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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.

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Hantavirus: avances históricos y desafíos actuales en el desarrollo de vacunas

Los hantavirus son virus zoonóticos que infectan de forma natural a los roedores y que ocasionalmente se transmiten a los humanos. La infección en las personas puede provocar una enfermedad grave y, con frecuencia, la muerte, aunque las enfermedades varían según el tipo de virus y la ubicación geográfica. En América, se sabe que la infección puede provocar el síndrome cardiopulmonar por hantavirus (SCPH), una afección de rápida progresión que afecta a los pulmones y al corazón, mientras que en Europa y Asia es conocido que los hantavirus provocan la fiebre hemorrágica con síndrome renal (FHSR), que afecta principalmente a los riñones y a los vasos sanguíneos.

Si bien no existe un tratamiento específico que cure las enfermedades causadas por hantavirus, la atención médica de apoyo en las primeras etapas es fundamental para mejorar la supervivencia y se centra en un estrecho seguimiento clínico y en el tratamiento de las complicaciones respiratorias, cardíacas y renales. La prevención depende en gran medida de reducir el contacto entre las personas y los roedores infectados.

Familia vírica y clasificación

Los hantavirus pertenecen a la familia *Hantaviridae*, del orden *Bunyavirales*. Cada hantavirus suele estar asociado a una especie específica de roedor reservorio, en la cual el virus provoca una infección crónica sin causar enfermedad aparente.

Si bien se han identificado muchas especies de hantavirus en todo el mundo, solo un número limitado de ellas son conocidas por causar enfermedad en el ser humano.

Se sabe que los hantavirus presentes en América del Norte, Central y del Sur causan el SCPH. El virus Andes forma parte de esta familia y se sabe que puede transmitirse de forma limitada de persona a persona entre contactos cercanos y prolongados, principalmente en la Argentina y Chile.

Se sabe que los hantavirus que se encuentran en Europa y Asia causan FHSR. No se ha documentado transmisión de persona a persona en esta parte del mundo.

Carga de morbilidad

Las infecciones por hantavirus son relativamente poco frecuentes a nivel mundial, pero se asocian a una tasa de letalidad que oscila entre menos del 1 % y el 15 % en Asia y Europa, y que puede llegar al 50 % en América. En todo el mundo, se estima que cada año se producen entre 10 000 y más de 100 000 infecciones, siendo Asia y Europa las regiones con mayor incidencia.

En Asia Oriental, especialmente en China y la República de Corea, la FHSR sigue siendo responsable de muchos miles de casos al año, aunque la incidencia ha disminuido en las últimas décadas.

En Europa se notifican varios miles de casos cada año, principalmente en las regiones septentrional y central, donde circula el virus Puumala. En América, la SCPH es mucho menos frecuente, con apenas unos centenares de casos al año en todo el continente. Los Estados Unidos de América han notificado menos de 1000 casos, mientras que países de América del Sur como la Argentina, el Brasil, Chile y el Paraguay notifican un número reducido de casos al año.

A pesar de su menor incidencia, la SCPH tiene una tasa de letalidad elevada, que suele oscilar entre el 20 % y el 40 %, lo que la convierte en un problema de salud pública de gran importancia.

Origen del hantavirus

Estos virus, que probablemente han existido durante milenios, fueron identificados por primera vez durante la Guerra de Corea (1950-1953), cuando más de 3.000 soldados de la ONU desarrollaron una "fiebre hemorrágica epidémica" de origen desconocido. El virus fue aislado en 1976 a partir del pulmón del ratón de campo *Apodemus agrarius* y recibió el nombre del río Hantaan, en Corea.

En 1978 se identificó el virus Seoul de *Rattus norvegicus*. En 1997 en Finlandia se aisló el hantavirus Puumala del pulmón de *Myodes glareolus*. En 1993 se aisló hantavirus Dobrava (Eslovenia) de *Apodemus flavicolis* y en 1982 fue aislado de *Microtus pennsylvanicusel* primer hantavirus no patógeno en las Américas: Prospect Hill. No obstante, en 1993 una misteriosa enfermedad pulmonar se expandió en Four Corners (USA); los pacientes repentinamente enfermaron y muchos murieron debido a shock y/o edema pulmonar; los síntomas no fueron asociados con hantavirus. Más tarde se aisló un nuevo hantavirus del roedor *Peromyscus maniculatis*, el cual era desconocido, y se lo denominó como Virus Sin Nombre y se asoció como la causa de este brote epidémico. En Suramérica se han reportado hantavirus en distintos hospederos naturales. En Colombia, entre 2004 y 2015 se han publicado diversos estudios realizados en el Caribe colombiano y en Urabá en los que se evidenció la presencia de hantavirus en humanos y en roedores. Recientemente se tuvo el primer reporte serológico de infección por hantavirus en humanos en la región de la Orinoquia colombiana. Sin embargo, la hantavirosis no es considerada una enfermedad de notificación obligatoria, y es probable que actualmente esté en silencio epidemiológico.

Vacunas para hantavirus

Debido a la distribución global de los hantavirus, la asociación histórica de los virus causantes de la FHSR con operaciones militares y la reciente aparición de los virus causantes del SCPH, se han realizando esfuerzos para desarrollar vacunas seguras y eficaces contra los hantavirus.

Ya desde 1992, Schmaljohn y colaboradores prepararon dos candidatos vacunales con vector vaccinia para la fiebre hemorrágica con síndrome renal mediante la inserción de ADNc, que representa el segmento genómico medio (M), o los segmentos genómicos M y pequeño (S) del virus Hantaan, en el gen de la timidina quinasa de la cepa vacunal Connaught del virus vaccinia. Se desarrolló una técnica de ensayo de inmunoplaca para seleccionar recombinantes sin necesidad de expresar genes irrelevantes ni utilizar mutágenos potenciales.

Se observaron proteínas indistinguibles de las glicoproteínas de la envoltura viral y la proteína de la nucleocápside auténticas mediante inmunoprecipitación con anticuerpos contra el virus Hantaan. Ambos recombinantes expresaron eficientemente proteínas por lo que fueron seleccionadas para su posterior desarrollo y prueba como vacuna humana.

Hasta el presente, varios candidatos vacunales han sido evaluados, por su eficacia e inmunogenicidad. Entre ellos se incluyen vacunas inactivadas, vacunas de ADN, proteínas recombinantes y vectores virales como los adenovirus, los cuales han sido construidos para expresar la nucleoproteína o la glucoproteína (Gn y Gc) del virus Andes, y han sido probadas en hámsters, induciendo en ellos una apropiada respuesta inmunitaria protectora.

Se han desarrollado vacunas inactivadas contra la fiebre hemorrágica con síndrome renal, derivadas tanto de cerebro de ratón como de cultivos celulares, y se han probado en poblaciones humanas de Asia. En humanos también se han probado vacunas con vectores virales, como el virus de “vaccinia” recombinante que expresa los segmentos S y M del virus Hantaan.

Por su parte, en estudios del año 2011, los candidatos vacunales de vectores adenovirales produjeron respuestas inmunitarias capaces de prevenir la enfermedad y, en algunos hámsteres, se detectó poca o ninguna replicación del virus ANDV. Estos vectores adenovirales no replicantes ofrecen ventajas sustanciales sobre las vacunas inactivadas, ya que producen una inmunidad celular robusta y totalmente protectora contra los hantavirus, y sobre las vacunas de ADN que, no han protegido a los hámsteres del virus ANDV. Los autores consideraron en ese entonces que, se requerían más estudios con estos vectores adenovirales para comprender la contribución relativa de la inmunidad humoral frente a la celular y para obtener una caracterización más precisa de los antígenos y mecanismos de protección. Sin embargo, el problema de la inmunidad preexistente al Ad5 sigue siendo importante, y se prevé que serán necesarios otros tipos de vectores adenovirales con una inmunidad humana menos prevalente para los ensayos clínicos de vacunas contra el hantavirus. Con este fin, se han diseñando otros vectores basados en serotipos adenovirales menos comunes (Ad6 y Ad35) o en el adenovirus porcino Ad3.

A pesar de todos los estudios que se han realizado, aún no existe una vacuna autorizada para prevenir la enfermedad, por lo que continúan desarrollándose múltiples candidatos vacunales. Así, en mayo del presente año, la revista internacional *Nature* y la BBC del Reino Unido informaron sobre el estado de la investigación de la vacuna contra el hantavirus. *Nature* entrevistó a Jay Hooper, jefe de la División de Virología Molecular del Instituto de Investigación Médica de Enfermedades Infecciosas del Ejército de Estados Unidos (USAMRIID), quien ha estudiado el hantavirus durante más de 30 años.

Hasta la fecha, se han completado los ensayos clínicos de fase 1 para tres cepas: el virus Andes, el virus Hantaan y el virus Puumala. La vacuna de ADN contra el virus Andes, que funciona inyectando la información genética del virus en forma de ADN para inducir una respuesta inmunitaria, genera anticuerpos neutralizantes que inactivan directamente el virus en el cuerpo humano. Hooper señaló que las perspectivas son alentadoras, aunque reconoció una limitación y es que se necesitan al menos tres dosis.

Si bien los resultados del ensayo de fase 1 deberían conducir a las fases 2 y 3, aún queda un largo camino por recorrer. Según explicó Hooper, la baja frecuencia de casos y su dispersión geográfica, dificulta la identificación de una región específica para llevar a cabo ensayos de eficacia convencionales. Se necesita un enfoque innovador que utilice la generación suficiente de anticuerpos neutralizantes del virus tras la vacunación como indicador de eficacia.

También se está considerando la tecnología de vacunas de ARN mensajero (ARNm), altamente utilizada durante la pandemia de COVID-19. Hooper indicó que los estudios sobre la vacuna de ADN de los Andes pueden trasladarse sin dificultad a una plataforma de ARNm, sin embargo, el avance es lento debido a la ausencia de estímulos externos contundentes.

Hantavax® es una de las vacunas pioneras contra el hantavirus. Aunque su desarrollo fue un hito importante, su uso hoy es limitado debido a su baja eficacia y a que no protege contra todas las variantes del virus. Se considera un caso excepcional en el que un científico identificó el agente causante de la enfermedad y desarrolló una vacuna preventiva.

Desarrollada por la compañía farmacéutica coreana Green Cross, Hantavax es una vacuna inactivada, creada a partir del aislamiento exitoso del virus Hantaan en 1976 y que se produce a partir de cerebros de roedores.

Se han realizado varios ensayos clínicos, cuyos resultados han mostrado limitaciones importantes en la eficacia de Hantavax. Se encontró que la capacidad de la vacuna para generar una respuesta inmune sólida y duradera era baja y se desvanecía rápidamente. Esto obligó a modificar el esquema de vacunación para intentar mejorarla. En el ensayo de Fase III (Esquema 0-1-13) se aplicaron dos dosis iniciales con un mes de diferencia y un refuerzo un año después. Tras el bajo por ciento de seroconversión luego de aplicar una rigurosa prueba para detectar anticuerpos neutralizantes (PRNT50) , se diseñó un ensayo de Fase III con un esquema 0-1-2-13, es decir, se añadió una tercera dosis inicial (tres dosis en los primeros dos meses) antes del refuerzo anual para potenciar la respuesta inmune. Los resultados mejoraron, pero aún no eran ideales.

De manera general, los esfuerzos para desarrollar una vacuna contra el hantavirus se han estancado repetidamente, en parte porque los brotes tienden a ocurrir esporádicamente y afectan de manera desproporcionada a los países más pobres, donde las farmacéuticas tienen menos incentivos para invertir.

Actualmente, se están desarrollando múltiples candidatos vacunales:

- Candidato del Ejército de EE. UU.: Un equipo del USAMRIID ha completado exitosamente los ensayos clínicos de fase 1 en humanos para vacunas de ADN contra las cepas Andes, Hantaan y Puumala. La vacuna de ADN contra el virus de los Andes, que funciona inyectando la información genética del virus en forma de ADN para inducir una respuesta inmunitaria, genera anticuerpos neutralizantes que desactivan directamente el virus en el cuerpo humano.

Según los investigadores, la vacuna de ADN contra el virus de los Andes es fácilmente transferible a una plataforma de ARNm, pero el progreso es lento debido a la falta de incentivos externos sólidos.

- Candidato de Corea y Moderna: El Centro de Innovación en Vacunas (VIC-K) de la Universidad de Corea y la empresa biotecnológica estadounidense Moderna, colaboran en el desarrollo de una vacuna de ARNm contra el hantavirus desde la firma de un acuerdo de investigación y desarrollo en septiembre de 2023. Sus estudios preclínicos han demostrado eficacia en ratones, pero el inicio de los ensayos clínicos se encuentra a la espera de financiación.
- Desarrollo en el Reino Unido: La empresa EnsiliTech, con apoyo de la Agencia de Seguridad Sanitaria del Reino Unido, comenzaron a trabajar en la vacuna hace 15 años y se basa en la tecnología de ARN mensajero, la misma plataforma utilizada para desarrollar las vacunas contra la COVID-19. El candidato vacunal está dirigido a una cepa de hantavirus conocida como virus hantaan, que se encuentra principalmente en el este de Asia y puede causar hemorragias internas y daño renal, técnicamente denominada fiebre hemorrágica con síndrome renal (FHSR) y ha completado la etapa preclínica de su vacuna de ARNm termoestable y se prepara para iniciar ensayos clínicos. El reciente brote de hantavirus ha atraído la atención mundial hacia esta investigación, y los científicos esperan ahora que ese interés se traduzca en mayor financiación para continuar con el trabajo.
- Iniciativa en Chile: El proyecto liderado por un equipo interdisciplinar de la Universidad San Sebastián y la Universidad de Chile, que investiga la reacción del sistema inmune a la cepa Andes, la única variante conocida que puede transmitirse entre humanos y la responsable del brote en el crucero donde hubo 10 contagios y tres muertos, ha desarrollado anticuerpos monoclonales 100 % humanos con potencial terapéutico y preventivo. Han demostrado una eficacia del 100 % en modelos animales, pero se requiere financiación para iniciar pruebas en humanos. Los anticuerpos se enviaron a los laboratorios Rocky Mountain de Montana (Estados Unidos), dependientes de los Institutos Nacionales de Salud (NIH, por sus siglas en inglés), y al Instituto Robert Koch de Alemania, donde se inyectaron en hámster sirios dorados, que antes se habían infectado «con dosis potencialmente letales de hantavirus.

Los orígenes del hantavirus están claramente establecidos y constituye una grave amenaza para la salud pública. Si bien la creación de vacunas ha avanzado lentamente a lo largo del tiempo, hoy en día hay un ecosistema científico diverso y dinámico que colaboran para lograr una solución efectiva en el futuro.

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Noticias en la Web

La OMS advierte que la humanidad no está preparada para enfrentar una nueva pandemia aún más dañina

18 may. La Organización Mundial de la Salud (OMS) alerta que la humanidad se encuentra al borde de enfrentar una pandemia más devastadora, ya que la preparación global actual no está a la altura del creciente riesgo. Expertos advierten que el mundo no está listo para afrontar una nueva crisis sanitaria, dado el aumento de brotes graves y el deterioro de la resiliencia sanitaria. Destacan la disminución de la equidad en el acceso a medidas sanitarias, el incremento de enfermedades zoonóticas y la necesidad de fortalecer la vigilancia de virus con potencial pandémico.

Las recientes emergencias sanitarias dejaron algo claro: la humanidad sigue sin estar preparada para atacar una futura pandemia, según la Organización Mundial de la Salud (OMS).

De acuerdo a El País, un informe de expertos de la Organización Mundial de la Salud indica que “la preparación global no está a la altura del riesgo de pandemia”.

La situación es “alarmante”, indican, pues el riesgo de una futura pandemia empeora y la confianza de la ciudadanía en la salud aumenta.

Por lo tanto, los expertos advierten que el mundo no está preparado para enfrentar una nueva pandemia, en consecuencia de que el riesgo de brotes de enfermedades cada vez más graves ha aumentado.

“El mundo no es más seguro”, alertan los expertos, advertencia que llega 24 horas después de que la OMS haya vuelto a declarar la emergencia global por un nuevo brote de ébola en la República Democrática del Congo y Uganda.

La humanidad está al borde de sufrir una pandemia más dañina, dice la OMS

En específico, el análisis, realizado por la Junta de Monitorización de la Preparación Global (GPMB), quedó plasmado en el documento llamado “Un mundo al límite: prioridades para un futuro resiliente ante pandemias“, difundido por la OMS este lunes como co-coordinador del Grupo Banco Mundial.

Dicha junta fue creada tras la crisis del ébola en África occidental (ocurrida principalmente entre 2013 y 2016) para evitar que se repitiera una emergencia similar. Sin embargo, ocurrió.

Los expertos sostienen que, pese a las reformas y nuevas iniciativas impulsadas desde entonces, como el Fondo para Pandemias y el Acuerdo sobre Pandemias de la OMS, los esfuerzos han sido insuficientes.

Desde 2016, el mundo ya ha enfrentado cinco grandes emergencias sanitarias, incluida la pandemia de COVID-19.

Los especialistas señalan que el escenario mundial actual es más "volátil, incierto y complejo" que hace una década y existen señales preocupantes de que la resiliencia sanitaria podría estar debilitándose.

También advierten que los brotes de enfermedades infecciosas son cada vez más frecuentes y graves, con más casos y muertes, mientras que el impacto económico de estas crisis continúa creciendo.

Equidad en el acceso a medidas sanitarias

Otro punto crítico es la disminución de la equidad en el acceso a medidas sanitarias. Los expertos hablan de una "fatiga de la equidad", marcada por una menor voluntad política y financiera para garantizar acceso igualitario a vacunas, tratamientos y recursos de salud.

De hecho, aseguran que la cooperación global mostrada durante la pandemia de COVID-19 fue temporal y que la ayuda internacional destinada a salud ha regresado a niveles similares a los de 2009.

"Las inversiones en preparación se han fortalecido desde la pandemia del covid, pero el cambio en las prioridades geopolíticas amenaza con socavar este progreso", subrayan los autores.

Los científicos creen que si no se produce un cambio radical en la capacidad de los profesionales de salud para afrontar los factores que impulsan las pandemias y no se toma un compromiso real con la equidad, "el mundo corre el riesgo de entrar en un ciclo de crisis sanitarias cada vez más aceleradas, donde cada nuevo impacto erosiona aún más la resiliencia y profundiza las fracturas existentes".

Aumento de enfermedades zoonóticas

El informe también alerta sobre el aumento de las enfermedades zoonóticas, es decir, aquellas transmitidas de animales a humanos, como el reciente caso del hantavirus transmitido en un crucero en el Atlántico.

En dicho contexto, la comunidad científica estima que existen cerca de 10 mil virus aún desconocidos en mamíferos silvestres capaces de infectar a humanos.

No obstante, no todos podrían generar pandemias, pero basta con que uno tenga capacidad de transmisión eficiente para provocar una crisis global.

Vigilancia de virus para evitar una futura pandemia

Actualmente, la OMS mantiene bajo vigilancia diversos virus con potencial pandémico o pocas herramientas para combatirlos, entre ellos el ébola, el virus de Marburgo, el Zika, el Nipah, el MERS, la fiebre de Lassa y la fiebre hemorrágica de Crimea-Congo.

Además, reserva un espacio para la llamada "enfermedad X", un posible patógeno desconocido que podría causar una futura emergencia sanitaria internacional.

Frente a este escenario, el documento propone crear un sistema independiente de monitoreo de riesgos pandémicos, asegurar acceso equitativo a medidas sanitarias, fortalecer los sistemas de vigilancia y respuesta, y mantener un compromiso político y financiero permanente para actuar desde el "día cero" de cualquier nueva emergencia sanitaria.

Además, los especialistas llaman a enfrentar las futuras amenazas sin caer en el miedo, pero reforzando la capacidad de detección y respuesta temprana.

