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VacCiencia es una publicación dirigida a investigadores y especialistas dedicados a la vacunología y temas afines, con el objetivo de serle útil. Usted puede realizar sugerencias sobre los contenidos y de esta forma crear una retroalimentación que nos permita acercarnos más a sus necesidades de información.

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Covid boosters needed as vaccine protection wanes after six months, finds UKHSA

Jan 2. There is a continued need for Covid boosters, according to a Government study, which found they provide significant protection against death but this wanes after six months.

Researchers from the UK Health Security Agency analysed data on more than 10.6 million cases of COVID-19 in adults that had been recorded by England's laboratory reporting system between May 2020 and February 2022.

They found a clear time link between a fall in 'case fatality risk' and when the age group became eligible for COVID-19 vaccination and first booster.

Reporting in the Journal of the Royal Society of Medicine, they also pinpointed that the case fatality risk was also at its lowest for all groups in the six months after vaccination when the protective effect diminished at it began to rise again.

In adults over the age of 50, the case fatality risk was 10 times higher in the unvaccinated (6.3%) compared to those who had been vaccinated in the six months before they tested positive (0.6%), they reported.

The researchers also found a steep decline in mortality from Covid-19 in early 2021, which aligned with the initial vaccine rollout.

They were able to do the detailed analysis because of the wide availability of SARS-CoV-2 testing during the study period, the researchers noted.

Risk of death was also linked to sex, deprivation and ethnicity, they said. But it also fluctuated over time which could relate to the emergence of different variants as well as population immunity from natural exposure to the virus.

But after vaccination was introduced, the case fatality rate remained low, in those who took up the offer, they added.

Mortality remained high in the small unvaccinated group even through the changing transmission rates and severity associated with emerging variants indicating that vaccination is a key factor in reducing deaths from COVID-19.

While the study shows that continued booster programmes are needed to keep deaths from COVID-19 low, more investigation is needed on the appropriate age cut offs, the team said.

An analysis from the Joint Committee on Vaccination and Immunisation (JCVI) published in October had noted that it would be most 'cost-effective' to limit vaccination to the over 80s and high risk over 45s.

But it had ultimately decided to take a 'precautionary' in selecting who should get a booster job because of

uncertainties in the modelling around how it would impact NHS winter pressures and what would happen if there was a more significant COVID-19 wave than expected.

Study lead Florence Halford from the UKHSA's COVID- 19 Vaccines and Epidemiology Division said: 'COVID-19 case fatality risk reduced after vaccination, with the lowest seen across all age bands when vaccinated up to six months prior to the specimen date.

'This provides some evidence for continued booster doses in older age groups.'

Fuente: Pulse Today. Disponible en https://acortar.link/unhYm0

FDA advierte sobre la 'proliferación de información errónea' de las vacunas contra la COVID-19

3 ene. La Administración de Alimentos y Medicamentos de EE.UU. advirtió sobre la "proliferación de información errónea y desinformación" que ha bajado el uso de las vacunas contra la COVID-19.

La FDA emitió un comunicado en el que informaba del desacuerdo con el cirujano general de Florida, Joseph Ladapo, sobre la seguridad de los más de mil millones de dosis de vacunas contra la COVID-19 de ARNm de Pfizer y Moderna que se han administrado.

Aunque Ladapo estaba preocupado por los contaminantes de ADN, la FDA advirtió que "perpetuar las referencias a la información sobre el ADN residual en las vacunas COVID-19 sin situarla en el contexto del proceso de fabricación y los beneficios conocidos de la vacuna es engañoso".

En una carta anterior dirigida a Ladapo el 14 de diciembre, Peter Marks, director del Centro de Evaluación e Investigación Biológica de la FDA, informó de que en las vacunas no había un virus ADN y que los estudios no habían encontrado pruebas de la genotoxicidad planteada como cuestión teórica.

Marks respondía a la carta de Ladapo del 6 de diciembre en la que informaba de su "preocupación por la presencia de ADN promotor/reforzador del SV40 en estas vacunas" y escribía que "no hay proteínas SV40 codificadas ni presentes en las vacunas" y que "no hay pruebas de genotoxicidad de la vacuna".

La Dra. Aileen Marty, experta en enfermedades infecciosas de la Universidad Internacional de Florida, dijo que era "algo válido" que el Departamento de Salud de Florida investigara la calidad de una vacuna. Dijo que la mayor parte de la información en cuestión se basa en un artículo preimpreso que no ha sido aceptado para su publicación.

"Lo que hay no es realmente alarmante", dijo Marty añadiendo también que "la eficacia es muy alta para todas las vacunas".

Fuente: WPLG Local 10. Disponible en https://acortar.link/fKPXya

Patria, la vacuna mexicana contra COVID-19, ya está lista: AMLO

4 ene. México ya tiene su vacuna contra el COVID-19, Patria, tras varios meses de trabajos, las investigaciones concluyeron y en unos meses podría aplicarse, adelantó el presidente Andrés Manuel López Obrador. Remarcó que si bien se dieron retrasos, esto fue porque fabricar un producto como éste "no son tamalitos de chipilín".

