of the nucleic acid for increasing the expression of said encoded peptide or protein. It also discloses its use for the preparation of a pharmaceutical composition, especially a vaccine, e.g. for use in the treatment of infectious diseases. The present invention further describes a method for increasing the expression of a peptide or protein comprising a pathogenic antigen or a fragment, variant or derivative thereof, using the nucleic acid comprising or coding for a histone stem-loop and a poly(A) sequence or a polyadenylation signal.

55.20250352629ADJUVANT FOR BACILLUS CALMETTE-GUERIN CANCER IMMUNOTHERAPY

US - 20.11.2025

Clasificación Internacional A61K 39/04Nº de solicitud 19209068Solicitante The Royal Institution for the Advancement of Learning/McGill UniversityInventor/a Leonardo F. JURADO

There is provided the combination of *Bacillus* Calmette-Guérin (BCG) vaccine and β-glucan adjuvant for the treatment of a cancer characterized by the presence of protumoral T3 neutrophils in the tumour microenvironment. The β-glucan is characterized by a µ-1,3 glucose backbone. The BCG and β-glucan combination demonstrated a synergistic effect in remodeling the tumour microenvironment to resist conversion of neutrophils into the T3 phenotype. The cancer can be bladder cancer, melanoma, lung adenocarcinoma, head and neck squamous cell cancer, pancreatic adenocarcinoma, low-grade gliomas, esophageal carcinoma, and cervical squamous cell carcinoma.

56.WO/2025/238218VIRAL VECTORS ENCODING ANTIGEN-DISPLAYING PROTEIN NANOPARTICLES

WO - 20.11.2025

Clasificación Internacional A61K 39/02Nº de solicitud PCT/EP2025/063560Solicitante BAVARIAN NORDIC A/SInventor/a BROD, Florian

The present invention relates to recombinant virus-based vectors, such as recombinant Modified Vaccina Virus Ankara (MVA) and virus replicon particles (VRPs), encoding a fusion protein comprising a disease-associated antigen that is joined to a subunit of a self-assembling protein nanoparticle, and to medical uses thereof.

57.4648781REKOMBINANTE MODIFIZIERTE SARNA (VRP) FÜR KREBSIMPFSTOFF

EP - 19.11.2025

Clasificación Internacional A61K 31/7105Nº de solicitud 24700893Solicitante BAVARIAN NORDIC ASInventor/a MEDINA ECHEVERZ JOSÉ

The present invention provides self-amplifying RNA (saRNA) for use in the treatment of tumors. The treatment is provided by using saRNA, in particular a VRP comprising a nucleic acid encoding a tumor-associated antigen (TAA) as well as IL-12. In some embodiments of the invention, methods comprise injecting these saRNAs intratumorally. In some embodiments, the saRNAs are injected intraperitoneally to stimulate an immune response to peritoneal tumors.

58.WO/2025/240885STABILIZED HEMAGGLUTININ PROTEINS AND USES THEREOF

WO - 20.11.2025

Clasificación Internacional A61K 39/145Nº de solicitud PCT/US2025/029807Solicitante FRED HUTCHINSON CANCER CENTERInventor/a DADONAITE, Bernadeta

Stabilized hemagglutinin (HA) proteins and associated encoding nucleic acids are described. The stabilized HA proteins and/or associated nucleic acids can be used to produce an influenza vaccine.

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

Estrategia de búqueda: *vaccine.ti. AND @PD>="20251118"<=20251130 23 records*

Document ID	Title	Inventor	Applicant Name
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