Fuente: BIOBIO CHILE.cl. Disponible en https://n9.cl/li5s3

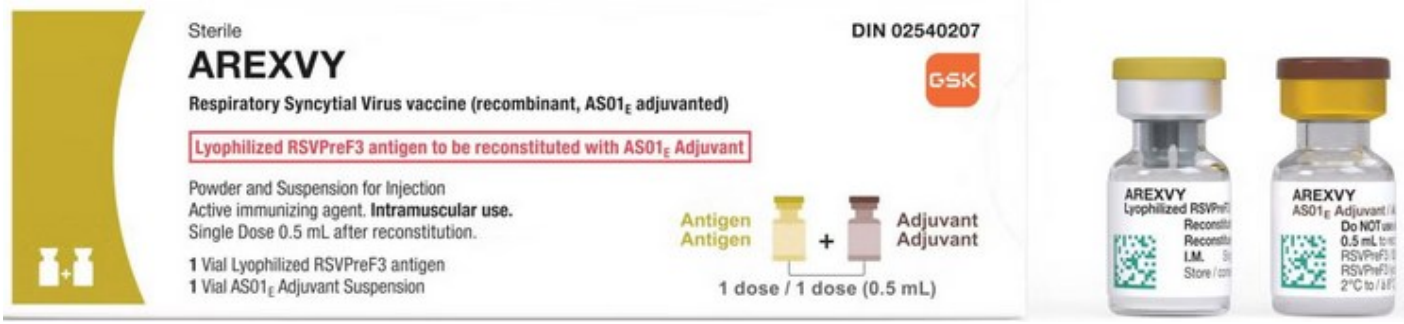
GSK's RSV vaccine Arexvy approved in Japan for some adults under 50

May 18. GSK PLC on Monday announced that Japan's Ministry of Health, Labour & Welfare expanded the eligible population for its respiratory syncytial virus vaccine Arexvy.

The London-based pharmaceutical company said Japan has allowed the inoculation of people aged 18 to 49 at increased risk for RSV disease. Prior to the approval, the vaccine had already been allowed for people aged 60 and over, and for 50 to 59-year-olds at increased risk for RSV.

The approval is based on phase 3b trial data which showed a non-inferior immune response in adults aged 18 to 49 at increased risk for RSV compared to adults aged 60 years and above.

"This expanded approval, the first covering all at-risk adults in Japan, can help reduce potentially severe outcomes of RSV. It recognises the serious impact RSV can have for adults of any age living with chronic conditions such as cardiovascular disease, chronic obstructive pulmonary disease and asthma, and it enables more people to take a proactive approach to disease prevention," said Sanjay Gurunathan, GSK Head of Vaccines & Infectious Diseases Research & Development.



Fuente: MORNINGSTAR. Disponible en https://n9.cl/rl369

El hantavirus revive los bulos sobre las vacunas de Pfizer contra la COVID-19

18 may. En el contexto de la alerta sanitaria por un brote de hantavirus en el crucero de lujo MV Hondius, hemos detectado cómo han vuelto algunos bulos sobre virus y vacunas. Algunos de ellos mencionan a la empresa farmacéutica Pfizer. Un mensaje reciente de un desinformador recurrente dice que las vacunas contra la COVID-19 "causaron 17 millones de muertes", aunque no hay ninguna prueba que lo demuestre. Te aclaramos este y otros bulos relacionados con las vacunas de Pfizer que vuelven a circular.

Nos habéis consultado por un mensaje que sostiene que, según un exvicepresidente de Pfizer, "no hubo ninguna pandemia" y que "mintieron para poder inyectar a 5,5 millones de personas con una sustancia intencionalmente peligrosa que ha matado a más de 17 millones de personas".

No existen evidencias de que esta vacuna haya causado 17 millones de muertes

Los mensajes atribuyen estas declaraciones a Michael Yeadon, un antiguo directivo de Pfizer que ha difundido desinformación de forma recurrente sobre las vacunas. Las encontramos en un vídeo publicado en su canal de Telegram en diciembre de 2023. La cifra de 17 millones de muertes por las vacunas circula desde que en septiembre de 2023 se publicara un informe titulado '*COVID-19 vaccine-associated mortality in the Southern Hemisphere*' (Mortalidad asociada a la vacuna contra la COVID-19 en el hemisferio sur).

Sin embargo, este informe es un '*preprint*', es decir, un documento que no ha sido sometido a una revisión por pares y que no ha sido publicado en ninguna revista científica. Un portavoz de la Organización Mundial de la Salud (OMS) declaró entonces a AFP que las afirmaciones de este estudio "no son correctas". Un investigador de la Universidad John Hopkins también manifestó a la agencia francesa que era probable que los repuntes de mortalidad que detecta este estudio "se debieran al "repunte del virus durante ciertos periodos" y no a "las campañas de vacunación". La organización sin ánimo de lucro Science Feedback lo revisó y lo calificó como "incorrecto" porque se basa en "los picos de exceso de mortalidad en el período posterior a la vacunación". "Estos picos probablemente se debieron a la COVID-19, no a las vacunas", aseguran.

La Organización Mundial de la Salud (OMS) publicó el 27 de noviembre de 2025 que "las vacunas contra la COVID-19 han salvado millones de vidas en todo el mundo". En junio de 2025, la Red de Vigilancia Respiratoria de la OMS para Europa publicó un estudio sobre las vacunas contra la COVID-19 que estima que "salvaron la vida entorno a 1,6 millones de personas en Europa". El proyecto se publicó en la revista *The Lancet Respiratory Medicine* y participaron el Centro Nacional de Epidemiología (CNE) del Instituto de Salud Carlos III (ISCIII) y el Ministerio de Sanidad junto a otros investigadores europeos.

Estos mensajes en redes sociales identifican a Michael Yeadon como exvicepresidente de la farmacéutica Pfizer, aunque, según su perfil de Linkedin, fue director científico del área de investigación sobre alergias y respiración en Pfizer y posteriormente vicepresidente de la misma área. Dejó su trabajo en la empresa farmacéutica en 2011 y, posteriormente, según la agencia Reuters, se convirtió en un "héroe" para el "movimiento antivacunas". En VerificaRTVE ya te hemos advertido sobre otros bulos que difundió este exdirectivo durante la pandemia: aseguró en 2020 que la pandemia había terminado y se oponía a la vacunación.

El hantavirus no es un efecto secundario de la vacuna de Pfizer contra la COVID-19

Otro de los bulos que circula sobre las vacunas es que el hantavirus es "un efecto secundario de la vacuna de Pfizer contra el coronavirus". La Asociación Nacional de Enfermería y Vacunas aseguró a VerificaRTVE que es "imposible" que la vacuna genere un hantavirus.

En VerificaRTVE hemos consultado a Pfizer y subraya que "la infección por hantavirus no figura como efecto secundario" en la ficha técnica de su vacuna contra la COVID-19. Estos mensajes comparten como prueba un documento que no menciona el hantavirus como efecto secundario de la vacuna. Son avisos que no han sido contrastados como efectos secundarios. El propio documento advierte de que "la acumulación de notificaciones de eventos adversos no indica necesariamente que un evento adverso esté causado por el medicamento"

Nuestro equipo ha desmentido otros ejemplos de desinformación relacionada con las vacunas, como que la farmacéutica Bayer no ha dicho que "engañaron" a la gente para vacunar contra el coronavirus y que Pfizer no ha desarrollado una nueva vacuna contra el hantavirus a fecha de publicación de este artículo.

Fuente: rtve. Disponible en https://n9.cl/siibzc

European Union and Singapore Back CEPI's Plan to Boost Global Defences Against Epidemic and Pandemic Threats

May 19. The Coalition for Epidemic Preparedness Innovations (CEPI) today welcomed landmark financial commitments from two of the world's leading health security partners at a World Health Assembly event. The European Union (EU) has committed €73.7 million through its Horizon Europe framework programme, and Singapore has pledged US$12 million to support CEPI's work to transform the world's ability to prevent and respond to epidemic and pandemic threats. Against the backdrop of a deeply concerning outbreak of Ebola caused by Bundibugyo virus, these commitments signal important international support for CEPI 3.0 – the coalition's five-year strategy for 2027-2031 - and CEPI's urgent work to tackle the growing threat posed by infectious disease outbreaks.

Dr Richard Hatchett, CEO of CEPI, said: "The major new commitments made by the European Union and Singapore are a vital signal of global resolve and leadership that bring us closer to realising CEPI 3.0's transformative potential. Concurrent outbreaks of hantavirus and Ebola caused by Bundibugyo virus serve as stark reminders that the gap between the threats we face and our readiness to meet them remains dangerously wide. These investments will help strengthen the world's disease defences so we are ready to respond rapidly and equitably to emerging viral threats."

The EU's financial commitment of €73.7 million will support CEPI's work in 2026 and 2027, maintaining the current annual level of funding. The EU is a long-standing partner and investor in

CEPI's mission. Supported by Horizon 2020 and Horizon Europe co-funding, CEPI has advanced vaccines for Chikungunya, Filoviruses, Rift Valley fever and other priority pathogens, strengthening Europe's and the world's ability to tackle emerging viral threats in close alignment with the EU's medical countermeasures and life sciences strategies.

Dr Florika Fink-Hooijer, Director General of DG HERA, said: "Ensuring access to medical countermeasures for the most vulnerable is a key EU priority for health emergency preparedness and response. The Commission's Global Health Resilience Initiative includes support to CEPI for the development of vaccines, feeding into the 100 Days Mission to produce a safe and effective vaccine within 100 days of a pandemic declaration. This support also contributes to better preparedness for infectious diseases that may spread beyond their current areas, including into parts of Europe." Marc Lemaître, Director General of DG Research and Innovation, added: "Through Horizon Europe, including in partnership with CEPI, the EU is investing in the full innovation pathway for new vaccines, from research and clinical studies to real-world deployment, including in low- and middle-income countries. Investing together in research and innovation, strengthening the scientific evidence base, and ensuring that new health solutions can be developed, is essential for global health security."

Singapore's financial commitment of US$12 million from 2027 to 2030 will support the delivery of the CEPI 3.0 strategy. With its strong innovation and manufacturing capabilities and regional reach, Singapore is a valued partner for CEPI across activities including preparing for regional threats, developing globally distributed RNA manufacturing design capabilities, and strengthening regulatory systems. Singapore's leadership and continued investment in CEPI reflect a shared commitment to global health security and building capabilities that can protect populations in Asia and globally against epidemic and pandemic threats.

In his address at today's event, Mr Ong Ye Kung, Minister for Health and Coordinating Minister for Social Policies, Singapore, said: "Singapore has invested steadily in vaccine research and development, and also manufacturing capability and capacity. But we recognise we are a very small country. Our national efforts must fit into a larger global effort. Our partnership with CEPI has deepened our own capabilities, including in scientific advisory engagement, regulatory preparedness, R&D and manufacturing collaboration, while allowing us to continue to contribute meaningfully to this broader global effort. As we look ahead to CEPI 3.0, we see a natural continuation of this partnership."

CEPI 3.0: a plan to secure the future against epidemic and pandemic threats

Current outbreaks of Hantavirus and Ebola caused by Bundibugyo virus underscore the persistent and evolving threat posed by infectious diseases and the urgent need to strengthen preparedness. Research indicates that the risk of another pandemic on the scale of COVID-19 within our lifetimes is significant, and that global economic losses from future pandemics are estimated to average more than US$700 billion per year. Left unchecked, outbreaks of viruses such as Lassa, Nipah, Rift Valley fever and the next unknown pathogen - known as Disease X - represent an escalating threat to human life, global health systems, and economic stability.

At the same time, the world is better equipped than ever to respond - if it chooses to invest. Advances in vaccinology, genomics, artificial intelligence and biomanufacturing have unlocked the possibility of developing safe, effective and accessible vaccines against new pandemic threats in as little as 100

days of their identification. This goal, known as the 100 Days Mission and endorsed by G7 and G20 leaders, sits at the heart of CEPI 3.0.

To deliver this step-change in preparedness, the CEPI 3.0 strategy centres on three interconnected priorities: developing vaccines to tackle the most dangerous pathogens and viral families; advancing rapid-response vaccine platform technologies capable of being swiftly adapted to unknown viruses; and strengthening global networks for research, manufacturing and regulatory readiness that can be activated swiftly whenever and wherever future threats emerge.

Fuente: FirstWord Pharma. Disponible en https://n9.cl/wb0ua2

Why the Test-Negative Design Is Our Most Vital Tool for Vaccine Effectiveness

May 21. A commonly used method to determine real-world vaccine effectiveness (VE) was recently called into question, with a move by the CDC director to bar the release of a study that used a test-negative design (TND). TND is an epidemiologic study design used to evaluate VE and has been used for decades to measure the effectiveness of vaccines for influenza, COVID-19, and other illnesses. Removing this test design would remove a tried-and-true methodology for evaluating VE, especially without offering an alternative. The recent decision to withhold a Morbidity and Mortality Weekly Report (MMWR) by political appointees at CDC fails to demonstrate radical transparency or support the gold standard of science.

VE is an estimate of how well a vaccine reduces the risk of a specific disease outcome caused by a vaccine-preventable disease. It is quantified among vaccinated individuals compared to those who are not vaccinated using a few different methods, while adjusting for factors that might influence these rates, such as age, underlying health conditions, and exposure risks. “Vaccine effectiveness” is measured in the real world once the vaccine is deployed to the population, whereas “vaccine efficacy” is measured in ideal trial conditions, something the real world may not approximate. Real-world VE is typically expressed as a percentage and indicates how well a vaccine protects people in the general population from infection, illness, or severe outcomes.

When evaluating VE, the best study designs are those that minimize bias and confounding while providing reliable estimates. TND is widely regarded as one of the most powerful and practical approaches, especially for respiratory illnesses, because it controls for healthcare-seeking behavior and exposure risk.

How Is VE Best Determined?

When determining VE, different endpoints can be used depending on the virus, disease, or expected vaccine outcome. Epidemiologists can use several study designs to measure the impact of a vaccine on infection, health-seeking behavior, hospitalization, need for intensive care, or death. Study designs are selected to reduce bias or can be adjusted for confounding factors. Another consideration in deciding how best to measure VE is the feasibility of the study within the health delivery and public health ecosystem. For example, some methodologies are more aligned with a universal healthcare system.

VE measurement allows us to characterize the performance of a vaccine in the communities where we live, work, and play. Think of VE as the difference in risk between those who get vaccinated and

those who don't, but in our everyday lives. A highly effective vaccine means you're much less likely to fall ill if you've been vaccinated. The higher the VE, the better. Importantly, VE tells us about the extra layer of protection vaccination provides on top of any natural or baseline immunity in the community. It is a real-world measure of what additional benefit the vaccine provides over not being vaccinated, and it measures effectiveness in the wild.

Why We Use TND to Reduce Bias

In a TND study, individuals who seek medical care for symptoms consistent with the disease being studied are tested for the pathogen. Those who test positive are classified as cases, and those who test negative serve as controls. By comparing vaccination rates between these two groups, epidemiologists can estimate the additional benefit the tested vaccine confers over and above baseline immunity for a given virus in a given season. It is the favored approach for measuring VE, especially for seasonal vaccines that protect against common respiratory infections. TND is the methodology CDC used to express VE for the influenza vaccine this season. It is unclear why appointed leadership at CDC elected to prevent its publication in MMWR.

TND offers several advantages, including minimizing bias related to healthcare-seeking behavior, as all participants present with similar symptoms and are tested for the same pathogen. It also helps control for confounding factors such as access to healthcare and exposure risk. However, TND is not perfect because it assumes that the vaccine does not affect the likelihood of seeking care or being tested, and it relies on accurate diagnostic testing. Despite these limitations, the test-negative approach remains a powerful and practical method for assessing real-world vaccine effectiveness in diverse populations.

Other study designs can be used to measure VE when data from randomized controlled studies are not feasible or when VE needs to be estimated in systems that do not have population-wide data, such as the United States. Other study designs include cohort and traditional case-controlled studies.

Cohort studies are highly effective, as they allow for direct observation of disease incidence in vaccinated versus unvaccinated groups over time. But cohort studies are often expensive and not feasible. Case-control studies provide another valuable method by comparing vaccination status between cases and controls, making them useful when population-wide data are not available.

Case-Control Impacted by Healthcare Access

The main difference between TND and case-control studies lies in how cases and controls are selected, as outlined in the next figure

Utilizing Our Most Effective Tools

The bottom line is that there are many ways to measure VE, but TND is the most responsive to our public health ecosystem and the respiratory diseases for which we currently use the methodology. Imagining new study designs and striving for a more unified data ecosystem are important endeavors, but we need to live in the now and use methodologies that are robust and feasible. Protecting the integrity of TND is synonymous with protecting the public's right to know if their most recent shot is still working.

Study design	Design details	Advantages	Disadvantages
Test negative	Cases and controls are individuals who sought medical care for similar symptoms and were tested for the same pathogen; "cases" test positive, and "controls" test negative	Helps control for healthcare-seeking behavior and exposure risk	Relies on the accuracy of a single diagnostic test
Case-control	"Cases" are individuals who have the disease of interest, and "controls" are those recruited from the healthy community	Speed	The selection of controls can introduce more variability and potential bias
Cohort	Follows group of vaccinated vs unvaccinated individuals for months or years	Useful when population-wide data are not available	Costly and operationally complex

Fuente: MEDSCAPE. Disponible en https://n9.cl/4k6mnd

Indonesia's BPOM highlights vaccine regulation at WHA

May 21. During the 79th World Health Assembly (WHA), Indonesia's Food and Drug Monitoring Agency (BPOM) highlighted the importance of strengthening collaboration, science-based regulation, and regulatory harmonization to accelerate vaccine development and boost public trust.

"A strong regulatory system is a strategic element in strengthening trust and accelerating vaccine development and production, particularly among Global South countries," BPOM head Taruna Ikrar said in Jakarta on Thursday.

Speaking at a panel session titled "Building Resilient Vaccine Ecosystems," he said collaboration and innovation must continue to be strengthened to support more resilient health systems in the future.

According to him, stronger collaboration and innovation would help Global South countries improve public health resilience and quality of life.

"In this evolving landscape, collaboration is no longer an option but a necessity," he said.

The 79th WHA, held from May 18-23, 2026, in Geneva, Switzerland, focused on strengthening global health systems, including expanding access to health products, enhancing local manufacturing capacity, and improving regulatory systems.

WHO Director-General Tedros Adhanom Ghebreyesus announced on May 19 that Australia, Canada, Indonesia, Japan, and the United Kingdom had been designated as WHO-Listed Authorities (WLA).

Tedros said the designation was aimed at accelerating prequalification and procurement processes.

According to Ikrar, the designation reflects international recognition of Indonesia's regulatory capacity in ensuring the safety, efficacy, and quality of health products in line with global standards.

He said Indonesia, together with the Developing Countries Vaccine Manufacturers Network and global partners, also organized a side event during the WHA titled "Advancing Local Production for Equitable Access, Resilient Health Systems, and Global Health Security."

He said the event served as a strategic forum for global health leaders, regulators, international organizations, vaccine manufacturers, and development partners to strengthen local and regional production capacity.

Fuente: ANTARA NEWS. Disponible en https://n9.cl/jq8uk

South Korea Expands HPV Vaccination Program to 12-Year-Old Boys as Experts Stress Broader Cancer Prevention

May 22. Professor Kim Dong-hyun from Inha University Hospital's Department of Pediatrics emphasized at a press conference held at the Seongam Art Hall in Seoul that Human Papillomavirus (HPV) is a threat to both men and women, not just a women's issue. He stressed that vaccination before exposure to the virus yields the best results, as HPV spreads through sexual contact.

Kim Dong-hyun, is speaking at a press conference on the new guidelines for the National Immunization Program (NIP) regarding HPV vaccination for both males and females, held on Wednesday afternoon at Seongam Art Hall in Seoul.

The conference aimed to highlight the significance and necessity of expanding the National Immunization Program (NIP) for HPV vaccinations to include 12-year-old boys, a change that took effect on May 6.

This expansion of the HPV NIP, previously focused on female adolescents, marks a pivotal shift in South Korea's HPV prevention strategy.

The Korea Disease Control and Prevention Agency reports that the expanded target group for the HPV NIP now includes 12-year-old boys. As of 2026, boys born in 2014 can receive vaccinations immediately, regardless of their birth month.

HPV can infect both men and women, and according to the International Papillomavirus Society, it's responsible for approximately 5% of all cancers worldwide. While most HPV infections resolve naturally, persistent infections can lead to various cancers and genital warts.

In South Korea, HPV infections are on the rise. The Disease Control Agency reports a 32.8% increase in HPV cases over the past four years, from 10,945 in 2020 to 14,534 in 2024. Notably, reported cases among men surged by 82.9%, from 117 cases in 2020 to 214 cases in 2024. A study involving 44,065 South Korean men found that 59% tested positive for HPV DNA.