A pregunta sobre la adquisición de México de las vacunas Sputnik (rusa) y Abdala (cubana) para la aplicación entre la población y no de otras farmacéuticas, el jefe del Ejecutivo federal planteó que la decisión

se tomó por tres razones:

En primer lugar porque todos los biológicos que se han aplicado en México cuentan con la autorización de la Comisión Federal para la Protección contra Riesgos Sanitarios; dos, porque el país tenía convenios de entrega con los fabricantes de Sputnik y de Abdala y también se han considerado los precios.

Y finalmente, planteó, "es importante que se sepa, y que nos debe de dar mucho gusto, es que ya tenemos nuestra vacuna: Patria".

-¿Cuándo va a comenzar a aplicarse? -se le planteó al mandatario en la mañanera de este jueves en Palacio Nacional.

El presidente Andrés Manuel López Obrador durante la conferencia matutina en la que se presentó el plan para crear la vacuna nacional contra COVID-19 llamada Patria, el 13 de abril de 2021. Foto Cuartoscuro

-Pues espero que en unos meses más, pero ya se terminó la investigación y se demostró que funciona, que es eficaz.

-¿A qué se debió el retraso? -se le insistió.

-A que lleva tiempo. ¿Sabes cuánto tiempo se llevaron los invasores europeos en hacer la vacuna contra la viruela, y eso que nos trajeron la civilización? Trescientos años para tener la vacuna —comparó con lo sucedido hace casi dos siglos.

E insistió:"No son tamalitos de chipilín hacer una vacuna. Fue una cosa extraordinaria el que en muy poco tiempo se tenga ya esta vacuna de México, del país".

Fuente: La Jornada. Disponible en https://acortar.link/QfBWef

New Identity Assay Simplifies Process to Identify Polysaccharide Pneumococcal Serotypes in Vaccines

Jan 5. Investigators have developed an identity assay, an automated capillary western system, to help determine polysaccharide serotypes. The assay was optimized during development and qualification to be used in the clinical setting for pneumococcal conjugate vaccines (PCV), according to results of a study published in the Journal of Pharmaceutical and Biomedical Analysis.

Fotofabrika—stock.adobe.com

According to the CDC, there are 2 types of pneumococcal vaccines that are recommended in the United States: PCVs and pneumococcal polysaccharide vaccines (PPSV).2 For those younger than 6, PCV15 and PCV20 are recommended by the CDC while those aged 2 through 18 years who have certain risk conditions may require more vaccines against pneumococcal disease.

For adults aged 65 years and older or aged 18 years through 64 years with certain risk conditions, PCV15 and PCV20 are both recommended. However, with PCV15, PPSV23 should be a follow up dose, according to the CDC.2

The study authors stated that PCVs are very complex, requiring rigorous analytical testing including release, stability, and characterization of the vaccine.1 They added that the polysaccharide antigen should be conjugated with a protein, such as CRM197, to help boost the T-cell dependent response, which is what makes the PCVs complex. The tests are documented by the WHO, with required identity testing for each polysaccharide and protein carrier, according to the study authors. The identification should be performed for monovalent polysaccharide conjugate bulk and final container of all different types.

For the identification, the gold standard is nuclear magnetic resonance, which is recommended by the WHO. The study authors said that this method is "not capable of measuring polysaccharides in conjugate with a protein due to the highly complex structure." Therefore, immune-based assays were developed, including ELISA and dot blot, the investigators said. However, the authors noted both methods are labor intensive and time consuming. Other methods have been created, but the study authors stated that methods are expensive, complex, and not ideal for a quality control environment.

Investigators therefore developed and qualified a new identity assay specifically for multivalent serotypes of polysaccharides with the CRM197 protein and protein conjugate. The ProteinSimple Wes is a capillary western system, combining common laboratory techniques of sodium dodecyl sulfate polyacrylamide gel electrophoresis and western blotting, according to the study authors. The system was designed for fast usage, automated operation, and simple technology.

The study authors said the method was successfully qualified and successfully identified "polysaccharides in monovalent bulk conjugates or [drug substance] during clinical release of the PCV program." They added that this method identified the specificity of polysaccharides among approximately 30 other potential polysaccharides, according to the results.

Additionally, the study authors said that the assay for PCVs was faster and simpler than ELISA or the manual dot blot. Furthermore, the developed assay was easy to use and had minimal training needed for operation, making it simple and quick for PCV. The investigators added that the method was accurate and efficient, resulting in the further production and advancements in vaccine research beyond PCVs.

Fuente: Pharmacy Times. Disponible en https://acortar.link/LntdP9

Vuelvan a las mascarillas y a las vacunas contra la COVID-19, ese es el consejo de la OMS tras fin de año

7 ene. A causa de la creciente incidencia de la COVID-19 en el mundo, es necesario continuar con el uso de mascarillas y la vacunación, afirmó recientemente el director general de la Organización Mundial de la Salud (OMS), Tedros Adhanom Ghebreyesus.

"Las enfermedades respiratorias causadas por COVID-19, la gripe y otros patógenos han aumentado en muchos países durante semanas y se espera que esto continúe después de las recientes festividades", escribió Ghebreyesus en su cuenta personal de la red social X (antes Twitter).

Ante tal situación, el jefe de la OMS instó al público a "hacerse la prueba y buscar atención cuando sea necesario, porque los tratamientos contra la COVID-19 pueden prevenir enfermedades graves y la muerte".