Professor Kim explained that while the HPV vaccine is commonly known as the cervical cancer vaccine, it also protects men against various diseases, including oropharyngeal cancer and genital warts. It's crucial to recognize men's significant role in HPV infection and transmission.

Last year, male patients with genital warts, primarily caused by HPV, numbered 48,017, about five times higher than the 9,600 female patients.

The quadrivalent HPV vaccine, part of the national immunization program, is recommended as a two-dose series for those aged 9 to 14. Experts consider ages 11 to 12 optimal for vaccination, when immune responses are most robust and before sexual debut.

Professor Kim noted that the average age of sexual debut among adolescents is decreasing, currently at 13.6 years. Regardless of moral implications, vaccinating between ages 9 and 14 provides higher immunogenicity compared to adults.

Research shows that two doses given between ages 9 and 13 elicit immune responses to HPV types 16 and 18 comparable to three doses given between ages 16 and 26. However, the HPV vaccination rate for South Korean male adolescents born in 2011 remains at a mere 0.2%.

Jo Jae-yong, Executive Director of the Vaccine Business Division at MSD Korea, stated that despite HPV affecting both genders and causing various diseases, awareness about male vaccination has been low. It's committed to ensuring smooth implementation of vaccinations for male adolescents through multifaceted efforts.

Fuente: News1. Disponible en https://n9.cl/esbpg8

One Shot, Big Shift – Brazil's Homegrown Breakthrough Against Dengue

May 22. It's a rare piece of good news. A single-dose dengue vaccine developed in Brazil as part of an international collaboration protected people against at least two strains of the virus for five years or longer, and did so safely.

The vaccine was already being tested across Brazil and the findings helped boost confidence in its use.

"This is a big deal," says Dr. André Siqueira, Head of the Dengue Global Program at the Drugs for Neglected Diseases Initiative (DNDi).

Dr. Siqueira, who is also an Infectious Diseases Consultant at Brazil's Instituto Nacional de Infectologia Evandro Chagas, a hospital that is part of the Oswaldo Cruz Foundation (Fiocruz), helped develop the vaccine. He chatted with One World, One Health about the work in 2024.

The new vaccine worked almost perfectly to keep people from being hospitalized with severe dengue symptoms, Dr. Siqueira and the team reported in Nature Medicine.

That's a big deal. Dengue can cause terrible symptoms, including severe abdominal pain, internal bleeding, severe muscle aches, and long term fatigue. From January 2025 to January 2026, dengue killed more than 4,000 people.

The only other dengue vaccines currently available are a two-dose formula made by Japanese manufacturer Takeda and Sanofi's Dengvaxia, which the company is discontinuing because of a lack of demand.

In this episode, Siqueira updates host Maggie Fox about the latest findings on the new vaccine's efficacy and its rollout in Brazil.

Dr. André Siqueira is Head of the Dengue Global Programme at the Drugs for Neglected Diseases Initiative (DNDi), where he leads global efforts to accelerate the development of new treatments for dengue. A physician specializing in infectious diseases, André has over 15 years of experience in clinical research on emerging and neglected tropical diseases, with a focus on dengue, malaria, chikungunya, and Zika. André has led and coordinated multicenter research initiatives, contributed to international clinical trials, and serves as an advisor to national and global health agencies on arboviral disease control. As part of his commitment to addressing health challenges in low- and middle-income countries, André actively works to ensure that innovative dengue treatment options reach the populations most at risk.

Fuente: ONE HEALTH TRUST. Disponible en https://n9.cl/38776

EYEGENE selected for two national R&D projects, including mRNA-based Hantavirus localization

May 22. EYEGENE announced that it has been simultaneously selected for two national projects related to the development of 'messenger ribonucleic acid (mRNA) vaccines,' led by the Korea Disease Control and Prevention Agency (KDCA) and the Vaccine Innovative Technology ALliance Korea (VITAL-Korea). The selected programs include the 'Development of an mRNA preventive vaccine for Hantavirus' and the 'Development of an mRNA preventive vaccine for severe fever with thrombocytopenia syndrome (SFTS),' with a total investment of KRW 4 billion (approximately USD 2.6 million) planned over the next two years.

The Hantavirus project is being conducted under the 'Hantavirus Vaccine Development' initiative under the KDCA's 'Support program for establishing rapid development technologies for priority infectious disease pandemic preparedness.'

The participating organizations include a research team led by Professor Cheong Hee-Jin of Korea University, EYEGENE, and MediciBIO, with a total investment of KRW 3 billion over a two-year period.

Through this collaboration, the participating institutions aim to develop a 'universal Hantavirus preventive vaccine' capable of inducing cross-immunogenicity against both Hantavirus and Seoul Virus by utilizing entirely domestically developed core mRNA technologies.

According to reports, as of May 10, a cluster outbreak of Andes virus infection aboard the Dutch-flagged cruise ship MV Hondius in the South Atlantic resulted in seven confirmed cases and three deaths. In addition, with two consecutive confirmed Hantavirus cases reported in Taiwan in January and March, concerns are rising that Hantavirus may be emerging as a new global infectious disease threat. Given that no new Hantavirus vaccine has been introduced for more than 30 years, discussions are growing around the possibility that a domestically developed mRNA-based candidate could achieve global first-in-class status if successfully commercialized.

Another selected project is the 'SFTS mRNA Vaccine Development' initiative led by the Vaccine Innovative Technology ALliance Korea (VITAL-Korea), which will receive KRW 1 billion in funding over two years. Under this project, EYEGENE is collaborating with a research team headed by Professor Hong Kee-jong of Gachon University to identify and secure vaccine candidates. SFTS is a tick-borne viral disease, commonly referred to as the 'killer tick' infection. It is classified as a high-risk infectious disease in Korea, where approximately 200 new cases are reported annually and the cumulative fatality rate is estimated at around 18.7%.

"The extensive expertise accumulated through the development of COVID-19 mRNA vaccines served as the foundation for the development of these Hantavirus and SFTS vaccine candidates. Since the early stages of the COVID-19 pandemic, EYEGENE has been conducting research to establish its mRNA platform technology, and through collaborative efforts, we have successfully internalized core source technologies, including mRNA manufacturing processes and advanced delivery systems," an EYEGENE official said.

Fuente: THE BIO NEWS. Disponible en https://n9.cl/m2dor

New immune system enhancer extends COVID-19 vaccine protection reducing need for repeated boosters

May 22. In a new study published in Nature Immunology, researchers at Boston Children's Hospital demonstrated that pairing the original COVID-19 mRNA vaccine with an immune system enhancer, known as an adjuvant, extended the duration of the vaccine's protection in mice from a few months up to two years. The combo also showed a more pronounced response against omicron viral components than the vaccine alone. The researchers say that introducing adjuvants like this one to mRNA vaccines may alleviate the need for frequent boosters due to waning antibodies or new viral variants. The findings point to a fundamentally new approach: rather than chasing each new variant with an updated booster, adjuvants like this one could train the immune system to respond more broadly and stay effective as viruses evolve.

The research team, led by Ivan Zanoni, PhD, Boston Children's Hospital chair in the field of immunology, developed the adjuvant from a branched sugar molecule, known as mannan, found on the outer cell wall of the yeast Candida. They combined mannan with alum, another long-used vaccine adjuvant, to create their "mannadjuvant."

"Our strategy takes advantage of the immune system's innate ability to ramp up broadly in response to a variety of components found in and on pathogens," says Zanoni. "Even though the mRNA

technology is the biggest breakthrough for vaccine technology in the last two decades, we thought that there was still room for us to improve this platform."

In an earlier study, Zanoni's team used the mannadjuvant to enhance the effectiveness of a protein-based influenza vaccine. For this latest study, they tested the effectiveness of the adjuvant when combined with an mRNA vaccine.

"When you get the COVID vaccine, the antibody levels drop after 6 months. You have to keep getting boosters to keep up a strong defense," says Zanoni. "The virus mutates so quickly that the antibodies your body creates from the original vaccine don't recognize the newer versions of the virus in circulation."

An mRNA COVID vaccine contains genetic material — that encodes the instructions for building a piece of the virus' outer spike protein — encased in a fatty, protective shell that shuttles the vaccine inside immune cells. Zanoni's team first ensured that the vaccine remained stable when combined with the adjuvant.

Next, the researchers tested the vaccine and adjuvant in mice. Compared to a few months of protection that the typical vaccine provided, those mice given the vaccine with the mannadjuvant still had antibodies to the virus' spike protein up to two years later.

Finally, to probe protection against viral evolution, Zanoni's team exposed the vaccinated mice to versions of the mutated COVID spike proteins from the omicron variants. The mice given the COVID-19 vaccine with the mannadjuvant mounted markedly stronger immune responses to the variants than those mice given the mRNA vaccine alone.

For future studies, the team plans to continue dissecting the molecular mechanism for how their adjuvant works to stimulate the immune system, especially since the immune system's response to fungi isn't well understood. The team has filed patents on the mannadjuvant and formed a spinoff biotech company to further develop the technology for eventual use in human trials.

Fuente: EurekAlert! Disponible en https://n9.cl/uitx34

Oxford Scientists Are Developing First-Ever Vaccine For Rare Bundibugyo Ebola Strain

May 23. Scientists in the UK are working to create a vaccine against the Bundibugyo strain of Ebola, a rare version of the virus linked to the recent outbreak in Central Africa. Unlike the other strain, Zaire, which already has approved vaccines, Bundibugyo does not yet have a licensed vaccine or treatment. Researchers at Oxford University are developing the novel jab targeting the rare strain. The World Health Organization says clinical trials could begin in just two to three months if animal tests go well.

This breakthrough uses the same technology the Oxford team created during the COVID-19 pandemic. The vaccine employs a harmless chimpanzee cold virus modified to carry Bundibugyo genetic information, teaching the immune system to recognise and fight real Ebola without causing

infection. Animal trials are already underway, though scientists caution there's no guarantee of success until human testing begins. The Serum Institute of India stands ready to mass-produce the vaccine once Oxford provides the medical-grade materials needed.

How The Vaccine Works

The ChAdOx1 technology is versatile. During the pandemic, scientists loaded it with COVID virus genetic blueprints. Now, they've swapped in Bundibugyo Ebola genetic information. The modified cold virus delivers this genetic code to human cells, which then produce harmless Ebola proteins. This trains the immune system to spot and destroy actual Ebola virus if someone gets infected later.

This approach is faster than traditional vaccine development because the basic platform already exists and has proven to be safe. Scientists don't need to start from scratch, they simply reprogram the delivery system for a different disease.

What Happens Next

The next stage involves testing, safety checks, and possible emergency use planning. Scientists must confirm that the vaccine creates strong protection and does not cause serious side effects. Even with fast progress, careful evaluation remains essential.

The work under way in the UK reflects a broader lesson from recent health emergencies: preparation matters. A vaccine ready within months would not only help control the current outbreak but could also improve global readiness for future Ebola threats.

Why This Ebola Strain Is Different

Ebola is not a single virus. Scientists have identified several species, and vaccines that are already available mainly target the Zaire strain. The Bundibugyo version has caused fewer outbreaks in the past, so it received less attention. Because of this, the world entered the latest outbreak without a ready-made vaccine.

Experts say this gap in preparation is now driving urgent action. Researchers are examining different vaccine designs, including viral-vector methods and approaches based on technology used during earlier epidemic responses. The aim is to create protection that specifically targets the Bundibugyo strain while remaining safe for human use.

Why This Matters Now

The Bundibugyo strain is particularly dangerous because no approved vaccine exists for it. Current Ebola vaccines only protect against other strains like Zaire. With outbreaks occurring and the strain killing roughly 33% of infected people, rapid vaccine development could save countless lives.

Another experimental Bundibugyo vaccine is in development but won't be ready for trials for six to nine months, making Oxford's faster timeline crucial. If successful, this vaccine could become a vital tool in stopping future Ebola outbreaks before they spread widely. The speed of this development shows how pandemic-era vaccine science can be rapidly redirected to fight other deadly diseases, offering hope for quicker responses to emerging health threats.

Fuente: NDTV LIFE IN LINE. Disponible en https://n9.cl/eqrv3

New advances improve prevention and treatment of HPV-related cancers

May 24. A new review article is drawing attention to the growing global impact of human papillomavirus (HPV) and the rapid progress in vaccines and therapeutic strategies aimed at reducing the burden of cervical and non-cervical cancers. The article highlights how evolving approaches are reshaping prevention, treatment, and long-term disease management.

HPV remains a leading cause of multiple cancers, including cervical, anal, oropharyngeal, and genital malignancies, affecting both women and men. Persistent infection with high-risk viral types plays a central role in cancer development by disrupting normal cellular processes and promoting genomic instability.

Recent advances in prophylactic vaccines have significantly strengthened prevention efforts. Current vaccines provide strong protection against the most dangerous HPV strains, helping to reduce infection rates and precancerous changes. New-generation vaccines are being developed to expand coverage and protect against a broader range of cancer-causing variants, increasing their global reach and effectiveness.

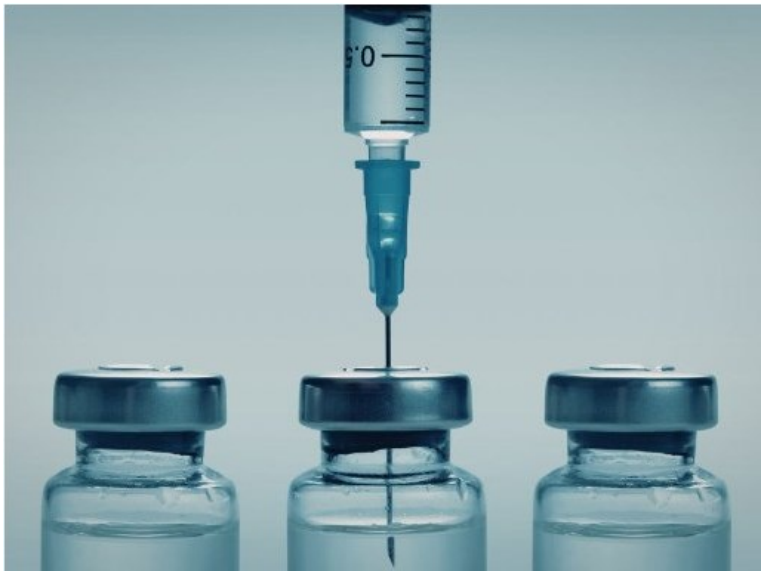
Beyond prevention, innovative therapeutic vaccines are emerging as powerful tools to target existing HPV-related cancers. These approaches focus on activating the body's immune response, particularly T-cell activity, to identify and eliminate infected cells. Key viral components such as E6 and E7 proteins are central targets, enabling more precise and effective treatment strategies.

The article also highlights the promise of advanced technologies, including gene editing and immunotherapy. Techniques such as CRISPR-based approaches, DNA vaccines, and immune checkpoint inhibition are opening new pathways for treating HPV-driven cancers. These innovations aim to enhance immune recognition, remove infected cells, and improve clinical outcomes.

Fuente: NEWS MEDICAL LIFE SCIENCES. Disponible en https://n9.cl/kwq6d

Pfizer avanza en su estudio de la vacuna antineumocócica pediátrica frente a 25 serotipos tras presentar resultados en fase II

25 may. Pfizer ha anunciado los datos de su estudio de fase II (NCT06524414) en el que se evalúan la seguridad, la tolerabilidad y la inmunogenicidad de una serie de cuatro dosis de su candidata a vacuna antineumocócica conjugada 25-valente, PF-07872412 (25vPnC), en lactantes, en comparación con cuatro dosis de PCV20 administradas a los 2, 4, 6 y 12-15 meses.



Basándose en las respuestas inmunitarias observadas para los 25 serotipos, la compañía confía en alcanzar los criterios de no inferioridad requeridos en el programa pediátrico de Fase 3.

Los datos preliminares más relevantes del estudio de fase II se han presentado en la 14.ª reunión de la Sociedad Internacional de Neumonía y Enfermedades Neumocócicas (ISPPD), celebrada en Copenhague, Dinamarca. Los resultados revelaron que:

Un mes después de la tercera dosis, los títulos medios geométricos de IgG para el serotipo 3 fueron 8,8 veces más altos con esta vacuna, frente a la vacuna actualmente aprobada (4,22 frente a 0,48).

Un mes después de la dosis 4, los títulos medios geométricos de IgG para el serotipo 3 fueron aproximadamente 15 veces más altos (13,85 frente a 0,92).

Se espera que esta candidata a vacuna cubra hasta el 90% de los serotipos causantes de enfermedad en niños menores de 5 años, siendo aproximadamente el 15% de los causados por el serotipo 3, según el análisis realizado en Estados Unidos y presentado en el citado congreso.

“Durante más de 25 años, nuestras vacunas han ayudado a proteger a los niños contra la enfermedad neumocócica, pero la carga de la enfermedad sigue siendo considerable”, afirma José Chaves, director médico de Pfizer España. “Estos resultados de fase II refuerzan nuestra confianza en una vacuna de última generación diseñada para ampliar la protección frente a un mayor número de serotipos, al tiempo que mejora las respuestas frente a los principales factores causantes de la enfermedad residual, como el serotipo 3. Estamos avanzando en nuestro programa de fase III con el objetivo de continuar mejorando y ofrecer una protección todavía más amplia y duradera a los niños”, añade.

El estudio de fase II es un ensayo aleatorizado en lactantes sanos, cuyo reclutamiento inicial comenzó en julio de 2024, en el que se evalúa la vacuna objeto de estudio en comparación con la vacuna actualmente aprobada. Los participantes fueron aleatorizados para recibir una u otra vacuna en los meses 2, 4, 6 y 12-15. Se evaluó la seguridad y la tolerabilidad, incluida la reactogenicidad local y sistémica en los siete días posteriores a cada vacunación, así como los acontecimientos adversos y los acontecimientos adversos graves en los participantes que recibieron al menos una dosis. El ensayo también evaluó la inmunogenicidad un mes después de la dosis 3 y un mes después de la dosis 4.

El perfil de seguridad y tolerabilidad de ambas vacunas objeto de estudio fueron similares, todos ellos leves o moderados, siendo el enrojecimiento, la hinchazón o el dolor en el lugar de la inyección, las reacciones locales más frecuentes.

Avances en los estudios pediátricos hacia la fase 3

Por lo tanto, basándose en estos datos de la fase II y en las conversaciones con las autoridades reguladoras, Pfizer inició un programa pediátrico pivotal de fase III en mayo de 2026. Los estudios evalúan la seguridad, la tolerabilidad y la inmunogenicidad en niños sanos, en los que los participantes reciben ambas vacunas a los 2, 4, 6 y entre los 12 y los 15 meses de edad. Los participantes recibirán la misma vacuna en las cuatro dosis, con un total de hasta 2400 individuos, comparando la vacuna objeto de estudio respecto a la vacuna estándar actualmente autorizada.

Fuente: ANIS INFORMADORES DE LA SALUD. Disponible en https://n9.cl/i2eqk

El laboratorio Pfizer rompió el silencio tras las versiones sobre los efectos adversos de la vacuna de COVID-19 en los niños

25 may. Pfizer respondió a las versiones que vinculan la vacuna contra la COVID-19 con muertes pediátricas y aseguró que no existe evidencia concluyente de causalidad. La farmacéutica Pfizer difundió un extenso comunicado luego de que un memorándum interno de la FDA reavivara la discusión sobre posibles efectos adversos de la vacuna contra la COVID-19 en niños.

El documento, fechado el 5 de diciembre de 2025, menciona diez fallecimientos pediátricos que fueron analizados por las autoridades sanitarias, aunque no establece de manera concluyente una relación causal entre las dosis aplicadas y las muertes.

El contenido de ese documento se filtró a través de una carta que el senador republicano Ron Johnson le envió al secretario de Salud de Estados Unidos, Robert Kennedy Jr., para solicitarle más datos sobre los efectos adversos de la vacuna de la COVID-19 en niños en pos de la transparencia sobre la seguridad de la misma.

A raíz de la difusión del informe, según indica Clarín, la empresa remarcó que ninguna de las muertes evaluadas puede considerarse "seguramente" vinculada a la vacunación y pidió evitar interpretaciones parciales del contenido. En su descargo, la compañía insistió en que las categorías utilizadas en el memorándum responden a criterios técnicos internacionales de farmacovigilancia y no constituyen una confirmación definitiva de causalidad.