"Continúen usando mascarillas, ventilación y distanciamiento para reducir la exposición, y asegúrense de que ustedes y sus seres queridos estén al día con sus vacunas contra la COVID-19 y la gripe", agregó.

Además, sugirió a los gobiernos "brindar acceso a pruebas, tratamientos y vacunas confiables, especialmente a quienes corren mayor riesgo de sufrir una infección grave". Las autoridades deben "mantener la vigilancia, la secuenciación y la presentación de informes para seguir la evolución del virus [que provoca la COVID-19 y proporcionar mensajes claros sobre los riesgos y las medidas para reducir el riesgo para sus poblaciones", señaló Ghebreyesus.

En el mismo contexto, el funcionario recordó que hay que seguir las recomendaciones permanentes para contrarrestar la COVID-19, que fueron emitidas por la OMS en 2023 para abordar las amenazas globales de la enfermedad.

Fuente: Cubadebate. Disponible en https://acortar.link/XIaOiv

Las vacunas sin aguja contra la COVID-19 están (aún) en desarrollo

8 ene. Las vacunas contra la gripe hacen un trabajo admirable al reforzar lo suficiente la respuesta inmunitaria como para protegernos de enfermedades graves, pero no refuerzan la inmunidad allí donde podrían hacerlo: las vías respiratorias. Por eso, los investigadores han trabajado en vacunas que se pulverizan en la nariz o llegan a los pulmones. La idea es que estas vacunas provoquen una respuesta inmunitaria en las membranas mucosas de las vías respiratorias que ayude a evitar la infección o, en caso de infección, reduzca la probabilidad de transmitir el virus.

"Las vacunas administradas por vía nasal u oral ayudarían a detener la infección allí donde comienza. Pero los investigadores siguen trabajando para recopilar los datos que necesitan para demostrarlo."

Estas vacunas "mucosas" contra la COVID-19 no están disponibles en EE UU ni en Europa, pero sí en otras partes del mundo. La última vez que informamos sobre los esfuerzos para desarrollar una vacuna mucosa en 2022, se aprobaron dos de ellas en China e India. Ahora, ya se utilizan cinco en China, India, Irán, Indonesia, Marruecos y Rusia. Además, un par de docenas más se encuentran en ensayos clínicos, y aún más están en desarrollo.

A principios de diciembre, leí un artículo de un equipo chino que está desarrollando otra vacuna inhalable. Esta difiere de las demás, al menos en un aspecto notable: se encuentra en polvo, es decir, puede almacenarse y no necesita refrigeración. Esto facilitaría su transporte y distribución, en especial, en lugares donde la refrigeración es difícil.

Esta candidata no estará disponible pronto, pues todavía está en fase de desarrollo preclínico, junto con más de cien vacunas similares. Ahora que han pasado casi cuatro años desde el inicio de la pandemia, parece un buen momento para hacer un balance. ¿Cuándo tendrá EE UU su primera vacuna mucosa contra la COVID-19? ¿Qué aspecto tendrá? ¿Y funcionará según lo previsto?

¿Cuál es el calendario?

En EE UU solo se ha aprobado FluMist, una vacuna contra las mucosas, y eso ocurrió hace dos décadas. Pero los esfuerzos por desarrollar una contra la COVID-19 avanzan con rapidez. ¿Cuándo verá EE UU su primera vacuna mucosa contra la COVID-19? "Quizá nunca, pero creo que cada vez hay más probabilidades de que ocurra antes de finales de 2024", especuló Eric Topol, cardiólogo que sigue la investigación sobre la COVID-19 desde 2020, en un boletín reciente.

El gobierno de EE UU trabaja para acelerar los procesos con una inyección de dinero a través del Proyecto NextGen, un esfuerzo de 5.000 millones de dólares (4.600 millones de euros) para introducir en el mercado nuevas y mejoradas vacunas contra la COVID-19. En octubre, el Departamento de Salud y Servicios Humanos de EE UU anunció que se entregarían casi 20 millones de dólares (18 millones de euros) a Codagenix y CastleVax, dos compañías que desarrollan vacunas mucosas. Esta cantidad ayudará a las empresas a prepararse para realizar estudios que prueben la eficacia de sus vacunas en la prevención de infecciones sintomáticas.

CoviLiv, la vacuna nasal de Codagenix, ya forma parte de un ensayo de eficacia de fase 3 coordinado por la Organización Mundial de la Salud. En octubre, la empresa comunicó los resultados de un estudio de seguridad en adultos del Reino Unido que nunca se habían vacunado contra la COVID-19. Se concluyó que el pulverizador nasal provocó una inmunidad robusta, según los marcadores en la sangre, pero la evidencia de una respuesta inmunitaria en la sangre no indica necesariamente una respuesta inmunitaria en la mucosa de las vías respiratorias. O, como aseguró un médico, "al igual que el «lado oculto de la Luna», que no es visible desde la Tierra, la respuesta de las mucosas a los patógenos se encuentran en un lado oculto de la inmunidad, que es poco o nada visible desde la sangre periférica, y más complicado de sondear que la inmunidad sistémica".

¿Cuál es la mejor manera de provocar la inmunidad de las mucosas?