"Las vacunas COVID-19 están sujetas a uno de los sistemas de farmacovigilancia más intensivos de la historia médica moderna, con monitoreo activo por la FDA, CDC, EMA, ICMRA y OMS. Estos organismos actualizan sus recomendaciones de manera continua cuando los datos así lo justifican", advierte.

Además, Pfizer destacó que hasta agosto de 2025 se habían administrado más de 95 millones de dosis en menores de 12 años en Estados Unidos, por lo que sostuvo que cualquier conclusión debe apoyarse en análisis estadísticos y revisiones clínicas exhaustivas.

Qué dijo Pfizer sobre la miocarditis y los controles de seguridad

En el comunicado, la empresa también se refirió a la miocarditis, uno de los eventos adversos que más controversia generó desde el inicio de la vacunación con tecnología de ARNm. Según explicó, esta afección puede aparecer tanto después de una infección por SARS-CoV-2 como, en casos poco frecuentes, tras la vacunación.

La farmacéutica sostuvo que los cuadros asociados a las vacunas suelen ser raros y con evolución favorable, y afirmó que el riesgo de complicaciones cardiovasculares graves continúa siendo mayor después de contraer COVID-19 que tras recibir el esquema de inmunización.

Pfizer aseguró además que las vacunas contra el coronavirus continúan bajo uno de los sistemas de vigilancia más exigentes del mundo y señaló que cualquier señal de seguridad es analizada junto a organismos internacionales como los CDC, la OMS y agencias regulatorias europeas.

El memorándum que originó la polémica fue difundido por el senador Ron Johnson mediante una carta dirigida a Robert F. Kennedy Jr., lo que volvió a instalar el debate sobre cómo se comunican públicamente los datos vinculados a la seguridad de las vacunas.

Fuente: LA GACETA. Disponible en https://n9.cl/kbt30f

No more needles? Six technologies that could transform how we get vaccinated

May 26. For more than a century, most vaccines have entered the body via a needle and syringe. But the future of vaccination may not involve a jab at all.

From skin patches and nasal sprays to edible plants and inhalable powders, researchers are experimenting with alternative ways of getting vaccines into the body in the hope of making them easier to distribute, less invasive and better at blocking infections at their point of entry.

MAPs could be particularly transformative in regions where vaccination campaigns are hampered by shortages of trained health workers, waste and the difficulty of keeping liquid vaccines cold during transport.

Here are six innovations that could transform how we get vaccinated, with implications for everything from vaccine access in lower-income countries to the speed at which vaccines could be deployed during future global health emergencies.

1. Vaccine patches

Microarray patches (MAPs) are small adhesive patches studded with hundreds or thousands of microscopic projections that painlessly deliver vaccine into the immune cell-rich upper layers of the skin.

Because the vaccine ingredients are dried onto or inside these projections, MAPs are smaller, lighter and potentially more resistant to fluctuating temperatures than conventional liquid vaccines, making them easier to transport and store.

They may also prove more acceptable to people with needle aversion and are easier to administer – or even self-administer – raising the possibility of faster mass vaccination campaigns during outbreaks or pandemics.

MAPs could be particularly transformative in regions where vaccination campaigns are hampered by shortages of trained health workers, waste and the difficulty of keeping liquid vaccines cold during transport.

Recognising this potential, the Vaccine Innovation Prioritisation Strategy (VIPS) Alliance – a collaboration between Gavi, the World Health Organization (WHO), UNICEF, PATH and the Gates Foundation – recently identified 11 vaccine patches with the greatest potential public health impact in lower-income countries, including MAPs for measles-rubella, hepatitis B administered at birth, tuberculosis and HPV.

One measles-rubella MAP developed by researchers at the US Centers for Disease Control and Prevention and the Georgia Institute of Technology has already shown promise in a Gambian trial, where parents and health workers reported high acceptability.

2. Nasal sprays and inhaled vaccines

Respiratory vaccines aim to stop infections where many respiratory viruses and bacteria first enter the body: the nose and airways.

Unlike traditional injections, which primarily generate immune responses in the bloodstream, nasal sprays and inhaled vaccines are designed to directly stimulate immunity at mucosal surfaces: the moist linings that cover many of the body's internal passageways and organs, including the nose, mouth, throat, airways and lungs.

This includes triggering the production of an antibody known as immunoglobulin A (IgA), which can help to intercept viruses at these surfaces before they can infect cells, as well as the more general immune responses that are also stimulated by traditional vaccines.

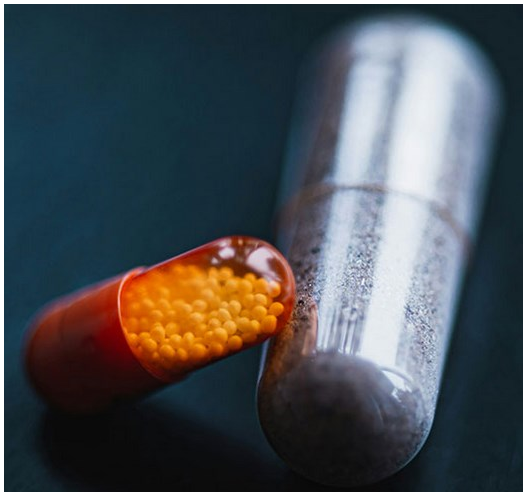
Besides reducing the risk of disease in the person receiving them, respiratory vaccines could also help curb transmission by generating immune responses directly in the airways, potentially reducing viral replication, shortening viral shedding and lowering the risk of onward spread.

Respiratory vaccines attracted renewed attention during the COVID-19 pandemic. Although injected vaccines were highly effective at preventing severe disease, they were less able to stop transmission. Researchers are now developing respiratory vaccines against a broad range of germs, including influenza, COVID-19, respiratory syncytial virus (RSV) and tuberculosis.

They are also exploring multiple delivery platforms because, while nasal sprays may be particularly useful for viruses that first establish infection in the upper airway, inhaled aerosols could potentially help generate stronger immunity deeper in the lungs.

There are also practical considerations. For instance, dry-powder formulations may be easier to store and transport than liquid vaccines.

3. Vaccine pills and edible plants



Oral vaccines are not new: the oral polio vaccine has helped to immunise billions of children worldwide since its introduction in the 1960s.

More recently, oral vaccines have also been developed against cholera, rotavirus and typhoid. Like respiratory vaccines, these approaches aim to stimulate mucosal as well as systemic immunity, in this case by targeting the lining of the gut, which has a vast surface area and large population of resident immune cells.

Oral vaccines are also attractive because they may not require trained health workers or strict refrigeration, potentially simplifying vaccine distribution and reducing the cost of mass immunisation campaigns.

Given these advantages, researchers are now developing a new generation of oral vaccines against a broader range of targets, including experimental vaccines targeting norovirus, human papillomavirus (HPV), Epstein-Barr virus, COVID-19 and influenza.

As well as liquid formulations, efforts are underway to develop oral vaccine capsules and pills as well as edible vaccines, where crops such as lettuce, tomatoes or rice are genetically engineered to produce vaccine antigens within their tissues for people to eat.

One major obstacle is that the digestive system is designed to break down foreign material, meaning vaccine ingredients must survive stomach acid and digestive enzymes before reaching immune cells in the intestine.

To overcome this, scientists are exploring protective coatings that dissolve only after reaching the gut, as well as engineered bacteria, yeast and nanoparticle delivery systems that could shield vaccine ingredients from stomach acid and digestive enzymes while helping to transport them to immune cells in the intestine.

Another strategy is to administer oral vaccines alongside harmless bacteria that help crowd out disease-causing microbes in the gut – an approach nicknamed “microbial gardening”. Scientists hope this could boost the effectiveness of oral vaccines against bacterial gut infections.

4. Needle-free injections

Whereas traditional injections use a needle to puncture the skin and deliver vaccines into the body, needle-free injectors propel a narrow, high pressure stream of liquid through the skin’s surface.

This is delivered either into the immune-cell-rich epidermal and dermal layers, or deeper into the fat or muscle beneath. As well as reducing needle-related fear and anxiety, they could eliminate needlestick injuries among health workers and simplify the disposal of medical sharps waste.

Although only a handful of needle-free vaccine products have so far received regulatory approval, interest in the technology is growing rapidly, with experimental vaccines against influenza, HPV, HIV and COVID-19 currently being tested using needle-free delivery systems.

Despite their promise, several technical challenges remain. One is ensuring that vaccine ingredients remain stable under the high pressures used to propel them through the skin, a particular problem for fragile vaccines such as mRNA and protein-based formulations, which can be damaged by heat and pressure.

Precisely controlling how deeply vaccines penetrate is another obstacle, because injections that are too shallow may trigger weak immune responses, while those that go too deep could damage tissue. Differences in skin thickness between individuals, particularly children and older adults, further complicates delivery.

To overcome these obstacles, researchers are developing additives and freeze-drying techniques to help stabilise and protect vaccine ingredients during injection.

“Smart” injectors equipped with pressure sensors, and feedback systems are also being developed to help adjust injection depth and force in real time.

5. Electrically enhanced jabs

Not all vaccine-delivery innovations are focused on replacing the syringe. Some simply aim to make injected vaccines more effective.

DNA-based vaccines remain relatively new in humans, although a COVID-19 vaccine based on this technology received regulatory approval in India in 2021.

Like mRNA-based vaccines, the idea is to deliver genetic instructions that prompt the body's own cells to produce viral or bacterial proteins and train the immune system to recognise them.

However, because DNA is physically more robust than RNA, DNA vaccines could potentially be easier to store and transport, and more compatible with technologies such as jet injectors and dry formulations. The challenge is getting enough DNA into cells to generate a strong immune response.

Electroporation could help. The technique uses brief electrical pulses to temporarily open tiny pores in cell membranes after the vaccine has been injected, allowing more DNA to enter cells.

Researchers hope this could make DNA vaccines more effective while reducing the amount of vaccine needed per dose, potentially stretching vaccine supplies further during outbreaks or pandemics, although the additional equipment required may complicate large-scale deployment.

6. Dry vaccines

A key technology underpinning many of these innovations is the development of dry vaccines that are less dependent on refrigeration to remain effective.

One such vaccine already exists: the yellow fever vaccine, which is manufactured in freeze-dried form and reconstituted before injection.

However, researchers are now attempting to develop a new generation of dry vaccines that remain stable at higher temperatures for longer periods and can be delivered in a wider variety of ways.

Smaller and lighter than liquid vaccines, such formulations could simplify vaccine transport and storage, particularly in lower-income countries or during outbreaks where refrigeration is unreliable.

Researchers are developing a wide range of dry vaccine technologies, including freeze-dried formulations, spray-dried particles and thin dissolvable films. These formulations could be incorporated into microarray patches, inhaled or puffed into the nose, or swallowed as capsules or tablets.

One remaining obstacle is that drying vaccines without damaging their active ingredients can be technically difficult, particularly for fragile platforms such as mRNA vaccines.

To overcome this, scientists are exploring protective sugars, polymers and nanoparticle formulations designed to stabilise vaccine components and preserve their effectiveness over time.

Fuente: GAVI. Disponible en https://n9.cl/cu3zs

Eli Lilly Buys Three Vaccine Developers for $4B

May 26. Eli Lilly (LLY) announced agreements to acquire three vaccine developers in deals worth up to $4 billion combined. The move marks the pharmaceutical giant's largest single-day push into the vaccine space to date.

According to Seeking Alpha, the transactions broaden Lilly's pipeline beyond its dominant GLP-1 and obesity franchise. The deals signal a strategic diversification into infectious-disease and next-generation vaccine platforms.

Key Takeaways

- Eli Lilly will acquire three vaccine developers in deals worth up to $4 billion combined.
- The acquisitions extend Lilly's portfolio beyond Mounjaro and Zepbound into respiratory vaccines.
- Large-cap vaccine peers including Pfizer, Moderna, and BioNTech traded mixed on the news.

Pipeline Diversification Push

As reported by Bloomberg, Lilly said the deals total up to $3.8 billion in upfront and contingent payments. Management framed the acquisitions as a long-term bet on vaccine platform technology rather than near-term revenue.

The push extends Lilly's portfolio beyond its blockbuster Mounjaro and Zepbound franchises. The targets span respiratory and infectious-disease vaccines, adding new modalities to the company's research pipeline.

Per Seeking Alpha, closing remains subject to standard regulatory approvals across multiple jurisdictions. The structured payouts suggest Lilly is sharing development risk with the acquired developers through milestone-based contingent consideration.

The strategic logic mirrors moves by other large pharmaceutical companies seeking to offset patent cliffs. Vaccine platform technology is increasingly viewed as a durable revenue stream beyond pandemic-era demand spikes.

Market Reaction and Sector Implications

Shares of established vaccine peers traded mixed following the announcement, according to Bloomberg. Investors weighed competitive pressure against validation of vaccine platform valuations from a deep-pocketed acquirer.

Established players like Pfizer (PFE) and Moderna (MRNA) face a new well-capitalized competitor entering the space. The entry of Lilly may also accelerate consolidation pressure on smaller, cash-constrained vaccine developers.

BioNTech and Novavax shares moved in sympathy as traders reassessed merger and acquisition probabilities across the sector. Bloomberg noted the reaction reflected uncertainty about whether Lilly's entry expands the total addressable market or erodes existing share.

Analysts will scrutinize the targets' clinical pipelines and platform technologies as further details emerge. The combined $4 billion price tag implies meaningful conviction in the platforms' long-term commercial potential.

For investors, the deals reinforce a broader theme of large pharma deploying capital to fill post-patent-cliff revenue gaps. Vaccine assets, once viewed as commoditized, are regaining strategic premium under platform-technology framing.

Fuente: GOTRADE. Disponible en https://n9.cl/tme09h

WuXi's Facility in China Receives Brazilian GMP Certification for Dengue Vaccine Manufacturing

May 27. CDMO WuXi Vaccines, a wholly-owned subsidiary of WuXi Biologics, reports that its drug substance facility (MFG23) located in Suzhou, China, has received GMP certification from Brazil's Agência Nacional de Vigilância Sanitária (ANVISA). The facility provides integrated manufacturing services for Instituto Butantan's dengue vaccine (Butantan-DV) production project.

"The GMP certification of our DS facility, our second certification from ANVISA, represents a pivotal step in advancing our dengue

vaccine project with Instituto Butantan and establishing a solid foundation to deliver on our shared commitment to expand access to high-quality dengue vaccines," said Jian Dong, CEO of WuXi Vaccines. "Adhered to premier quality standards and powered by our integrated solutions and technologies, we remain committed to driving greater access to safe, effective, and affordable vaccines worldwide."

Based on the commercial manufacturing agreement with Instituto Butantan and Fundação Butantan, WuXi Vaccines will provide end-to-end services, including drug substance and drug product manufacturing and quality control for the 5-dose dengue vaccine, according to Dong. The partnership plans to rapidly scale up vaccine capacity, aiming to deliver millions of doses to shield Brazil's population from dengue. In November 2025, the single-dose Butantan-DV received ANVISA approval for use with individuals aged 12 to 59.

Fuente: Genetic Engineering & Biotechnology News. Disponible en https://n9.cl/0ochfw

Dyadic and Scripps Research Collaborate on Rapid-Response Hantavirus Antibody and Vaccine Development

May 28. Dyadic International, Inc. ("Dyadic," "we," "us," "our," or the "Company") (NASDAQ: DYAI), d/b/a Dyadic Applied BioSolutions, a biotechnology company focused on the development and commercialization of scalable microbial protein production platforms for use across life sciences, food, nutrition, industrial, and biopharmaceutical applications, today announced that Dyadic Applied BioSolutions and researchers at Scripps Research are collaborating to evaluate monoclonal antibody and vaccine candidates targeting hantaviruses, including Andes virus, a hantavirus strain associated with Hantavirus Pulmonary Syndrome (HPS), a severe and potentially fatal respiratory disease in humans.

A series of recently reported hantavirus and Ebola cases worldwide have underscored the importance of pandemic preparedness and highlighted the need to improve the speed, scalability, flexibility, and cost-effectiveness of biologic manufacturing during rapidly evolving public health events. The collaboration builds upon Dyadic's prior Andes virus monoclonal antibody work and combines the complementary expertise of Dyadic and Scripps Research to further assess the potential of Dyadic's proprietary C1 platform for rapid development timelines, high-productivity microbial fermentation, large-scale manufacturing, and biologic production intended to support future infectious disease preparedness.

Dyadic's microbial fungal-based C1 platform has been applied to multiple biologic modalities, including recombinant vaccine antigens and monoclonal antibodies targeting RSV, malaria, the Andes virus, Ebola, and Marburg, which is similar to Ebola and comes from the same family of viruses—the Filovirus family, and has demonstrated in preclinical studies the ability to produce monoclonal antibodies with binding, neutralization, and efficacy characteristics comparable to those generated by traditional mammalian expression systems.

In prior Andes virus-related work, Dyadic developed a C1 strain expressing the recombinant anti-Andes virus monoclonal antibody rANDV-44, where, Dyadic believes, the data generated demonstrated virus neutralization activity comparable to ExpiCHO-produced material in a pseudovirus neutralization assay.

Dyadic has also previously demonstrated GMP-compliant manufacturing and Phase 1 clinical

evaluation of biologics produced using its C1 platform as part of earlier infectious disease initiatives. The Company is currently involved in multiple funded biopharmaceutical collaborations, including programs supported by the Gates Foundation and the Coalition for Epidemic Preparedness Innovations ("CEPI") in collaboration with Fondazione Biotecnopolo di Siena ("FBS"), aimed at accelerating recombinant protein vaccines and monoclonal antibody development workflows using the C1 platform.

Dyadic's C1 platform was previously included in the European Union-supported Zoonosis Anticipation and Preparedness Initiative ("ZAPI"), a five-year pandemic preparedness program involving leading global human and animal health organizations focused on accelerating biologic manufacturing technologies for emerging infectious diseases. Building upon the progress achieved from ZAPI, Dyadic's more recent and ongoing funded collaborations supported by the Gates Foundation, CEPI, FBS, and activities associated with the EU Vaccine Hub continue to advance rapid, scalable biologic manufacturing approaches using the C1 platform to help address many of the manufacturing bottlenecks revealed during COVID-19 and other emerging infectious disease outbreaks.

Together, these programs continue to generate data that support the potential advantages of the C1 platform, including compressed development timelines, scalable microbial fermentation, and streamlined manufacturing processes. Additional studies have shown that C1-produced monoclonal antibodies can achieve binding and neutralization properties comparable to antibodies produced in traditional mammalian systems.

"One of the key lessons from recent global outbreaks is that scientific innovation alone is not sufficient — manufacturing flexibility, scale and speed are also critical," said Jiang Zhu, Professor at Scripps Research. "Collaborations that bring together advanced antibody and antigen research with rapid biologic production technologies may help strengthen preparedness for future infectious disease threats."

Dr. Zhu continued, "My laboratory at Scripps Research has developed proprietary structure-based protein designs optimized for conformational integrity, trimer closure, and antigen quality. In parallel, innovative expression technologies such as Dyadic's C1 platform may offer opportunities to further evaluate faster, more scalable and potentially lower-cost approaches for the development and manufacture of complex biologics targeting emerging infectious diseases."

"COVID-19 demonstrated that manufacturing scalability and deployment speed remain critical challenges during global outbreaks," said Mark Emalfarb, Dyadic's Chief Executive Officer. "Our collaboration with Scripps builds upon prior hantavirus-related work and reflects our broader strategy of partnering with leading research institutions and global health organizations to evaluate how we anticipate the C1 platform will contribute to future pandemic preparedness initiatives."

Mr. Emalfarb continued, "Importantly, these activities continue to be pursued through grants, sponsored research, and strategic collaborations, allowing Dyadic to further validate the C1 platform in a capital-efficient manner while maintaining our primary commercial focus on non-pharmaceutical protein products and industrial-scale biomanufacturing opportunities."

Dyadic and Scripps plan to jointly explore external partnership and non-dilutive funding opportunities to support additional development activities related to monoclonal antibodies, and vaccine candidates, and broader infectious disease preparedness applications.

Dyadic recently highlighted growing commercial activity with recombinant proteins and enzymes in non-pharmaceutical applications, including animal-free proteins for life sciences, cell culture media, nutrition, wellness, and industrial markets.

About Dyadic Applied BioSolutions

Dyadic Applied BioSolutions is a global biotechnology company that aims to develop and commercialize scalable, non-animal protein production platforms to meet growing global demand across the life sciences, food and nutrition, and bio-industrial markets. These high-value proteins are designed to enable customers to develop more efficient, scalable, and sustainable products. Dyadic's proprietary Dapibus™ and C1 expression systems support rapid, cost-effective, and flexible manufacturing.

Fuente: First Word Pharma. Disponible en https://n9.cl/s1tpm

FDA vaccine advisers recommend updating COVID-19 shots

May 28. Food and Drug Administration advisers on Thursday recommended updating next season's COVID-19 vaccines to target the dominant XFG variant, despite concerns about a shortage of surveillance data on evolving strains.

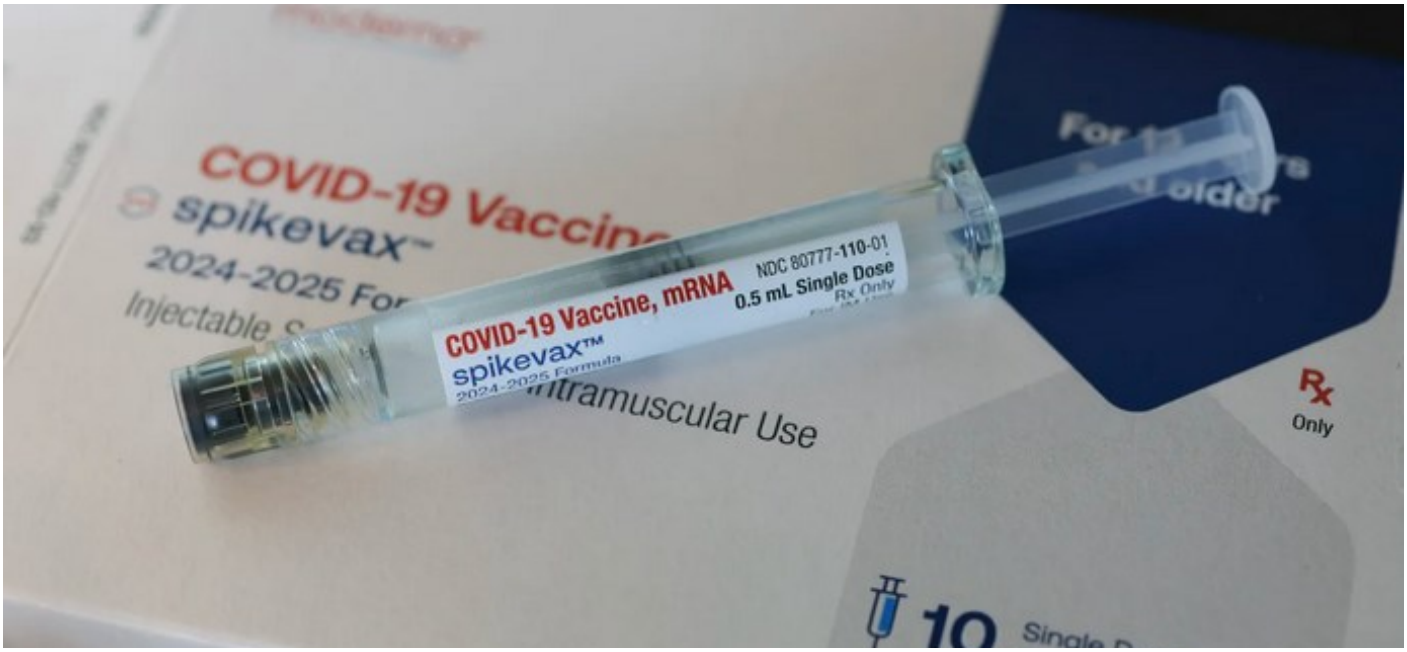
The big picture: The daylong meeting of the Vaccines and Related Biological Products Advisory Committee stood out for its measured tone after more than a year of dramatic changes to federal vaccine policy under Health Secretary Robert F. Kennedy Jr.

Another federal panel handpicked by Kennedy last year dropped a broad recommendation for COVID shots, emphasizing that vaccination was a personal choice.

Driving the news: The XFG strain, also known as "stratus," makes up more than half of all COVID cases in the U.S. and has mutations that could help it evade existing antibodies, federal officials said during Thursday's meeting.

8 of 9 members voted in favor of updating the shots to address the variant, a broad recommendation for COVID shots, emphasizing that vaccination was a personal choice.

Members noted a drop-off in data to base their decisions on, in contrast to past years.



"It's an increasing problem," the Centers for Disease Control's Natalie Thornburg told the panel. "We see the challenges and are doing our best to make sure you have the information to make these critical decisions."

Of note: The recommendation covers mRNA vaccines made by Pfizer and Moderna, as well as a Sanofi protein-based shot.

For 2025-26, the FDA had recommended vaccines targeting a subvariant of the JN.1 COVID strain.

A World Health Organization advisory group voted earlier this month to recommend the LP.8.1 strain as the COVID target for 2026-27, although it told manufacturers shots targeting XFG could also be used.

What's next: The panel's recommendation is non-binding and has to be accepted by the FDA.

The CDC would ultimately decide which vaccines would be recommended to Americans.

Kennedy last year fired members of the CDC's Advisory Committee on Immunization Practices, replacing them with some anti-vaccine activists who've advocated that mRNA shots be pulled from the market entirely.

The panel's recommendations have been frozen as part of litigation challenging changes to the federal childhood immunization schedule.

Fuente: AXIOS. Disponible en https://n9.cl/fvgvz

Europa recomienda actualizar las vacunas contra la COVID-19 para adaptarlas a la variante XFG de cara a la campaña de 2026/2027

29 may. El Grupo de Trabajo de Emergencia (ETF, por sus siglas en inglés) de la Agencia Europea de Medicamentos (EMA, por sus siglas en inglés) recomienda actualizar las vacunas contra la COVID-19 para que se dirijan a la nueva variante XFG, que forma parte de la familia JN.1 de las subvariantes Ómicron, del SARS-CoV-2 en la campaña de vacunación 2026/2027.

Según la agencia europea, su circulación ha aumentado en todo el mundo desde junio del pasado año, «alcanzando un pico del 74% de las infecciones secuenciadas genéticamente a nivel mundial en octubre de 2025, y sigue siendo prevalente entre las subvariantes JN.1, aunque no de manera uniforme en todas las regiones». No obstante, menciona que otras variantes que circulan conjuntamente en Europa incluyen NB.1.81, una variante relacionada con JN.1, y BA.3.2, que es genéticamente distinta de la familia JN.1 y está aumentando en algunos países.

Al formular su recomendación, la agencia explica que el ETF consultó con la Organización Mundial de la Salud (OMS), socios internacionales y titulares de autorizaciones de comercialización de vacunas contra la COVID-19. El ETF también tuvo en cuenta una amplia variedad de datos, incluidos datos sobre la evolución del virus, datos sobre la eficacia de las vacunas que contienen las cepas

JN.1/KP.2 y LP.8.1, y datos de estudios en animales sobre los efectos de vacunas candidatas adaptadas a XFG, LP.8.1 y BA.3.2.2.

«Las pruebas sugieren que dirigir las vacunas contra XFG proporcionaría la mejor protección frente a la COVID-19 causada por las subvariantes Ómicron JN.1, así como frente a BA.3.2«, señala la EMA. Sin embargo, explica que las vacunas dirigidas a la cepa LP.8.1 aún podrían considerarse para las campañas de vacunación de 2026. «Esta recomendación podría necesitar actualizarse si la situación epidemiológica cambia de manera sustancial, teniendo en cuenta la creciente circulación de BA.3.2 y su potencial para seguir evolucionando y evadir la inmunidad», añade.

Ante este contexto, el organismo regulador europeo hace un llamamiento a los titulares de autorizaciones de comercialización, destacando que deben ponerse ahora en contacto con la EMA para debatir las actualizaciones de las autorizaciones de sus vacunas. «Se espera que todos los titulares actualicen la composición de sus vacunas autorizadas de acuerdo con esta recomendación», especifica EMA.

También anima a las compañías que actualmente están desarrollando nuevas vacunas contra la COVID-19 dirigidas a cepas distintas de XFG a ponerse en contacto con la EMA para debatir estrategias para modificar la composición de sus vacunas. «Las autoridades nacionales de la Unión Europea (UE) serán, en última instancia, las que tomen las decisiones sobre las campañas de vacunación de 2026 y 2027, teniendo en cuenta la situación en cada país», concluye.

Fuente: GACETA MÉDICA. Disponible en https://n9.cl/wj1ojp

SK bioscience secures $200 mil. Korea Growth Fund backing for phase 3 vaccine push

May 29. SK bioscience is rapidly advancing its late-stage, globally targeted pneumococcal vaccine, powered by new government-backed financing.

SK bioscience said Friday that its board of directors approved agenda items at a regular meeting, including a financing plan backed by the Korea Growth Fund. This follows the company's selection as a fund beneficiary by the Fund Management Deliberation Committee under Korea's Financial Services Commission on Thursday.

SK bioscience is the first Korean biopharmaceutical company to receive support from the Korea Growth Fund, marking a milestone for the industry.

Under the plan, SK bioscience will access 300 billion won (about $200 million) in long-term, low-interest financing from the Korea Growth Fund. The capital will support the development, commercialization and manufacturing scale-up of GBP410, SK bioscience's 21-valent pneumococcal conjugate vaccine developed with Sanofi, which is currently in global phase 3 trials.

GBP410 is an innovative pneumococcal vaccine candidate jointly developed with Sanofi. It is designed to provide broader serotype coverage than current vaccines. Global phase 3 clinical trials are progressing smoothly, and the company is accelerating commercialization and manufacturing preparations, aiming to announce top-line results in the second half of next year.

The selection reflects the Korean government's confidence in SK bioscience's global R&D competitiveness and signals broader support for innovation beyond manufacturing capacity.

The initiative is intended to foster a stable, well-capitalized environment for Korean biotech companies pursuing large-scale global clinical development programs.

The Korea Growth Fund is a public-private policy financing initiative created to foster strategic industries, including AI, semiconductors, biotechnology and secondary batteries. As a citizen-participation fund, it aims to provide long-term capital to future growth industries. The government prioritizes support for globally competitive, large-scale projects, including next-generation biopharmaceutical and vaccine programs that have reached global phase 3 development.

Beyond GBP410, SK bioscience is broadening its infectious disease pipeline, including universal Covid-19 vaccines, microneedle patch influenza vaccines, RSV antibody therapeutics and mRNA platforms. The company's recent headquarters relocation to Songdo, Incheon, brings together R&D, development and marketing functions to enhance competitiveness.

"Being selected as a beneficiary of the Korea Growth Fund reflects recognition of our vaccine development capabilities and global business competitiveness," SK bioscience CEO Ahn Jae-yong said. "We will continue investing in key pipeline development and manufacturing infrastructure to strengthen Korea's vaccine sovereignty and enhance preparedness for future infectious disease outbreaks."

SK bioscience contributes to Korea's infectious disease prevention efforts by supplying locally developed influenza and varicella vaccines through the National Immunization Program (NIP). Its shingles vaccine, the first developed in Korea, is widely used in local vaccination programs. The company is also advancing a cell-culture-based avian influenza (H5N1) vaccine as part of a government initiative, further strengthening public health security.

Fuente: KOREA BIOMEDICAL REVIEW. Disponible en https://n9.cl/eqgj3

La vacuna contra el VPH se incluirá en el programa de vacunación obligatoria a partir del 1 de julio

31 may. Específicamente, el Artículo 3 de la Circular 13/2026/TT-BYT estipula que la "Lista de enfermedades que requieren el uso de vacunas y productos biológicos en la inmunización obligatoria a través del Programa Ampliado de Inmunización" incluye: hepatitis B, tuberculosis, difteria, tos ferina, tétanos, poliomielitis, enfermedad por *Haemophilus influenzae* tipo b, sarampión, rubéola, encefalitis japonesa, diarrea por rotavirus, enfermedad neumocócica, enfermedad por virus del papiloma humano (VPH) y otras enfermedades según lo prescrito por el Ministro de Salud .

Una nueva disposición de la circular establece que las enfermedades causadas por el virus del papiloma humano (VPH) ahora se incluyen en la lista de vacunas obligatorias del Programa Ampliado de Inmunización.

Esto representa un cambio significativo en la estrategia de prevención de enfermedades relacionadas con el VPH, especialmente el cáncer de cuello uterino y otras enfermedades peligrosas. Esta política fue aprobada por el Gobierno hace cuatro años.

Se ha puesto en marcha el programa de vacunación contra el VPH, priorizando a las niñas de 12 años en cuatro provincias remotas y desfavorecidas. Este año, la vacunación se realizará a pequeña escala en estas cuatro provincias, dando prioridad a las zonas remotas y montañosas. Se prevé que aproximadamente 18 900 niñas que cursan sexto grado en las escuelas y niñas de 12 años que no asisten a la escuela en la comunidad serán vacunadas anualmente. La vacunación se implementará con cautela, paso a paso, garantizando que se cumplan todas las condiciones necesarias en cuanto a experiencia, personal y suministro de vacunas.

Según la Dra. Nguyen Nguyen Huyen, Directora del Centro para el Control y la Prevención de Enfermedades del Hospital Nacional de Enfermedades Tropicales: " El cáncer de cuello uterino se encuentra actualmente entre los siete tipos de cáncer más comunes en mujeres en Vietnam, con una tasa de incidencia de aproximadamente 7,1 casos por cada 100 000 habitantes. Esto significa que, por cada 100 000 personas, alrededor de 7 mujeres desarrollarán cáncer de cuello uterino. Esto representa una carga para el sistema de salud de Vietnam. Sin embargo, esta enfermedad es completamente prevenible mediante la vacunación".

Tras la fase inicial, el programa de vacunación contra el VPH podría ampliarse según las propuestas del Ministerio de Salud. Esto representa un cambio significativo en la estrategia de prevención del cáncer de cuello uterino. Actualmente, la vacuna contra el VPH se administra de forma voluntaria y está indicada para personas de entre 9 y 45 años. Los niños de entre 9 y 15 años reciben dos dosis con seis meses de diferencia. Las personas mayores de 15 años reciben tres dosis en un plazo de seis meses.

Las enfermedades relacionadas con el VPH son clasificadas por el sector sanitario como enfermedades infecciosas del Grupo B: enfermedades peligrosas con una alta tasa de transmisión y con potencial para ser mortales.

Según el Dr. Le Thanh Khoi, MSc., Subdirector Médico del Consejo Médico del Sistema de Centros de Farmacia y Vacunación de Long Chau, el VPH tiene muchas cepas y se transmite por contacto sexual, piel con piel o contacto con las membranas mucosas. Cualquier persona, independientemente de su edad o género, puede infectarse con el VPH. Las mujeres son particularmente vulnerables debido a los tipos de VPH de alto riesgo (como los tipos 16 y 18, que causan cáncer de cuello uterino). En ambos sexos, el VPH también puede causar otras enfermedades como cáncer anal, cáncer de garganta y verrugas genitales.

Según la Organización Mundial de la Salud (OMS), la vacunación es la mejor manera de prevenir la infección por VPH, el cáncer de cuello uterino y otros cánceres relacionados con este virus. El Dr. Le Thanh Khoi compartió que actualmente existen dos tipos de vacunas contra el VPH: una que protege contra 4 cepas y otra que

protege contra 9 cepas del VPH. La vacuna de 9 cepas ofrece una protección más amplia, puede administrarse tanto a hombres como a mujeres y protege contra 9 cepas del VPH: 6, 11, 16, 18, 31, 33, 45, 52 y 58. Esta es la protección más amplia, lo que ayuda a reducir el riesgo de muchos cánceres relacionados con el VPH y verrugas genitales. Gardasil 9 proporciona una alta protección, superior al 90%, y está indicada tanto para hombres como para mujeres, y para la comunidad LGBT, de 9 a 45 años. Los niños de 9 a 14 años solo necesitan dos dosis de Gardasil 9, administradas con un intervalo de 6 a 12 meses. Para las personas de 15 años o más y los adultos, se requieren tres dosis (a los 0, 2 y 6 meses), y el calendario de vacunación debe completarse en el plazo de un año.

Los médicos aconsejan a las personas que acudan a centros de salud de buena reputación que garanticen prácticas de vacunación seguras para obtener asesoramiento y vacunarse.

Fuente: VIETNAM.VN. Disponible en https://n9.cl/58rhq1

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1.WO/2026/106365VACCINE EFFICACY AND PROTECTIVE IMMUNITY MARKERS FOR TUBERCULOSIS, AND COMPOSITION COMPRISING SAME

WO - 21.05.2026

Clasificación Internacional G01N 30/72Nº de solicitud PCT/KR2025/018793Solicitante UIF (UNIVERSITY INDUSTRY FOUNDATION), YONSEI UNIVERSITYInventor/a SHIN, Sung Jae

The protective effect of the BCG vaccine against tuberculosis varies from 0 % to 80% among individuals. Thus, a technology capable of measuring the efficacy of a tuberculosis vaccine administered to each individual, that is, protective immunity, has been urgently needed, yet no suitable technology therefor has been developed. Accordingly, the present invention relates to markers capable of predicting vaccine efficacy or protective immunity against tuberculosis and to a method for predicting protective immunity after tuberculosis vaccine administration using same. By using the present invention, the vaccine efficacy or protective immunity for tuberculosis can be easily predicted using a biological sample isolated from an individual, and therefore, the present invention is expected to be widely applied in the healthcare field.

2.WO/2026/102484PARAMYXOVIRUS COMBINATION VACCINE

WO - 21.05.2026

Clasificación Internacional A61K 39/17Nº de solicitud PCT/AU2025/051286Solicitante GAMMA VACCINES LTDInventor/a CHUAH, Yimin

The present disclosure relates to a vaccine composition comprising (a) an inactivated paramyxovirus, and (b) an inactivated influenza virus. The vaccine composition may be used in methods for inducing or enhancing an immune response against an influenza infection, methods of producing the vaccine composition, and vaccine compositions produced by such methods.

3.WO/2026/102483NEWCASTLE DISEASE VIRUS VACCINE

WO - 21.05.2026

Clasificación Internacional A61K 39/17Nº de solicitud PCT/AU2025/051285Solicitante GAMMA VACCINES LTDInventor/a HEMMATZADEH, Farhid

The present disclosure relates to a vaccine composition comprising irradiation-inactivated Newcastle Disease Virus (NDV). The vaccine composition may be used in methods of inducing a protective immune response to Newcastle Disease Virus (NDV), methods of producing a irradiation-inactivated NDV vaccine composition, and a vaccine composition produced by such methods.

4.WO/2026/109593VACCINE FORMULATION

WO - 28.05.2026

Clasificación Internacional A61K 39/09Nº de solicitud PCT/EP2025/083567Solicitante MINERVAX APSInventor/a FISCHER, Per

The technology proposed herein concerns a vaccine formulation comprising a) an antigen comprising an

amino acid sequence having at least 90% sequence identity with the amino acid sequence of the N-terminal region of a first group B Streptococcus surface protein, and b) a buffer having a pH of 6 to 8 and comprising: a. aluminum hydroxide gel particles, and b. a buffer system comprising: i. 1-3 mM phosphate and 100-200 mM NaCl, or ii. 5-15 mM histidine and 200-400 mM sorbitol. The technology proposed herein further concerns a method of producing a vaccine formulation as well as a vaccine formulation for use in a method of reducing, preventing and/or treating a GBS infection.