Eso está por determinar, diferentes grupos ya están probando diversas estrategias. El objetivo es inducir una inmunidad robusta, amplia y duradera en las vías respiratorias. Pero, por el momento, se desconoce qué estrategia tendrá éxito. Las vacunas contra las mucosas se dividen en varias categorías según cómo se administren y la plataforma que utilicen. Algunas son aerosoles que se aplican en la nariz, CovLiv, por ejemplo; mientras otras se inhalan en los pulmones, como la desarrollada por CanSinBIO en China.

A veces, estas dos vías de administración se meten en el mismo saco, pero son muy diferentes, afirma Mangalakumari Jeyanathan, investigador de la Universidad McMaster (Canadá) y coautor de un editorial que acompaña al nuevo artículo sobre vacunas inhalables. Con una vacuna nasal, el contenido se introduce en la cavidad nasal. Pero Jeyanathan opina que las vacunas inhalables, que penetran con profundidad en los pulmones, puede que sean más efectivas. La investigación de su equipo sugiere que las vacunas nasales inducen respuestas inmunitarias solo en las vías respiratorias superiores, no en las inferiores. Es decir, si la vacuna no previene la infección, los pulmones siguen siendo vulnerables, y "necesitamos las respuestas inmunitarias para prevenir cualquier tipo de daño grave al pulmón".

La vacuna descrita en el reciente artículo de Nature fue ideada para ser inhalada. Es una vacuna de subunidades, es decir, contiene una parte del patógeno. En este caso, la subunidad es una parte de toxina del cólera que se ha diseñado para que muestre una parte del virus del SARS-CoV-2. Estas proteínas se colocan en microcápsulas lo suficientemente pequeñas como para viajar hasta las profundidades de los pulmones.

Me he vacunado y tuve COVID-19. ¿Ya no tengo una buena inmunidad en las mucosas?

Tal vez. Los estudios demuestran que las personas infectadas y vacunadas tienen mejor inmunidad en las mucosas que quienes se vacunaron pero no se infectaron. Sin embargo, Jeyanathan asegura que su grupo también ha detectado que bastantes personas infectadas no tienen mucha inmunidad mucosa en los pulmones. Al lavar los pulmones con solución salina para recoger muestras del tracto respiratorio inferior, no encuentran respuestas detectables de células T. "Es muy extraño", afirmó.

Sin embargo, no se trata solo de tener inmunidad en las mucosas, también importa cuán amplia es esa inmunidad. Una de las temas más problemáticos del SARS-CoV-2 es que evoluciona de manera constante. Parece que cada mes surge una nueva variante. Los cambios afectan principalmente a la proteína *spike*, el objetivo de todas las vacunas actuales. Pero algunos grupos trabajan para hacer sus vacunas mucosas a prueba de variantes. El grupo de Jeyanathan introduce partes del interior del virus de la COVID-19, que no suelen cambiar con tanta rapidez como la parte que se une a las células, "así no tenemos que perseguir las variantes".

¿Qué se necesita para demostrar que una vacuna mucosa funciona?

Los organismos reguladores todavía intentan averiguar cómo medir el éxito. En algunos casos, las empresas pueden demostrar la eficacia de la vacuna mediante marcadores sustitutivos, como los niveles de anticuerpos. Así es como se aprobaron las últimas vacunas de refuerzo. Pero en el caso de las vacunas contra las mucosas, no está claro qué marcador sustitutivo sería más útil: ¿los niveles de anticuerpos en la nariz o la boca? ¿O la abundancia de determinadas células inmunitarias?

En un editorial publicado en 2022, Peter Marks (Administración de Alimentación y Medicamentos de EE UU), y sus colegas argumentaron que las vacunas que difieren de manera sustancial de las ya aprobadas necesitarían ser probadas en grandes ensayos clínicos aleatorizados. Queremos ver que estas vacunas de nueva generación superan a las vacunas ya existentes y frenan la transmisión. Aún no disponemos de esos datos, y podrían pasar años antes de que sepamos si las vacunas mucosas consiguen lo que esperamos: impedir que el virus se propague.

Otra cuestión

Vertex, fabricante de la recién aprobada terapia CRISPR contra la anemia falciforme, acordó pagar decenas de millones de dólares para evitar cualquier demanda por infracción de patentes. Antonio Regalado contó la historia.

Más información del archivo de MIT Technology Review

Cuando se aprobaron las dos primeras vacunas contra las mucosas en 2022, publicamos un reportaje escrito por Jessica Hamelzou.

¿No sería maravilloso disponer de una vacuna que funcionara contra todas las versiones de COVID-19? La nanopartícula mosaico de este equipo puede ser la clave del éxito, según informó Adam Piore.

Fuente: MIT Technology Review. Disponible en https://acortar.link/by2R0S

ANVISA aprueba vacuna COVID-19 de India

9 ene. Mientras que en Argentina se registraron incrementos en la cantidad de contagios diarios de COVID-19 desde la segunda quincena de diciembre, en Brasil la agencia reguladora ANVISA le subió el pulgar a una nueva vacuna contra el coronavirus. Denominada Covovax, es un desarrollo del Instituto Serum de India. Ver Comunicado de prensa

El registro había sido solicitado por su representante en el país, la empresa brasileña Zalika Farmaceutica. La vacuna aprobada es un inmunizante monovalente, con antígeno de proteína S recombinante (*spike*) con adyuvante a base de saponina.

La tecnología de proteínas recombinantes permite producir dentro de la industria el material que se utilizará para generar la formación de anticuerpos en el organismo. El adyuvante tiene la función de incrementar esta producción, explicó ANVISA.