5.0002862297METHOD FOR PRODUCING INACTIVATED VACCINE AGAINST HEPATITIS VIRUS

RU - 19.05.2026

Clasificación Internacional C12N 7/00Nº de solicitud 2025115987SolicitanteInventor/a Немцов Юрий Васильевич (RU)

FIELD: virology. SUBSTANCE: method for producing an inactivated vaccine against the hepatitis A virus (HAV) used in the medical and microbiological industries. The method includes growing the virus on cells of a continuous cell line, obtaining a precipitate of virus-containing cells by centrifugation, and lysing the cell precipitate with a mixture of phosphate-buffered saline (PBS) and a 10% solution of the non-ionic detergent polyoxyethylene nonylphenol (NP-40) at a final volume concentration of 0.5%. Centrifugation of the cell lysate to obtain a non-nucleated lysate and its clarification by repeated centrifugation. The destruction of residual high-molecular DNA in the clarified cell lysate is carried out by treating it with a mixture of a 1 M MgCl2 solution at a final concentration of 0.005 M and the enzyme benzonuclease (benzonase) with an activity of 250 units/μl at a final concentration of 7-10 units per 1 ml of lysate at a temperature of +(35–40° C), pH=7.0–7.6. A 20% solution of the anionic detergent sodium dodecyl sulfate (SDS) is added to the benzonase-treated cell lysate to a final concentration of 2%. The resulting mixture is ultracentrifuged to obtain a precipitate of the HAV concentrate, which is dissolved in 0.01 M PBS and subjected to sterilizing filtration through a membrane with a pore diameter of 0.2 μm to obtain a primary HAV concentrate, which is subjected to further purification by repeated ultracentrifugation. The sediment of purified VGA concentrate is treated with formaldehyde. The semi-finished vaccine product is diluted with PSB to the required concentration and adsorbed on aluminum hydroxide gel to obtain the final form of the vaccine. EFFECT: reducing cellular DNA, ballast proteins and increasing the yield of viral antigen. 2 cl, 5 tbl, 5 ex

6.WO/2026/112490METHODS FOR FREEZE-DRYING BACTERIA AND UTILITY AS A MUCOSAL VACCINE PLATFORM

WO - 28.05.2026

Clasificación Internacional C12P 1/04Nº de solicitud PCT/US2025/056662Solicitante TEXAS TECH UNIVERSITY SYSTEMInventor/a WOOD, Laurence

Embodiments of the present disclosure generally relate to compositions of a lyophilized (freeze dried) Listeria strain based therapeutics and a method for lyophilizing compositions of the therapeutics. A Listeria monocytogenes (LM) based vaccine formulation contains a lyophilized powder including a LM bacteria, the LM bacteria comprising at least one therapeutic agent and a lyophilization medium and a delivery composition. A method of forming a Listeria monocytogenes (LM) based vaccine formulation is disclosed. The LM based vaccine formulation includes resuspending an LM stock in a lyophilization medium to form a

lyophilization composition, wherein the lyophilization medium comprises at least a lyoprotectant and a buffer component, freezing the lyophilization composition, lyophilizing the lyophilization composition, and forming a lyophilized powder, the lyophilized powder contains a LM bacteria, a lyoprotectant, and a buffer component.

7.WO/2026/105307MPOX VACCINE

WO - 21.05.2026

Clasificación Internacional A61K 39/275Nº de solicitud PCT/JP2024/040714Solicitante TOKYO METROPOLITAN INSTITUTE OF MEDICAL SCIENCEInventor/a YASUI Fumihiko

Provided is a vaccine against viral infections belonging to the genus Orthopox, the vaccine comprising a non-replicating attenuated vaccinia virus DIs strain.

8.WO/2026/104762NUCLEIC ACID VACCINE AGAINST TUBERCULOSIS

WO - 21.05.2026

Clasificación Internacional A61K 39/04Nº de solicitud PCT/FI2025/060084Solicitante TAMPERE UNIVERSITY FOUNDATION SRInventor/a RÄMET, Mika

The present invention is directed to a vaccine composition against a disease caused by Mycobacterium tuberculosis, said composition comprising at least four nucleic acids selected from the following groups: a. a nucleic acid encoding an Ag85A, Ag85B, or Ag85C antigen; b. a nucleic acid encoding a resuscitation promoting factor (Rpf) selected from the group consisting of: RpfA, RpfB, RpfC, RpfD and RpfE; c. a nucleic acid encoding a PE/PPE antigen selected from the group consisting of: PE5, PE13, PE15, PE29, PE31, PPE1, PPE2, PPE18, PPE20, and PPE68; d. a nucleic acid encoding a disease-reactivation-related antigen selected from the group consisting of: Rv1234/MMAR_4207, and Rv0359/MMAR_0678, wherein said vaccine composition comprises at least one nucleic acid from each of group a, b, and c; and wherein the nucleic acids are provided on one or more nucleic acids constructs.

9.WO/2026/106053FLT3L–FLAGELLIN HYBRID ADJUVANT WITH ENHANCED ANTIGEN CROSS-PRESENTATION EFFICACY AND VACCINE COMPOSITION COMPRISING SAME

WO - 21.05.2026

Clasificación Internacional A61K 39/39Nº de solicitud PCT/KR2025/013431Solicitante RHEE, Joon HaengInventor/a RHEE, Joon Haeng

The present invention relates to a FLT3L–flagellin hybrid adjuvant with enhanced antigen cross-presentation efficacy and a vaccine composition comprising same. The hybrid adjuvant of the present invention demonstrated significant therapeutic efficacy as an adjuvant for a therapeutic cancer vaccine in a preclinical mouse model of cervical cancer, resulting in complete tumor regression and sustained protection. In addition, the hybrid adjuvant of the present invention induced tumor-specific antigen CD8+ T cell responses and progenitor-exhausted CD8+ T cells (Tpex) due to an increase in cross-presentation by conventional type 1 dendritic cells (cDC1) in tumor-draining lymph nodes and the tumor microenvironment, and the combination of TCV having the hybrid adjuvant applied thereto and anti-PD-1 therapy significantly improves survival outcomes in anti-PD-1–resistant tumors, and thus can be advantageously applied in anticancer

immunotherapy using therapeutic cancer vaccines.

10.WO/2026/103898USE OF BACILLUS CALMETTE-GUÉRIN (BCG) VACCINE-BASED OMVS TRAINED IMMUNITY INDUCER IN PREPARATION OF SEPSIS IMMUNOTHERAPEUTIC DRUG

WO - 21.05.2026

Clasificación Internacional A61K 39/04Nº de solicitud PCT/CN2025/135236Solicitante CHILDREN'S HOSPITAL OF SOOCHOW UNIVERSITYInventor/a ZHOU, Huiting

A use of a Bacillus Calmette-Guérin (BCG) vaccine-based OMVs trained immunity inducer in the preparation of a sepsis immunotherapeutic drug. OMVs secreted by BCG bacteria are separated and collected to obtain a BCG vaccine-based OMVs trained immunity inducer (denoted as B-OMVs). In the provided B-OMVs trained immunity inducer, significant advantages of BCG and OMVs are combined, and disadvantages of BCG and OMVs are avoided. The developed B-OMVs trained immunity inducer has characteristics of being non-replicative, non-infectious, and low in toxicity, has minimal impact on bodies, and exhibits high safety. In addition, the provided B-OMVs trained immunity inducer exhibits a mild and effective immunomodulatory capability, and can induce trained immunity, enhance resistance of bodies against microorganisms, reduce antibiotic usage, and more effectively improve sepsis prognosis.

11.WO/2026/106310MODIFIED NP PEPTIDE AND USE THEREOF

WO - 21.05.2026

Clasificación Internacional C07K 14/005Nº de solicitud PCT/KR2025/018629Solicitante KOREA NATIONAL INSTITUTE OF HEALTHInventor/a YUN, Mi-ran

The present invention relates to an NP antigen peptide of the SFTS virus, the NP antigen peptide including a novel mutation. NP protein sequences of 56 strains collected from the entire genotype were analyzed, consensus sequences of NP proteins were derived therefrom, and then an NP peptide antigen incorporating an amino acid substitution mutation and having improved structural stability was designed through structural analysis modeling. As a result of evaluating immunogenicity and protective ability using an SFTS virus vaccine composition prepared using the NP peptide antigen, it was found that a vaccine composition comprising the NP antigen of the present invention has an excellent ability to produce an immune response and an excellent ability to protect against SFTS virus infection, and thus the NP antigen peptide according to the present invention can be used in a vaccine composition for severe fever with thrombocytopenia syndrome.

12.WO/2026/103250GNRH NUCLEIC ACID VACCINE

WO - 21.05.2026

Clasificación Internacional C07K 7/23Nº de solicitud PCT/CN2025/115744Solicitante SHANGHAI SHENRAY UNITED BIOMEDICAL CO., LTD.Inventor/a YIN, Bo

Provided is a GnRH nucleic acid vaccine. GnRH is linked by means of a specific linker arm to form a multimer, or the GnRH or multimer is linked to a carrier protein to form a fusion antigen. Compared with a conventional linker arm, the expression of the multimer or fusion antigen via mRNA achieves higher

expression levels and provides better presentation of GnRH epitopes; and an mRNA vaccine developed by encapsulating mRNA in liposomes can be used for castrating animals or pets, thereby effectively controlling the fertility of animals or pets.

13.4746905RSV-IMPFSTOFF

EP - 27.05.2026

Clasificación Internacional A61K 39/12Nº de solicitud 24747992Solicitante ASTRAZENECA ABInventor/a LALIBERTE JASON PAUL

Provided herein is a vaccine against RSV. The vaccine comprises an mRNA encoding a stabilised prefusion RSV F protein immunogen linked to a scaffold based on lumazine synthase.

14.WO/2026/111111FERRITIN NANOCAGE-INTEGRATED VACCINE CONTAINING FLAGELLIN IMMUNOADJUVANT AND METHOD FOR PREPARING SAME

WO - 28.05.2026

Clasificación Internacional A61K 39/385Nº de solicitud PCT/KR2025/013361Solicitante RHEE, Joon HaengInventor/a RHEE, Joon Haeng

The present invention relates to a ferritin nanocage-integrated vaccine comprising a flagellin immunoadjuvant, and a preparation method therefor. The present invention enables multivalent presentation of an antigen and a flagellin immunoadjuvant on the surface of a ferritin nanocage using a SpyTag–SpyCatcher system, thereby increasing efficiency of vaccine formulations, enhancing B cell maturation and memory formation, elevating T cell activation, and providing improved protective efficacy.

15.20260146065RECOMBINANT PROTEIN COMPRISING PROTEIN DERIVED FROM FOOT-AND-MOUTH DISEASE VIRUS TYPE O CAPSID PROTEIN AND SFC PROTEIN AND USE THEREOF

US - 28.05.2026

Clasificación Internacional C07K 14/005Nº de solicitud 19122750Solicitante THE INDUSTRY & ACADEMIC COOPERATION IN CHUNGNAM NATIONAL UNIVERSITY (IAC)Inventor/a Hyun-Jin SHIN

The present disclosure relates to a recombinant protein comprising a food and mouth disease virus (FMDV) virus like particle (VLP) and a fragment crystallizable region (Fc) of a swine-derived immunoglobulin linked to the surface of the VLP, and a vaccine composition comprising the recombinant protein. The recombinant protein of the present disclosure may form a self-assembling structure including a virus-like particle using a protein derived from a capsid protein of FMDV, which is an antigenic protein, and a swine Fc protein located on the surface of the virus-like particle, and by using a vaccine composition including the recombinant protein, a specific antibody against FMDV may be effectively produced.

16.WO/2026/107563RECOMBINANT PEPTIDE VACCINE FOR THE CONTROL OF NEOSPORA CANINUM (NEOSPOROSIS) AND NUCLEOTIDE SEQUENCES ENCODING THE RECOMBINANT PEPTIDES

WO - 28.05.2026

Clasificación Internacional C07K 14/44Nº de solicitud PCT/BR2024/050551Solicitante TRIFECTA LIFESCIENCES LLCInventor/a HERNAN PATARROYO SALCEDO, Joaquin

The present invention relates closely to the field of biotechnology and genetic engineering, and in particular to the expression of recombinant peptides which, when administered, elicit a T-cell-dependent (Th1) immune response through the production of IFN-gamma, which is effective in preventing the formation of chronic infection in inoculated animals that are exposed to viable tachyzoites of N. caninum, as well as vertical (congenital) transmission. The recombinant immunogen can be used as an effective vaccine for the control of neosporosis caused by N. caninum in susceptible animals. The technical objective is the design and construction of two synthetic genes consisting of 255 nucleotides with codons preferred by Komagataella phaffii, synonym Pichia pastoris (SEQ ID NO: 02), and 309 nucleotides (SEQ ID NO: 04) with codons preferred by Pichia pastoris, and the expression of same of a recombinant peptide consisting of 84 (SEQ ID NO: 1) amino acids in a continuous sequence and a recombinant peptide consisting of 102 (SEQ ID NO: 3) amino acids, respectively, and a pharmaceutical composition based on said recombinant polypeptide(s).

17.20260137771DEVELOPMENT OF MULTI-ANTIGEN MRNA VACCINE AGAINST FELINE FIPV

US - 21.05.2026

Clasificación Internacional A61K 39/215Nº de solicitud 19393490Solicitante BEIJING SYNGENTECH CO., LTD.Inventor/a Gan Liu

This disclosure relates to the development of a multi-antigen mRNA vaccine against feline infectious peritonitis virus (FIPV). Provided is a pharmaceutical formulation. The pharmaceutical formulation includes a nucleic acid fragment. The nucleic acid fragment is mRNA and includes at least one of a first nucleic acid fragment, a second nucleic acid fragment, or a third nucleic acid fragment. The first nucleic acid fragment encodes an M protein of feline infectious peritonitis virus; the second nucleic acid fragment encodes an N protein of feline infectious peritonitis virus; the third nucleic acid fragment encodes an S protein, an S_ec protein, or an SII protein of feline infectious peritonitis virus; and the first nucleic acid fragment, the second nucleic acid fragment, and the third nucleic acid fragment are linked or not linked.

18.20260144863VACCINE TO PROTECT AGAINST MYCOPLASMA HYOPNEUMONIAE

US - 28.05.2026

Clasificación Internacional A61K 39/295Nº de solicitud 19453849Solicitante Vaxinano SASInventor/a Johanna Jacoba Elisabeth Bijlsma

A vaccine comprising nanoparticles in association with a *Mycoplasma* hyopneumoniae bacterin, wherein the nanoparticles comprise a cationic polysaccharide and an anionic phospholipid.

19.20260144858TRUNCATED RESPIRATORY SYNCYTIAL VIRUS F PROTEIN AND USE THEREOF

US - 28.05.2026

Clasificación Internacional A61K 39/12Nº de solicitud 19121692Solicitante XIAMEN UNIVERSITYInventor/a Zizheng ZHENG

Provided are a fusion protein, and a nucleic acid molecule comprising a nucleotide sequence encoding the fusion protein. The present invention also relates to a vaccine comprising the fusion protein or the nucleic acid molecule. Furthermore, the present invention also relates to a method for preventing and/or treating RSV infections or diseases and/or symptoms caused by RSV infections by means of using the fusion protein, nucleic acid molecule and vaccine.

20.WO/2026/104599RECOMBINANT MODIFIED VACCINIA VIRUS ANKARA (MVA) ENCODING MULTIMERIC EPSTEIN-BARR VIRUS (EBV) ANTIGEN PARTICLES

WO - 21.05.2026

Clasificación Internacional A61K 39/12Nº de solicitud PCT/EP2025/083025Solicitante BAVARIAN NORDIC A/SInventor/a BROD, Florian

The present invention relates to recombinant Modified Vaccina Virus Ankara (MVA) encoding Epstein-Barr virus (EBV) antigens, wherein surface glycoprotein 350 (EBV gp350) and glycoprotein gH (EBV gH) are fused to subunits of self-assembling multimeric protein particle PdhC (acetyltransferase of pyruvate dehydrogenase (PDH) complex) or DPS (DNA binding protein from starved cells).

21.WO/2026/107055HEPATITIS B VIRUS VACCINE AND METHODS OF USE

WO - 21.05.2026

Clasificación Internacional A61K 39/29Nº de solicitud PCT/US2025/055130Solicitante THE TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIAInventor/a GEHRING, Stephan

Provided is a hepatitis B vaccine comprising at least one mRNA molecule encoding a hepatitis B antigen and methods of use thereof to treat or prevent hepatitis B.

22.WO/2026/108989MRNA PHARMACEUTICAL COMPOSITION FOR PREVENTING AND TREATING TUBERCULOSIS AND USE THEREOF

WO - 28.05.2026

Clasificación Internacional C12N 15/00Nº de solicitud PCT/CN2025/136824Solicitante SHENZHEN RHEGEN BIOTECHNOLOGY CO.,LTD.Inventor/a ZHANG, Hao

An mRNA pharmaceutical composition for preventing and treating tuberculosis and use thereof. The mRNA pharmaceutical composition comprises: an mRNA molecule encoding a Mycobacterium tuberculosis antigen, and a pharmaceutically acceptable excipient. The Mycobacterium tuberculosis antigen comprises the following antigen components: at least one Mycobacterium tuberculosis early-secreted antigen or an immunologically active fragment thereof; at least one Mycobacterium tuberculosis PE/PPE family antigen or an immunologically active fragment thereof; and at least one Mycobacterium tuberculosis latency-associated antigen or an immunologically active fragment thereof. The mRNA pharmaceutical composition does not comprise or further comprises an mRNA molecule encoding a cytokine. The pharmaceutical composition is used for preparing a tuberculosis vaccine, which can be used not only as a prophylactic vaccine for preventing latency activation, but also as a therapeutic drug for treating active tuberculosis, and has a significant inhibitory effect on Mycobacterium tuberculosis.

23.20260137768ZIKA VIRUS VACCINE

US - 21.05.2026

Clasificación Internacional A61K 39/12Nº de solicitud 19391058Solicitante CureVac SEInventor/a Benjamin PETSCH

The present invention is directed to an artificial nucleic acid and to polypeptides suitable for use in treatment or prophylaxis of an infection with Zika virus or a disorder related to such an infection. In particular, the present invention concerns a Zika virus vaccine. The present invention is directed to an artificial nucleic acid, polypeptides, compositions and vaccines comprising the artificial nucleic acid or the polypeptides. The invention further concerns a method of treating or preventing a disorder or a disease, first and second medical uses of the artificial nucleic acid, polypeptides, compositions and vaccines. Further, the invention is directed to a kit, particularly to a kit of parts, comprising the artificial nucleic acid, polypeptides, compositions and vaccines.

24.20260137763ANTI-TICK VACCINE COMPOSITIONS AND RELATED METHODS

US - 21.05.2026

Clasificación Internacional A61K 39/00Nº de solicitud 19375059Solicitante Arizona Board of Regents acting for and on behalf of Northern Arizona UniversityInventor/a David Wagner

Implementations of an anti-tick vaccine composition may include one or more conserved tick proteins from a tick species; and one or more conserved outer membrane proteins of an endosymbiont of the tick species.

25.WO/2026/109640N-TERMINAL REGION OF A GROUP B STREPTOCOCCUS SURFACE PROTEIN AS A CARRIER FOR THE CAPSULAR POLYSACCHARIDE

WO - 28.05.2026

Clasificación Internacional A61K 39/09Nº de solicitud PCT/EP2025/083650Solicitante MINERVAX APSInventor/a FISCHER, Per

An immunogenic complex comprising i) an amino acid sequence of an N-terminal region of a group B Streptococcus surface protein selected from the group consisting of: a first amino acid sequence having at least 98%, such as 99%, identity to SEQ ID NO: 16 and a length of 172 amino acids to 178 amino acids; a second amino acid sequence having at least 98%, such as 99%, identity to SEQ ID NO: 18 and a length of 167 amino acids to 173 amino acids; and a third amino acid sequence consisting of SEQ ID NO: 20; and ii) a capsular polysaccharide, is provided. An immunogenic product, a vaccine, and the immunogenic complex, the immunogenic product or the vaccine for use in a method of preventing or treating a group B Streptococcus infection, are also provided.

26.4747279VERFAHREN ZUR VERSTÄRKUNG DER WIRKSAMKEIT EINER IMMUNTHERAPIE UND VERSTÄRKUNG DER WIRTSIMMUNREAKTION

EP - 27.05.2026

Clasificación Internacional C07K 16/22Nº de solicitud 24748837Solicitante ANDREMACON S R LInventor/a MARFIA GIOVANNI

The present invention concerns the field of immunotherapies suitable for activating the immune response in a patient. More in detail the present invention relates to anti-EPO negative functional modulators, useful as active ingredients in a pharmaceutical composition for immunomodulating strategies in therapy (eg cancer immunotherapies, infectious, inflammatory diseases) or a pharmaceutical composition for immuno-activation, boosting cell based or pharmacological or vaccine based immunotherapies and stimulating the immune system response of a patient in need thereof. In particular, the invention also describes how to restore the immune response in pathological conditions such as cancer and refractory infectious diseases enhancing and

assuring the therapeutic access of immunotherapies strategies and abolishing the "tolerogenic" stimuli through products consisting in inhibitors of EPO pathway that can for example serve as active pharmaceutical ingredients of vaccine compositions that stimulate immune responses in cancer, infectious and inflammatory diseases and transfer into patients..