La vacuna fue aprobada para la prevención de la COVID-19 en personas de 12 años o más. En un esquema de primovacunación, debe administrarse en dos dosis separadas, de 0,5 ml cada una. La segunda dosis debe administrarse 21 días después de la primera. Se recomienda un refuerzo aproximadamente 6 meses después de la inmunización primaria, para personas de 18 años o más.

La vacuna es fabricada por el Serum Institute of India. En el futuro, tras la evaluación por parte del Ministerio de Salud, podrá incorporarse al Programa Nacional de Inmunización (PNI).

Fuente: PHARMABIZ.net. Disponible en https://acortar.link/Kvd48D

Actualización Epidemiológica: Circulación de SARS-CoV-2 y otros virus respiratorios en la región de las Américas

10 ene. La Organización Panamericana de la Salud (OPS) emitió esta semana una actualización epidemiológica sobre la actividad de los virus respiratorios en la región de las Américas. La actualización proporciona recomendaciones para mantener la vigilancia de estos virus y reforzar la respuesta de los sistemas de salud, especialmente en el contexto del periodo epidémico de otras enfermedades transmisibles.

En 2023, se registraron niveles elevados de enfermedad respiratoria aguda en la región, impulsados por la circulación de SARS-CoV-2, influenza y virus sincitial respiratorio. Actualmente, el hemisferio norte atraviesa una actividad epidémica asociada a la circulación de estos tres virus esperada en el invierno, mientras que algunos países del hemisferio sur experimentan incidencias más altas que la esperada para esta temporada, debido a la circulación de SARS-CoV-2.

La OPS recomienda a los Estados Miembros que mantengan la vigilancia de los virus respiratorios para detectar cualquier cambio en la circulación o en la gravedad de la enfermedad; estén preparados para responder a un posible aumento de casos y hospitalizaciones; y continúen con los esfuerzos para aumentar la vacunación contra la influenza y la COVID-19, principalmente en población vulnerable y de alto riesgo.

La OPS continuará monitoreando la situación y proporcionando actualizaciones y apoyo a los países según sea necesario.

Fuente: Organización Panamericana de la Salud. Disponible en https://acortar.link/PD68rn

Avanza estudio de candidato vacunal para población pediátrica de Cuba

11 ene. El estudio de intervención con el candidato vacunal Quimi-Vio, desarrollado por especialistas del Instituto Finlay de Vacunas (IFV) y aplicado a más de 11 mil 700 infantes en la provincia de Cienfuegos, sobresale como uno de los aportes más relevantes para la protección de la población pediátrica en Cuba.

(ACN) (Foto: Dirección General de Salud de Cienfuegos)

Esa investigación figura entre las contribuciones del sector de la Salud a la conmemoración nacional por el Día de la Ciencia Cubana, por celebrarse el próximo 15 de enero, logro reflejado en un informe de la delegación del Ministerio de Ciencia, Tecnología y Medio Ambiente del territorio centrosureño.

De acuerdo con el texto, el objetivo general de la pesquisa fue estimar los efectos directos e indirectos de la vacunación frente a la enfermedad neomocócica invasiva, así como la resistencia antimicrobiana en niños de entre uno y cinco años.

La doctora Yagén Pomares Pérez, directora general de Salud en Cienfuegos, destacó a la Agencia Cubana de Noticias que, durante el último proceso, efectuado entre septiembre y noviembre de 2023, alcanzaron a más del 95 por ciento de la población objeto de estudio con el inyectable heptavalente que actúa frente a los siete serotipos predominantes de la bacteria.

Desde 2013 los expertos del IFV se acercaron a las autoridades sanitarias de la provincia con el propósito de realizar la primera intervención contra el neumococo en pequeños de dos a 18 meses, investigación en la que participó la Doctora en Ciencias María Felicia Casanova González, Especialista de II Grado en Neurofisiología.

Casanova González subrayó que Quimi-Vio ha demostrado ser segura desde el punto de vista inmunológico, resulta competente porque desarrolla respuestas en el menor y es no inferior a la Prevenar 13, considerada una de las mejores vacunas a nivel mundial.

Asimismo, recalcó que con la aplicación del esquema disminuyó la carga hospitalaria por la enfermedad neumocócica, la meningoencefalitis, la neumonía, la otitis media y otras afecciones respiratorias.

Organizado desde los 20 policlínicos cienfuegueros y otros sitios clínicos de forma temporal como los círculos infantiles, el cronograma incluyó la administración de dos dosis a pequeños de 12 a 23 meses de edad, con un período intermedio de ocho semanas; mientras que los niños hasta cinco años recibieron una inyección única.

Fuente: Radio Cadena Agramonte. Disponible en https://acortar.link/JmzMRj

La ANMAT autorizó a Laboratorios Richmond a producir la vacuna contra la COVID-19 Convidecia®

12 ene. La Organización Mundial de la Salud (OMS) dio por finalizada la emergencia sanitaria por la COVID-19 en mayo del año pasado. Aún cuando simbólicamente fue tomado como el fin de la devastadora crisis de salud que se había iniciado 3 años antes, el organismo de la ONU advirtió que la pandemia no terminó. Es así como los grandes actores de la salud a nivel global continúan generando novedades en torno de la protección ante el coronavirus SARS-CoV-2, especialmente a través de la actualización de las vacunas y la continuidad de su producción.

"La farmacéutica argentina recibió hoy la certificación de la agencia reguladora argentina para elaborar la vacuna originaria de la empresa china CanSino. Se administra en una sola dosis que utiliza un adenovirus humano modificado para generar inmunidad contra el coronavirus."

Una más de estas novedades se conoció en las últimas horas, ya que Laboratorios Richmond anunció que obtuvo la certificación de Administración Nacional de Alimentos, Medicamentos y Tecnología Médica (ANMAT) para la vacuna Convidecia® contra COVID-19 de la empresa farmacéutica CanSino Biologics Inc. (CanSinoBIO) y reveló que actualmente está trabajando frente al organismo regulador la presentación del inmunizante para la nueva subvariante XBB1.5, de Ómicron.

CanSinoBIO y Laboratorios Richmond —una empresa de capitales argentinos con presencia en la región desde hace más de 85 años— firmaron en 2022 un acuerdo para la producción y comercialización de distintas vacunas y esta es la primera sobre la que se realizó la transferencia tecnológica. La biotecnológica nacional informó que "el acuerdo potencia el desarrollo de conocimiento científico argentino y a su vez, permitirá sustituir importaciones y posicionará al país como referente de vacunas para América Latina".

"Esta certificación es un paso más que damos en el desarrollo de vacunas con el objetivo siempre presente de velar por la salud de los argentinos. Somos una empresa farmacéutica argentina con presencia en la región que lleva varias décadas apostando a la ciencia, la tecnología y la industria como motores del desarrollo", destacó Marcelo Figueiras, presidente de Laboratorios Richmond.

Además, Richmond anunció que, en este marco, "incorporará en diferentes etapas de producción tecnologías como adenovirus, proteínas recombinantes y ARN mensajero".

Convidecia® se encuentra aprobada por la OMS y su eficacia fue evaluada en estudios realizados en distintos países, entre los cuales se encuentra Argentina. Los resultados del estudio principal fueron publicados en la prestigiosa revista *The Lancet*.

Fuente: infobae. Disponible en https://acortar.link/LRKNkY

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Toward the Scalable, Rapid, Reproducible, and Cost-Effective Synthesis of Personalized Nanomedicines at the Point of Care.
Young H, He Y, Joo B, Ferguson S, Demko A, Butterfield SK, Lowe J, Mjema NF, Sheth V, Whitehead L, Ruiz-Echevarria MJ, Wilhelm S. Nano Lett. 2024 Jan 11. doi: 10.1021/acs.nanolett.3c04171. Online ahead of print. PMID: 38207109
Organic nanoparticles are used in nanomedicine, including for cancer treatment and some types of **COVID-19 vaccines**. Here, we demonstrate the scalable, rapid, reproducible, and cost-effective synthesis of three model organic nanoparticle formulations relevant …

Patentes registradas en Patentscope

Estrategia de búqueda: *Vaccine in the title or abstract AND 20240101:20240112 as the publication date 49 records*

1.WO/2024/004159VACCINE COMPOSITION FOR SUBLINGUAL ADMINISTRATION
WO - 04.01.2024
Clasificación Internacional A61K 39/00 Nº de solicitud PCT/JP2022/026343 Solicitante EPS INNOVATIVE MEDICINE (JAPAN) CO., LTD. Inventor/a YAMAMOTO Tetsuro
Provided are a vaccine composition suitable for sublingual administration, a vaccine production method and a vaccine administration method. Provided is a vaccine composition that contains an immune antigen and an adjuvant and is to be sublingually administered to a subject.

2.WO/2024/003238EPSTEIN-BARR-VIRUS VACCINE
WO - 04.01.2024
Clasificación Internacional C12N 15/86 Nº de solicitud PCT/EP2023/067803 Solicitante BAVARIAN NORDIC A/S Inventor/a STEIGERWALD, Robin

The present invention relates to vaccines based on a viral vector for the delivery of antigens targeting an infectious disease. Specifically, the invention relates to a recombinant Modified Vaccinia Virus Ankara (MVA) encoding antigens of EBV causing infectious mononucleosis (IM) and different cancer types. The invention further relates 5 to medical uses of the recombinant MVA in the prevention of diseases caused by EBV.

3.WO/2024/002985CORONAVIRUS VACCINE
WO - 04.01.2024
Clasificación Internacional A61K 39/12 Nº de solicitud PCT/EP2023/067350 Solicitante BIONTECH SE Inventor/a MUIK, Alexander
This disclosure relates to the field of RNA to prevent or treat coronavirus infection. In particular, the present disclosure relates to methods and agents for vaccination against coronavirus infection and inducing effective coronavirus antigen-specific immune responses such as antibody and/or T cell responses. Specifically, in one embodiment, the present disclosure relates to methods comprising administering to a subject RNA encoding a peptide or protein comprising an epitope of SARS-CoV-2 spike protein (S protein) for inducing an immune response against coronavirus S protein, in particular S protein of SARS-CoV-2, in the subject, i.e., vaccine RNA encoding vaccine antigen.