27.WO/2026/104647VACCINE

WO - 21.05.2026

Clasificación Internacional A61K 39/12Nº de solicitud PCT/EP2025/083114Solicitante ASTRAZENECA ABInventor/a KUROKAWA, Cheyne

The present disclosure relates to an mRNA molecule encoding a polypeptide comprising an hMPV F protein, or an immunogenic fragment thereof, and a lumazine synthase (LuS) capable of multimerising to form a nanoparticle. Further aspects of the disclosure relate to compositions comprising the mRNA molecule and their use as a vaccine in the prevention of infectious diseases, including those caused by hMPV and RSV.

28.WO/2026/111801ANTIBODIES AND ANTIGEN-BINDING FRAGMENTS THAT BIND TO MONKEYPOX VIRUS PROTEIN A35 AND VACCINIA VIRUS PROTEIN A33 AND METHODS OF USE

WO - 28.05.2026

Clasificación Internacional C07K 14/005Nº de solicitud PCT/US2025/045184Solicitante ICAHN SCHOOL OF MEDICINE AT MOUNT SINAIInventor/a COELHO, Camila H.

Provided herein are antibodies and antigen-binding fragments thereof that bind to monkeypox virus (MPXV) protein A35 and/or to vaccinia virus (VACV) protein A33, nucleic acids and vectors encoding such antibodies and antigen-binding fragments, and methods of use. Provided are, for example, methods of reducing or blocking infection of a cell with MPXV or VACV. Also provided are methods of treating or preventing infection with MPXV or VACV.

29.WO/2026/109000MRNA PHARMACEUTICAL COMPOSITION FOR PREVENTING AND TREATING TUBERCULOSIS AND USE THEREOF

WO - 28.05.2026

Clasificación Internacional C12N 15/31Nº de solicitud PCT/CN2025/136846Solicitante SHENZHEN RHEGEN BIOTECHNOLOGY CO.,LTD.Inventor/a ZHANG, Hao

An mRNA pharmaceutical composition for preventing and treating tuberculosis and use thereof. The mRNA pharmaceutical composition comprises: an mRNA molecule encoding a Mycobacterium tuberculosis antigen, and a pharmaceutically acceptable excipient. The Mycobacterium tuberculosis antigen comprises the following antigen components: at least one Mycobacterium tuberculosis early-secreted antigen or an immunologically active fragment thereof; Mycobacterium tuberculosis PE/PPE family antigen Rv3872 or an immunologically active fragment thereof; and at least one Mycobacterium tuberculosis latency-associated antigen or an immunologically active fragment thereof. The mRNA pharmaceutical composition does not comprise or further comprises an mRNA molecule encoding a cytokine. The pharmaceutical composition is used for preparing a tuberculosis vaccine, which can be used not only as a prophylactic vaccine for preventing latency activation, but also as a therapeutic drug for treating active tuberculosis, and has a

significant inhibitory effect on Mycobacterium tuberculosis.

30.20260137770METHOD FOR CONSTRUCTING CIRCULAR RNA AND VACCINE AGAINST FIPV

US - 21.05.2026

Clasificación Internacional A61K 39/215Nº de solicitud 19393485Solicitante BEIJING SYNGENTECH CO., LTD.Inventor/a Weixi Liao

Provided is a method for constructing a circular RNA and a vaccine against a feline infectious peritonitis virus (FIPV). The present method relates to a pharmaceutical formulation. The pharmaceutical formulation includes a nucleic acid fragment. The nucleic acid fragment is a circular RNA and includes a first nucleic acid fragment and a second nucleic acid fragment. The first nucleic acid fragment encodes an M protein of feline infectious peritonitis virus; the second nucleic acid fragment encodes an N protein of feline infectious peritonitis virus; and the first nucleic acid fragment and the second nucleic acid fragment are linked or not linked. The pharmaceutical formulation against feline infectious peritonitis virus prepared by the method of the present disclosure has advantages such as a good immune efficacy, a simple preparation process, high safety, no toxic and side effects, and industrial producibility.

31.4743068NEUE MARKER FÜR TUMORNEOANTIGEN-IMPFSTOFFE

EP - 20.05.2026

Clasificación Internacional A61K 31/00Nº de solicitud 24838909Solicitante ANDA BIOLOGY MEDICINE DEV SHENZHEN CO LTDInventor/a HU LANDIAN

Novel markers relating to tumor neoantigen vaccines. Novel method of assessing responsiveness of a subject to a tumor neoantigen vaccine, or novel method of predicting the risk of tumor relapse in a subject before or after receiving at least one dose of tumor neoantigen vaccine. TCRs generated under the stimulation of the tumor neoantigen vaccines.

32.WO/2026/112185COMBINATIONS OF ANTIGENICALLY DISTINCT VIRAL PARTICLES AS A UNIVERSAL INFLUENZA VACCINE STRATEGY

WO - 28.05.2026

Clasificación Internacional A61K 39/145Nº de solicitud PCT/US2025/056180Solicitante DUKE UNIVERSITYInventor/a HEATON, Nicholas

The present invention provides compositions comprising (a) a combination of influenza viral particles comprising a wild-type hemagglutinin (HA) protein and influenza viral particles comprising a headless HA protein, or (b) a combination of RNA molecules encoding a wild-type HA protein and RNA molecules encoding a headless HA protein. Vaccine formulations comprising these compositions and methods of using these compositions to induce an immune response in a subject are also provided.

33.WO/2026/108990MRNA PHARMACEUTICAL COMPOSITION FOR PREVENTING AND TREATING TUBERCULOSIS AND USE THEREOF

WO - 28.05.2026

Clasificación Internacional A61K 39/04Nº de solicitud PCT/CN2025/136825Solicitante SHENZHEN RHEGEN BIOTECHNOLOGY CO., LTD.Inventor/a ZHANG, Hao

Disclosed are an mRNA pharmaceutical composition for preventing and treating tuberculosis and use thereof. The mRNA pharmaceutical composition comprises: an mRNA molecule encoding a Mycobacterium tuberculosis antigen, and a pharmaceutically acceptable excipient. The Mycobacterium tuberculosis antigen comprises the following antigen components: at least one early-secreted antigen of Mycobacterium tuberculosis or an immunologically active fragment thereof; PE/PPE family antigen WAG22 of Mycobacterium tuberculosis or an immunologically active fragment thereof; and at least one latent-related antigen of Mycobacterium tuberculosis or an immunologically active fragment thereof. The mRNA pharmaceutical composition does not comprise or further comprises an mRNA molecule encoding a cytokine. The pharmaceutical composition is used for preparing a tuberculosis vaccine, which may serve as a prophylactic vaccine for preventing latent activation or as a therapeutic drug for treating active tuberculosis, exhibiting a significant inhibitory effect on Mycobacterium tuberculosis.

34.20260144859DENGUE VACCINE FORMULATION

US - 28.05.2026

Clasificación Internacional A61K 39/12Nº de solicitud 19122544Solicitante Takeda Vaccines, Inc.Inventor/a Sushma Kommareddy

The present invention relates to a dengue vaccine formulation comprising a tetravalent dengue virus composition comprising a live attenuated dengue virus serotype 1, a live attenuated dengue virus serotype 2, a live attenuated dengue virus serotype 3, and a live attenuated dengue virus serotype 4, at least one non-reducing disaccharide, at least one poloxamer, urea, at least one amino acid having a positively charged side chain at neutral pH, tromethamine, and human serum albumin.

35.20260144861COMBINATION VACCINES AGAINST CORONAVIRUS INFECTION, INFLUENZA INFECTION, AND/OR RSV INFECTION

US - 28.05.2026

Clasificación Internacional A61K 39/215Nº de solicitud 19121711Solicitante BioNTech SEInventor/a Ugur Sahin

This disclosure relates to the field of RNA to prevent or treat multiple infectious agents. In particular, the present disclosure relates to methods and agents for vaccination against coronavirus infection, influenza infection, and/or RSV infection and inducing effective coronavirus, influenza virus, and/or RSV antigen-specific immune responses such as antibody and/or T cell responses. Specifically, in one embodiment, the present disclosure relates to methods comprising administering to a subject (i) a bivalent RNA vaccine encoding peptides or proteins comprising epitopes of SARS-CoV-2 spike proteins (S proteins) and (ii) a tetravalent RNA vaccine encoding peptides or proteins comprising epitopes of hemagglutinin (HA), for inducing an immune response against coronavirus S proteins, in particular S proteins of SARS-CoV-2, and influenza proteins, in particular HA proteins of type A and type B influenza viruses, in the subject.

36.20260137769NUCLEIC ACID MOLECULES AND USES THEREOF

US - 21.05.2026

Clasificación Internacional A61K 39/125Nº de solicitud 19451230Solicitante CureVac SEInventor/a Susanne RAUCH

The present invention is directed to an artificial nucleic acid and to polypeptides suitable for use in treatment

or prophylaxis of an infection with Norovirus or a disorder related to such an infection. In particular, the present invention concerns a Norovirus vaccine. The present invention is directed to an artificial nucleic acid, polypeptides, compositions and vaccines comprising the artificial nucleic acid or the polypeptides. The invention further concerns a method of treating or preventing a disorder or a disease, first and second medical uses of the artificial nucleic acid, polypeptides, compositions and vaccines. Further, the invention is directed to a kit, particularly to a kit of parts, comprising the artificial nucleic acid, polypeptides, compositions and vaccines.

37.WO/2026/108833IONIZABLE LIPID, LIPID MIXTURE, LIPOSOME COMPOSITION, AND PHARMACEUTICAL COMPOSITION THEREOF AND USE THEREOF

WO - 28.05.2026

Clasificación Internacional C07C 235/06Nº de solicitud PCT/CN2025/135903Solicitante ACCUREDIT THERAPEUTICS (SUZHOU) CO., LTD.Inventor/a JING, Huize

The present application relates to the field of lipid particle carrier delivery, and in particular to an ionizable lipid, a lipid mixture, a liposome composition, and a pharmaceutical composition thereof and a use thereof. The present application provides an ionizable lipid. The ionizable lipid is a compound represented by formula (I) or a stereoisomer, stable isotopic derivative, and pharmaceutically acceptable salt thereof; and the present application provides a lipid mixture comprising the ionizable lipid, a liposome composition, and a pharmaceutical composition thereof and a pharmaceutical use thereof. The ionizable lipid provided by the present application has a simple synthesis process and good stability. The liposome composition is stable, uniform, and easy to prepare, and has excellent delivery performance and low toxicity. The ionizable lipid of the present application can be used for preparing a medicament for gene editing, T cell regulation or modification, and protein regulation, can be used for preparing a medicament for preventing or treating cancer, and can be used for preparing a vaccine.

38.20260139009PREFUSION-STABILIZED CMV GB PROTEINS

US - 21.05.2026

Clasificación Internacional C07K 14/005Nº de solicitud 19107808Solicitante BOARD OF REGENTS, THE UNIVERSITY OF TEXAS SYSTEMInventor/a Jason MCLELLAN

Provided herein are engineered hCMV gB polypeptides. In some aspects, the engineered gB polypeptides exhibit enhanced conformational stability and/or antigenicity. Methods are also provided for use of the engineered gB polypeptides as diagnostics, in screening platforms, and/or in vaccine compositions.

39.4743440IONISIERBARE LIPIDE

EP - 20.05.2026

Clasificación Internacional C07C 323/12Nº de solicitud 24743346Solicitante ETHERNA IMMUNOTHERAPIES NVInventor/a DE COEN RUBEN

The present invention generally relates to the field of ionizable (also termed cationic) lipids, and in particular provides a novel type of such lipids as represented by any of the formulae disclosed herein. The present invention further provides methods for making such lipids as well as uses thereof, in particular in the preparation of nanoparticle compositions, more in particular nanoparticle compositions comprising nucleic acids. It further provides vaccine formulations and pharmaceutical formulations comprising nanoparticle

compositions based on the ionizable lipids disclosed herein.

40.4743113ZUSAMMENSETZUNGEN UND VERFAHREN ZUR VERSTÄRKUNG DER IMMUNANTWORTEN AUF STREPTOCOCCUS

EP - 20.05.2026

Clasificación Internacional A61K 39/108Nº de solicitud 24840632Solicitante LAYTON SHERRYLLInventor/a LAYTON SHERRYLL

A vaccine composition for mammals/Fish against Streptococcus comprising an amino acid sequence selected from the group consisting of Sequence Number (ID): 1, Sequence Number (ID): 2, and Sequence Number (ID): 3, and a pharmaceutically acceptable carrier.

41.4748400KONJUGAT ZUR ANTIGENVERABREICHUNG UND VERWENDUNG DAVON

EP - 27.05.2026

Clasificación Internacional A61K 47/64Nº de solicitud 24849529Solicitante LG CHEMICAL LTDInventor/a KIM DAE HEE

The present invention relates to: a conjugate comprising mRNA of an antigen protein and mRNA encoding a carrier protein linked to the 5' end and the 3' end of the mRNA of the antigen protein; and an immunization composition and/or vaccine composition comprising same. The present invention has the effect of stably increasing the expression of the antigen protein.

42.20260144855INTRATUMORALLY INJECTED YEAST VACCINE

US - 28.05.2026

Clasificación Internacional A61K 39/00Nº de solicitud 19453612Solicitante ImmunityBio, Inc.Inventor/a Thomas H. King

Disclosed herein are compositions and methods for treating solid tumors with yeast-based formulations.

43.0002862290METHOD FOR CREATING RECOMBINANT STRAIN OF ENTEROCOCCUS L3-SU2 BASED ON BIOLOGICALLY ACTIVE STRAIN OF ENTEROCOCCUS FAECIUM L3

RU - 19.05.2026

Clasificación Internacional C12N 15/74Nº de solicitud 2025117255SolicitanteInventor/a Гупалова Татьяна Виталиевна (RU)

FIELD: microbiology; molecular genetics; biotechnology. SUBSTANCE: method for creating a recombinant strain of enterococcus L3-Su2 based on the biologically active strain of E. faecium L3 is proposed, which involves electroporation of a culture of enterococci Enterococcus faecium L3 with recombinant plasmid DNA pentF-su2, having SEQ ID No: 1, after which a clone of enterococcus L3-Su2 is selected that expresses a protein having the amino acid sequence SEQ ID No: 2, stimulating the humoral and secretory immune response against the proteins ScaAB, ScpB, CspA, Bac and ScpB1 of group B streptococcus. Also the recombinant plasmid pentF-su2 is proposed, having the nucleotide sequence SEQ ID No: 1, after which a clone of enterococcus L3-Su2 is selected that expresses a protein having the amino acid sequence SEQ ID No: 2, stimulating a humoral and secretory immune response against the proteins ScaAB, ScpB, CspA, Bac and ScpB1 of group B streptococcus. EFFECT: ensuring efficient production of a live vaccine candidate

against streptococcal infection. 2 cl, 7 dwg, 1 tbl, 3 ex

44.WO/2026/106542VACCINE

WO - 21.05.2026

Clasificación Internacional A61K 39/015Nº de solicitud PCT/SG2025/050625Solicitante PATRONUS BIOTECH PTE. LTD.Inventor/a GUO, Yan

The present invention relates to antigens, antibodies and vaccines for treatment or prevention of malaria.

45.3067019TRI-SEGMENTED ARENAVIRUSES AS VACCINE VECTORS

ES - 19.05.2026

Clasificación Internacional C12N 15/86Nº de solicitud 20184468Solicitante Université de GenèveInventor/a PINSCHEWER, Daniel David

46.4746907VERFAHREN ZUR BEHANDLUNG VON HIV-INFEKTIONEN MIT IMPFSTOFF

EP - 27.05.2026

Clasificación Internacional A61K 39/12Nº de solicitud 24758554Solicitante GILEAD SCIENCES INCInventor/a BRANDER CHRISTIAN

The present disclosure relates to methods for determining the magnitude of a subject's immune response against a HIVACAT T-cell immunogen (HTI or "HTI immunogen") and whether the subject can avoid antiretroviral therapy (ART). These methods are helpful for treating human immunodeficiency virus (HIV) and/or deciding whether to administer, continue or stop antiretroviral therapy in a subject. The present disclosure also relates to antigens, compositions, and kits related to such methods.

47.4748392IMPFSTOFFFORMULIERUNG

EP - 27.05.2026

Clasificación Internacional A61K 39/09Nº de solicitud 24214225Solicitante MINERVAX APSInventor/a FISCHER PER

48.20260144862MATERIALS AND METHODS TO TREAT EPSTEIN-BARR VIRUS (EBV) AND EBV-INDUCED DISEASES

US - 28.05.2026

Clasificación Internacional A61K 39/245Nº de solicitud 19121909Solicitante Medizinische Universität WienInventor/a Hannes VIETZEN

The present invention relates to means and methods to prevent and/or treat Epstein-Barr virus (EBV) and EBV-induced diseases, such as EBV infection, infectious mononucleosis (IM), malignant or non-malignant post-transplant lymphoproliferative disorder (PTLD) and other EBV-associated diseases. In particular, the invention provides a SQAPLPCVL peptide that can be used in a treatment or a method of treatment to induce an EBV-specific immune response in a subject. The SQAPLPCVL can be used in a treatment or method of treatment as a vaccine against EBV and EBV-induced diseases. It is preferred herein that Epstein-Barr virus (EBV) and/or EBV-induced diseases are prevented.

49.2026203619NEOANTIGEN IDENTIFICATION, MANUFACTURE, AND USE

AU - 21.05.2026

Clasificación Internacional Nº de solicitud 2026203619Solicitante Seattle Project Corp.Inventor/a Bulik-Sullivan, Brendan

AABBSSTTRRAACCTT Disclosed herein is a system and methods for determining the alleles, neoantigens, and vaccine composition as determined on the basis of an individualâs tumor mutations. Also disclosed are systems and methods for obtaining high quality sequencing data from a tumor. Further, described herein are systems and methods for identifying somatic changes in polymorphic genome data. Finally, described herein are unique cancer vaccines.

50.WO/2026/112664SYSTEMS AND METHODS FOR BLOW-FILL-SEAL (BFS) TEAR-ACTIVATION VALVES

WO - 28.05.2026

Clasificación Internacional A61M 5/00Nº de solicitud PCT/US2025/057174Solicitante KOSKA FAMILY LIMITEDInventor/a PRICE, Jeff

A pre-filled medical delivery assembly configured to allow delivery of a single dose of a therapeutic agent (*e.g.*, vaccine, drug, medicament, etc.) from a Blow-Fill-Seal (BFS) vial to a patient. The delivery assembly including a tear-activation valve that provides for an internal, mechanical BFS vial opening, and defines an Auto-Disable (AD) feature that prevents refilling or re-use of the assembly.

51.4743477VEKTOREN ZUR EXPRESSION VON ABGESCHWÄCHTEM RNA-VIRUS DER ARTERIVIRIDAE-FAMILIE UND VERWENDUNGEN DAVON

EP - 20.05.2026

Clasificación Internacional C07K 14/00Nº de solicitud 24743326Solicitante VIROVET NVInventor/a FRANÇOIS KATRIEN

47 ABSTRACT VECTORS EXPRESSING ATTENUATED RNA VIRUS OF THE FAMILY ARTERIVIRIDAE AND USES THEREOF Provided herein is a vector for use as a medicament, wherein said vector comprises a viral expression cassette comprising a cDNA of an attenuated RNA virus genome operably linked to a promoter, wherein 5 the RNA virus is a virus of the family Arteriviridae. Also provided herein is a pharmaceutical composition comprising such vector and a method for preparing a vaccine against an RNA virus of the family Arteriviridae.

52.20260147003METHODS, COMPOSITIONS, AND SYSTEMS FOR DETECTING CORONAVIRUS NEUTRALIZING ANTIBODIES

US - 28.05.2026

Clasificación Internacional G01N 33/68Nº de solicitud 19179589Solicitante Laboratory Corporation of America HoldingsInventor/a Christos J. Petropoulos

The present disclosure relates to methods, compositions, and systems for detecting whether a subject exposed to a coronavirus has developed a neutralizing antibody response. Also disclosed are methods for determining whether a patient infected by a coronavirus is likely to respond to treatment with an antibody

preparation. Also disclosed are methods for detecting the level of neutralizing antibody response in a sample of serum from a subject exposed to a coronavirus or to a coronavirus vaccine.