4.20240000923VACCINATION AGAINST CORONAVIRUS WITH POLIOMYELITIS VACCINE
US - 04.01.2024
Clasificación Internacional A61K 39/295 Nº de solicitud 18366839 Solicitante E-MO Biology Inc. Inventor/a Qiyi Xie
Provided herein is a method for preventing a person from an infection by a Coronaviridae virus with a poliomyelitis vaccine. Also provided herein is a method of inducing a protective immune response against a Coronaviridae virus with a poliomyelitis vaccine.

5.20240006042INTELLIGENT VACCINE NEBULIZATION SYSTEM AND METHOD OF USE
US - 04.01.2024
Clasificación Internacional G16H 20/13 Nº de solicitud 18038980 Solicitante QINGDAO FUTURE MEDICAL TECHNOLOGY CO., LTD. Inventor/a QIXU WANG
The present invention provides an intelligent vaccine nebulization system and a use method, and the system is characterized in that the system comprises an intelligent vaccine nebulization device, a mist storage tank and a cloud server; the intelligent vaccine nebulization device comprises a main cabinet, an intelligent main control module and a plurality of functional modules provided on the main cabinet, wherein the functional modules include an identity information input module, a vaccine information input module, a temporary vaccine storage module, a dosing transfer module, an aerosol output module, a mist storage tank management module, a human-computer interaction module and a communication port, in which the intelligent main control module is respectively connected with the functional modules and the intelligent main control module is communicated with the cloud server. And strict and accurate vaccination and management are ensured. It is controlled by the intelligent main control module, and through steps of identity information and vaccine information input, vaccine temporary storage, dosing transfer, aerosol output, mist storage tank management and the like, vaccination and vaccinator information could be stored in the cloud server and have access to, so that nebulization vaccination is realized.

6.WO/2024/002129NOVEL CORONAVIRUS TRIMER CHIMERIC VACCINE AND USE THEREOF
WO - 04.01.2024
Clasificación Internacional C07K 19/00 Nº de solicitud PCT/CN2023/103052 Solicitante INSTITUTE OF MICROBIOLOGY, CHINESE ACADEMY OF SCIENCES Inventor/a GAO, Fu

A novel coronavirus heterologous trimerized chimeric antigen peptide, a polynucleotide encoding same or a nucleic acid product related to the polynucleotide, a vaccine or an immunogenic composition based on the antigen peptide or the polynucleotide, and use of these products in a novel coronavirus vaccine.

7.20240002383COMPOUNDS AND THEIR USE AS VACCINE ADJUVANTS
US - 04.01.2024
Clasificación Internacional C07D 471/04 Nº de solicitud 18465513 Solicitante Fulgent Genetics, Inc. Inventor/a Lu LU
Provided herein are a series of compounds and their use as an adjuvant. Provided herein are the compounds, a composition comprising the compounds, and the use thereof. These compounds can be used as an adjuvant for a vaccine, and compared to the conventional aluminum adjuvant, the compounds can significantly improve the cellular and humoral immune responses to a vaccine. The compounds as an adjuvant can increase a broad-spectrum protection against various corona viruses such as SARS virus, influenza viruses, and HIV viruses, and significantly enhance persistence of immunoprotection of vaccines.

8.4298112IMPFSTOFFZUSAMMENSETZUNG MIT EINER LEISHMANIA-WIRTSZELLE, DIE MINDESTENS EIN PROTEIN DER FAMILIE CORONAVIRIDAE EXPRIMIERT
EP - 03.01.2024
Clasificación Internacional C07K 14/005 Nº de solicitud 22710438 Solicitante UNIV DEGLI STUDI MILANO Inventor/a BANDI CLAUDIO
The present invention relates to a vaccine composition comprising a host cell belonging to the genus *Leishmania*, wherein the host cell comprises a polynucleotide coding for at least one protein of a virus belonging to the family Coronaviridae. Furthermore, the invention relates to the medical and veterinary use of the vaccine composition and to a process for preparing the vaccine composition.

9.WO/2024/006268A VACCINE COMPOSITION OF CELLS EXPRESSING A LENTIVIRAL VECTOR AND METHODS OF USING
WO - 04.01.2024
Clasificación Internacional C12N 15/867 Nº de solicitud PCT/US2023/026331 Solicitante MERIDIAN THERAPEUTICS, INC. Inventor/a NOONAN, Kimberly, A.
A vector construct is described that is a lentiviral construct including DNA encoding for GM- CSF A vaccine composition is also described that is includes K562 cells transfected with this vector construct, and also possibly including the U266 and H929. Methods are described for using the vaccine composition in methods of immunizing against plasma cell disorders, including multiple myeloma and related disorders.

10.4297776AKTIVIERT-GELÖSCHTES POLYSACCHARID UND VERBESSERTE VERFAHREN ZUR QUANTIFIZIERUNG DES POLYSACCHARIDS IN EINER IMPFSTOFFZUSAMMENSETZUNG
EP - 03.01.2024
Clasificación Internacional A61K 39/09 Nº de solicitud 22715778 Solicitante BIOLOGICAL E LTD Inventor/a BURKI RAJENDAR
The present invention provides a novel reference standard, comprising of activated-quenched polysaccharide, for quantifying polysaccharide content in a vaccine composition using nephelometry. The invention also provides a method for preparing the activated-quenched polysaccharide, for use as a reference standard. Further, a nephelometry based method for quantifying the polysaccharides in a multivalent conjugate vaccine is also provided. The reference standard of the present invention, comprising of the activated-quenched polysaccharide, is stable and can be used for accurate quantification of polysaccharides through nephelometry.