53.20260137764METHOD FOR CASTRATION OF ANIMALS

US - 21.05.2026

Clasificación Internacional A61K 39/00Nº de solicitud 18699977Solicitante SHENZHEN HERZ LIFE SCIENCE TECHNOLOGY CO., LTDInventor/a Lisha ZHA

A method for castration of animals. A non-surgical method for castration of animals which includes administering GnRH-I-AP205 virus-like particle subunit vaccine to animals. The required dose is very small, and 0.25 ml/animal will work.

54.20260144856VACCINE AGAINST KLEBSIELLA PNEUMONIAE

US - 28.05.2026

Clasificación Internacional A61K 39/108Nº de solicitud 19123759Solicitante Idorsia Pharmaceuticals LtdInventor/a Felix BROECKER

The present invention relates to novel oligosaccharide-carrier protein conjugates of Formula (I), and their use as pharmaceuticals, in particular as vaccines. The invention also concerns related aspects including oligosaccharide intermediates of Formulae (II) and (III), as well as processes for the preparation of the conjugates. Furthermore, the invention relates to pharmaceutical compositions comprising the oligosaccharide-carrier protein conjugates, as well as the use of the oligosaccharide-carrier protein conjugates of Formula (IV) in biological assays.

55.4746917IMPFSTOFF

EP - 27.05.2026

Clasificación Internacional A61K 47/64Nº de solicitud 24748311Solicitante GLAXOSMITHKLINE BIOLOGICALS SAInventor/a RENUKUNTLA SANTOSH

The present invention relates to conjugates comprising polysaccharides comprising 3- deoxy-D-manno-actulosonic acid (KDO) moieties, particularly conjugates produced using random conjugation methods, methods for preparing such conjugates, immunogenic compositions and vaccines comprising the conjugates, and methods of treatment or medical uses using the compositions and vaccines.

56.WO/2026/103820COMPOSITION FOR PREVENTING AND TREATING ORAL DISEASE OR CONDITION, PREPARATION METHOD THEREFOR, AND USE THEREOF

WO - 21.05.2026

Clasificación Internacional A61K 39/02Nº de solicitud PCT/CN2025/134790Solicitante INSTITUTE OF PROCESS ENGINEERING, CHINESE ACADEMY OF SCIENCESInventor/a WEI, Wei

Provided are a composition for preventing and treating an oral disease or condition, a preparation method therefor, and the use thereof. The composition comprises extracellular vesicles derived from oral pathogenic bacteria. The extracellular vesicles are nanoscale vesicles rich in immune activation and defensive factors

against pathogenic bacterial infection. Upon administration via the oral mucosa into a body, the vesicles are passively aimed at lymph nodes associated with the oral mucosa to induce the expression of a mucosal immunity-specific antibody, thereby enhancing immune defense against pathogenic bacteria. The extracellular vesicles of oral pathogenic bacteria are coated with a calcium phosphate shell, and the shell is soluble only under acidic conditions and degrades only after the extracellular vesicles are aimed at the lymph nodes and are phagocytosed into lysosomes of dendritic cells, thereby avoiding inflammatory reactions in an administration area. By using a sublingual disintegrating tablet as the form of administration, the bioavailability of a vaccine can be enhanced while achieving the local administration at the mucosa and activating mucosal immunity. Moreover, the composition is convenient to administer, which is conducive to the diagnosis and treatment of oral bacterial infectious diseases.

57.20260137775VACCINE ADJUVANTS BASED ON TLR RECEPTOR LIGANDS

US - 21.05.2026

Clasificación Internacional A61K 39/39Nº de solicitud 19393207Solicitante THE UNIVERSITY OF MONTANAInventor/a Helene Bazin-Lee

Lipidated oxoadenines of formula (I) are TLR7/8 receptor ligands useful for modulating immune responses. The compounds may have therapeutic application in the treatment of cancer, infectious diseases, allergy, or autoimmune disorders.

58.WO/2026/108904SPACER PEPTIDE AND USE THEREOF

WO - 28.05.2026

Clasificación Internacional C07K 5/103Nº de solicitud PCT/CN2025/136338Solicitante LIKANG LIFE SCIENCESInventor/a JIA, Mingming

The present application relates to a spacer peptide, which plays the role of spacing different antigens in a vaccine, and can be efficiently cleaved by a specific enzyme in vivo to release antigens, thereby laying a solid foundation for the effective presentation of antigens by antigen-presenting cells. The present application further relates to use of the spacer peptide.

59.WO/2026/104630A PERMANENT DOMINANT SELECTON METHOD FOR GENERATION OF RECOMBINANT MODIFIED VACCINIA VIRUS ANKARA (MVA)

WO - 21.05.2026

Clasificación Internacional A61K 39/12Nº de solicitud PCT/EP2025/083077Solicitante BAVARIAN NORDIC A/SInventor/a HAUSMANN, Jürgen

The present invention relates to a process for preparing recombinant Modified Vaccina Virus Ankara (MVA) using bacterial artificial chromosome (BAC) based permanent dominant selection.

60.WO/2026/108304NEUTRALIZING MONOCLONAL ANTIBODY 10G8 FOR RECOGNIZING CV-A6 AND USE THEREOF

WO - 28.05.2026

Clasificación Internacional C07K 16/10Nº de solicitud PCT/CN2025/118135Solicitante WUHAN INSTITUTE OF BIOLOGICAL PRODUCTS CO., LTDInventor/a SHEN, Shuo

The present invention provides a neutralizing monoclonal antibody 10G8 for recognizing CV-A6. Six CDR regions of the monoclonal antibody 10G8 are specifically as follows: (1) the amino acid sequence of a heavy chain CDR1 is set forth in SEQ ID NO. 1; (2) the amino acid sequence of a heavy chain CDR2 is set forth in SEQ ID NO. 2; (3) the amino acid sequence of a heavy chain CDR3 is set forth in SEQ ID NO. 3; (4) the amino acid sequence of a light chain CDR1 is set forth in SEQ ID NO. 4; (5) the amino acid sequence of a light chain CDR2 is set forth in SEQ ID NO. 5; and (6) the amino acid sequence of a light chain CDR3 is set forth in SEQ ID NO. 6. The monoclonal antibody 10G8 provided in the present invention can recognize the CV-A6 virus, has neutralizing activity, has a 100% protection rate in mice, and is of great significance for the treatment of diseases caused by the CV-A6 pathogen and for vaccine research.

61.WO/2026/104601VIRAL VECTORS FOR ENHANCED IMMUNE RESPONSES TO MULTIMERIC PROTEIN PARTICLE DISPLAYED ANTIGENS

WO - 21.05.2026

Clasificación Internacional A61K 39/12Nº de solicitud PCT/EP2025/083027Solicitante BAVARIAN NORDIC A/SInventor/a BROD, Florian

The present invention relates to viral vectors co-encoding an artificial CD4 T cell epitope (PADRE) for enhanced immune responses to encoded multimeric protein particle displayed vaccine antigens.

62.4748420IMPFSTOFFVERABREICHUNGSVORRICHTUNG UND EINZELDOSISKAMMERN

EP - 27.05.2026

Clasificación Internacional A61M 15/00Nº de solicitud 26159832Solicitante STAMFORD DEVICES LTDInventor/a POWER JOHN

63.20260144792INHIBITORS OF CHYMASE FOR USE IN THE SELECTIVE RESOLUTION OF THROMBI IN THROMBOTIC OR THROMBOEMBOLIC DISORDERS

US - 28.05.2026

Clasificación Internacional A61K 31/513Nº de solicitud 19225710Solicitante SOCPRA SCIENCES SANTÉ HUMAINES S.E.C.Inventor/a Pedro D'ORLÉANS-JUSTE

The present invention covers the use of chymase inhibitors in general and more in particular substituted bicyclically substituted uracils of general formula (I) as described and defined herein, and 3-methylbenzo-[b]thiophene)-2-sulfonamido derivatives of general formula (II) for manufacturing pharmaceutical compositions for the treatment or prophylaxis of stroke, pulmonary embolism, deep or superficial vein thrombosis, thrombotic microangiopathy, thrombotic microangiopathy in hypercoagulable states after infection, inflammation, transplantation, disseminated intravascular coagulation, vaccine-induced immune thrombotic thrombocytopenia, vascular access site thrombosis or occlusion.

64.WO/2026/108696RESPIRATORY SYNCYTIAL VIRUS RECONSTRUCTED POLYPEPTIDE AND USE

THEREOF

WO - 28.05.2026

Clasificación Internacional C07K 19/00Nº de solicitud PCT/CN2025/134554Solicitante THEMEDIUM THERAPEUTICS CO., LTD.Inventor/a CAI, Yuheng

A respiratory syncytial virus (RSV) F protein reconstructed polypeptide, a polynucleotide encoding same, a nucleic acid construct comprising the polynucleotide, an expression vector comprising the nucleic acid construct, a host cell transformed or transfected with the described polynucleotide, nucleic acid construct, or expression vector, a stabilized polymer formed from the reconstructed polypeptide, an immunogenic composition comprising any one of the foregoing, and use thereof in the preparation of a vaccine for preventing and/or treating a respiratory syncytial virus infection. The RSV F protein reconstructed polypeptide has excellent immunogenicity and can stimulate the body to produce a high level of neutralizing antibody titer, which is of great significance for the clinical treatment and prevention and control of respiratory syncytial virus.

65.20260140122DETECTION OF ANTIBODIES AGAINST RAN PROTEINS FROM SERUM AND TISSUE LYSATES

US - 21.05.2026

Clasificación Internacional G01N 33/68Nº de solicitud 19326611Solicitante University of Florida Research Foundation, IncorporatedInventor/a Laura Ranum

Aspects of the disclosure relate to methods and compositions (e.g., kits) for detecting anti-repeat-associated non-ATG (RAN) protein antibodies in a subject (e.g., a subject that has been administered a therapeutic anti-RAN protein antibody or a vaccine against a disease or disorder associated with RAN protein expression, translation, and/or accumulation, for example amyotrophic lateral sclerosis (ALS) and/or frontotemporal dementia (FTD)). In some embodiments, methods described by the disclosure comprise detecting one or more anti-RAN protein antibodies in a biological sample obtained from a subject by an electrochemiluminescence-based immunoassay using one or more target di-amino acid repeat peptides. In some embodiments, the disclosure relates to kits comprising one or more di-amino acid repeat peptides and an electrochemiluminescence-based immunoassay plate and/or reagents.

66.4747370ANTIGENKONSTRUKTE AUS PORPHYROMONAS GINGIVALIS

EP - 27.05.2026

Clasificación Internacional C12N 9/52Nº de solicitud 24748034Solicitante SANOFI SAInventor/a GIRERD-CHAMBAZ YVES

This invention relates to compositions (e.g. vaccine compositions) which can be used to immunise against *P. gingivalis* infections. The compositions comprise P. gingivalis antigens and antigen combinations which can be used to immunise against P. gingivalis, used in the form of nucleic acids (e.g. mRNAs) encoding antigenic proteins or in the form of recombinant protein antigens.

67.4746900AKTIVE IMMUNISIERUNG ZUR BEHANDLUNG VON ATOPISCHER DERMATITIS

EP - 27.05.2026

Clasificación Internacional A61K 39/00Nº de solicitud 24758553Solicitante PRALONIR S A

SInventor/a BARBEITO ERBA LUIS HÉCTOR

An immunogenic fusion protein used for active immunization or a bivalent vaccine in the treatment of atopic dermatitis (AD) in a subject and a method thereof. The immunogenic fusion protein includes a IL31 polypeptide and at least one substance P polypeptide (SP). The invention is particularly useful for treating and/or preventing AD and symptoms related to AD including pruritus in mammals.

68.20260139012METHOD FOR INCREASING ETEC CS6 ANTIGEN PRESENTATION ON CELL SURFACE AND PRODUCTS OBTAINABLE THEREOF

US - 21.05.2026

Clasificación Internacional C07K 14/245Nº de solicitud 19367429Solicitante Scandinavian Biopharma Holding ABInventor/a Nils Carlin

A method for increasing the presentation of ETEC CS6 antigen on a cell surface, comprising the step of contacting cells expressing said antigen with an aqueous solution comprising 0.6-2.2 percent phenol by weight, such that the presentation of said antigen is increased by at least 100%. A method for the manufacture of a killed whole cell vaccine for immunization against CS6-expressing ETEC. Cells and vaccines obtainable by the above methods.

69.4288438DERIVATER AF IMIDAZO[4,5-D]PYRIDAZIN, DERES FREMSTILLING OG TERAPEUTISKE ANVENDELSE

DK - 18.05.2026

Clasificación Internacional C07D 487/04Nº de solicitud 22703615Solicitante SanofiInventor/a ZHANG, Jidong

The present invention relates to a compound of formula (I) wherein R_1 represents H, (C_1-C_6)alkyl-; hydroxy-(C_1-C_6)alkyl-; NH_2-(C_1-C_6)alkyl-; NH-(C_1-C_6)alkyl-(C_1-C_6)alkyl-; N((C_1-C_6)alkyl)$_2$-(C_1-C_6)alkyl-; (C_2-C_6)alkenyl-; (C_2-C_6)alkynyl-; phenyl(C_1-C_6)alkyl-; (C_3-C_{10})cycloalkyl(C_1-C_6)alkyl-; (C_3-C_{10})membered heterocycloalkyl(C_1-C_6)alkyl-; (C_5-C_{10})membered heteroaryl(C_1-C_6)alkyl-; (C_3-C_{10})membered heterocycloalkyl- NH-(C_1-C_{16})alkyl-; and (C_3-C_{10})membered heterocycloalkyl-N(C(O)-(C_1-C_6)alkyl)-(C_1-C_{16})alkyl-; R_2 represents a halogen atom, a (C_1-C_6)alkyl- group or other well defined groups; and R_3 represents a deuterium atom; H, (C_1-C_6)alkyl-; (C_2-C_6)alkenyl-; (C_2-C_6)alkynyl-; (C_1-C_6)alkylthio-; -OR_6; -NR_7R_8; (C_3-C_{10})membered heterocycloalkyl-; (C_5-C_{10})membered heteroaryl-; -(C_6-C_{10})membered aryl; and (C_3-C_{10})cycloalkyl-. The present invention further relates to intermediates of these compounds, processes for their preparation, a medicament and a pharmaceutical composition comprising them, and their therapeutic uses, in particular as TLR7 and /or TLR8 agonists, as well as their use in a vaccine.

70.20260144868HANK CETUXIMAB COMBINATIONS AND METHODS

US - 28.05.2026

Clasificación Internacional A61K 39/395Nº de solicitud 19454185Solicitante NantCell, Inc.Inventor/a Patrick Soon-Shiong

Contemplated cancer therapies comprise co-administration of aldoxorubicin with an immune therapeutic composition that preferably comprises a vaccine component and a cytotoxic cell component.

71.WO/2026/107236COMPOSITIONS AND METHODS FOR VACCINATION AGAINST MYCOBACTERIUM TUBERCULOSIS

WO - 21.05.2026

Clasificación Internacional A61K 39/04Nº de solicitud PCT/US2025/055395Solicitante UNIVERSITY OF GEORGIA RESEARCH FOUNDATION, INC.Inventor/a QUINN, Frederick David

Provided herein are compositions including epitopes for HBHA, Rv3351c, and ESAT6, and optionally one or both of Rv1490 and HUPB; nucleic acid(s) encoding the same, and combinations thereof. The epitopes are present on one or more polypeptides, optionally one or more fusion protein. In some forms, the epitope(s) for HBHA are present on a HBHA polypeptide. In some forms, the epitope(s) for Rv3351c and the epitope(s) for ESAT6 are present on a Rv3351c-ESAT6 fusion protein. In some forms, the one or more of the epitopes are package in or on a particle, optionally nanoparticles. Exemplary nanoparticles are formed of wax, PLGA, etc. In some forms, the composition further includes a hydrogel-based vaccine delivery platform. In some forms, the composition includes an adjuvant such as glucopyranosyl lipid A (GLA) and/or CpG. Also provided are methods of using the compositions for increasing an immune response.

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

Estrategia de búqueda: *vaccine.ti. AND @PD>="20260518"<=20260531 23 records*

Document ID	Title	Inventor	Applicant Name
US 20260144863 A1	VACCINE TO PROTECT AGAINST MYCOPLASMA HYOPNEUMONIAE	Bijlsma; Johanna Jacoba Elisabeth et al.	Vaxinano SAS
US 20260144859 A1	DENGUE VACCINE FORMULATION	Kommareddy; Sushma et al.	Takeda Vaccines, Inc.
US 20260144855 A1	INTRATUMORALLY INJECTED YEAST VACCINE	King; Thomas H. et al.	ImmunityBio, Inc.
US 20260144856 A1	VACCINE AGAINST KLEBSIELLA PNEUMONIAE	BROECKER; Felix et al.	Idorsia Pharmaceuticals Ltd
US 20260144861 A1	COMBINATION VACCINES AGAINST CORONAVIRUS INFECTION, INFLUENZA INFECTION, AND/OR RSV INFECTION	Sahin; Ugur et al.	BioNTech SE,Pfizer Inc.
US 12636361 B2	Smallpox vaccine for cancer treatment	Szalay; Aladar et al.	CALIDI BIOTHERAPEUTICS (NEVADA), INC.
US 12636359 B2	Swine influenza A virus vaccine comprising two distinct RNA replicon particles	Mogler; Mark A. et al.	Intervet Inc.

US 12636356 B2	High dose shigella vaccine preparation	Nagy; Eszter et al.	EVELIQURE BIOTECHNOLOGIES GMBH
US 12636357 B2	Vaccine composition for preventing tuberculosis comprising chorismate mutase	Kim; Bum Joon et al.	SEOUL NATIONAL UNIVERSITY R&DB FOUNDATION
US 12636355 B2	Transmission-blocking vaccine against Babesia	Suarez; Carlos E et al.	The United States of America, as represented by the Secretary of Agriculture,Washington State University,James Cook University
US 20260137768 A1	ZIKA VIRUS VACCINE	PETSCH; Benjamin et al.	CureVac SE,Sanofi Pasteur
US 20260137775 A1	VACCINE ADJUVANTS BASED ON TLR RECEPTOR LIGANDS	Bazin-Lee; Helene et al.	THE UNIVERSITY OF MONTANA
US 20260137772 A1	VARIANT STRAIN-BASED CORONAVIRUS VACCINES	Carfi; Andrea et al.	ModernaTX, Inc.
US 20260137771 A1	DEVELOPMENT OF MULTI-ANTIGEN MRNA VACCINE AGAINST FELINE FIPV	Liu; Gan et al.	BEIJING SYNGENTECH CO., LTD.,JINYU BAOLING BIOPHARMACEUTICAL CO., LTD.
US 20260137770 A1	METHOD FOR CONSTRUCTING CIRCULAR RNA AND VACCINE AGAINST FIPV	Liao; Weixi et al.	BEIJING SYNGENTECH CO., LTD.
US 20260137763 A1	Anti-Tick Vaccine Compositions and Related Methods	Wagner; David et al.	Arizona Board of Regents acting for and on behalf of Northern Arizona University
US 12629409 B2	Vaccine	Bertaud; Elisabeth Marie Monique et al.	GLAXOSMITHKLINE BIOLOGICALS SA
US 12629412 B2	Betacoronavirus mRNA vaccines	Ciaramella; Giuseppe et al.	ModernaTX, Inc.

US 12629415 B2	Vaccine adjuvants	Lavelle; Edward et al.	THE PROVOST, FELLOWS, FOUNDATION SCHOLARS, AND THE OTHER MEMBERS OF BOARD, OF THE COLLEGE OF THE HOLY AND UNDIVIDED TRINITY OF QUEEN ELIZABETH NEAR DUBLIN,TEAGASC, THE AGRICULTURE AND FOOD DEVELOPMENT AUTHORITY
US 12629416 B2	Adjuvant composition for a vaccine	Swoboda; Benjamin	TOTALENERGIES ONETECH
US 12630592 B2	Swine influenza A virus vaccine comprising a nucleic acid construct having a specific order of genes	Mogler; Mark A. et al.	Intervet Inc.
US 12629413 B2	Utilizing vaccines to treat cancer and enhance the success rate of cancer immunotherapy	Zloza; Andrew et al.	Rush University Medical Center
US 12629411 B2	N protein epitope mutation marker for preparing epitope deletion-marked vaccine strain of type II porcine reproductive and respiratory syndrome virus (PRRSV) and use thereof	Zhang; Jing et al.	Lanzhou Veterinary Research Institute, Chinese Academy of Agricultural Sciences

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