11.20240000922NUCLEIC ACID VACCINE AGAINST THE SARS-COV-2 CORONAVIRUS
US - 04.01.2024
Clasificación Internacional A61K 39/215 Nº de solicitud 18351065 Solicitante INSTITUT PASTEUR Inventor/a Etienne SIMON-LORIERE
The invention relates to an immunogenic or vaccine composition against the 2019 novel coronavirus (SARS-CoV-2), comprising a nucleic acid construct encoding a SARS-CoV-2 coronavirus Spike (S) protein antigen or a fragment thereof comprising the receptor-binding domain, wherein the nucleic acid construct sequence is codon-optimized for expression in human.

12.20240002449RESPIRATORY SYNCYTIAL VIRUS (RSV) VACCINE
US - 04.01.2024
Clasificación Internacional C07K 14/005 Nº de solicitud 18463276 Solicitante CureVac SE Inventor/a Thomas KRAMPS
The present invention relates to an mRNA sequence, comprising a coding region, encoding at least one antigenic peptide or protein of RSV infections Respiratory syncytial virus (RSV) or a fragment, variant or derivative thereof. Additionally the present invention relates to a composition comprising a plurality of mRNA sequences comprising a coding region, encoding at least one antigenic peptide or protein of RSV infections Respiratory syncytial virus (RSV) or a fragment, variant or derivative thereof. Furthermore it also discloses the use of the mRNA sequence or the composition comprising a plurality of mRNA sequences for the preparation of a pharmaceutical composition, especially a vaccine, e.g. for use in the prophylaxis or treatment of RSV infections Respiratory syncytial virus (RSV) infections. The present invention further describes a method of treatment or prophylaxis of RSV infections using the mRNA sequence.

13.WO/2024/000724PREPARATION METHOD FOR VACCINE LOADED WITH CANCER CELL WHOLE-CELL COMPONENT AND MIXED MEMBRANE COMPONENT AND USE THEREOF
WO - 04.01.2024
Clasificación Internacional A61K 39/00 Nº de solicitud PCT/CN2022/108965 Solicitante SUZHOU ERSHENG BIOMEDICAL CO., LTD. Inventor/a LIU, Mi
Provided are a preparation method for a vaccine loaded with a cancer cell whole-cell component and a mixed membrane component and use thereof. The preparation method comprises the following steps: S1: obtaining the membrane component of a cancer cell; S2: activating an antigen-presenting cell and obtain the membrane component thereof; S3: obtaining the membrane component of a bacterium; and S4: allowing the products of S1 and S2 and/or the products of S1 and S3 to co-act with a second particle, such that the membrane components are loaded onto the second particle to obtain the vaccine. Vaccines derived from tumor tissues or cancer cells can be loaded with broad-spectrum various cancer cell antigens and mixed membrane components on the surface at the same time, which endow the vaccines with appropriate bionic membrane characteristics. The method provided can be used to prepare cancer vaccines loaded with broad-spectrum cancer cell antigenic epitopes, which can be used for preventing and treating various types of cancer.

14.WO/2024/000725CANCER CELL-SPECIFIC T CELL VACCINE AND METHOD FOR ACTIVATING CANCER CELL-SPECIFIC T CELLS
WO - 04.01.2024
Clasificación Internacional A61K 39/00 Nº de solicitud PCT/CN2022/108966 Solicitante SUZHOU ERSHENG BIOMEDICAL CO., LTD. Inventor/a LIU, Mi
The present invention relates to a cancer cell-specific T cell vaccine and a method for activating cancer cell-specific T cells. T cells in peripheral blood, peripheral immune organs, or tumor-infiltrating lymphocytes are co-incubated with particles prepared from activated antigen-presenting cells to activate

the cancer cell-specific T cells. The present invention solves the problem that broad-spectrum and polyclonal cancer cell-specific T cells in the tumor-infiltrating lymphocytes cannot be effectively screened clinically at present, can isolate the broad-spectrum effector cancer cell-specific T cells with a specific tumor-killing function from the peripheral blood, peripheral immune organs, or tumor-infiltrating lymphocytes, has the characteristics of easy isolation and accessibility and high specificity, and can be used for preventing and treating cancers.

15.3501535Profylaktisk eller terapeutisk fremgangsmåde til svinepidemi-diarrévirus, vaccine og vaccinekit
DK - 02.01.2024
Clasificación Internacional A61K 39/225 Nº de solicitud 17841334 Solicitante Nippon Institute for Biological Science Inventor/a SATO, Tetsuo
A preventative or therapeutic method for porcine epidemic diarrhea, including: a first administration step in which a live vaccine for the porcine epidemic diarrhea virus and an adjuvant are administered to pigs either orally or nasally; and a second administration step in which an inactivated vaccine for the porcine epidemic diarrhea virus and an adjuvant are administered to pigs intramuscularly.

16.WO/2024/003035VACCINES FOR PISCIRICKETTSIOSIS (SALMONID RICKETTSIAL SEPTICAEMIA)
WO - 04.01.2024
Clasificación Internacional A61K 39/02 Nº de solicitud PCT/EP2023/067443 Solicitante VAXXINOVA NORWAY AS Inventor/a HERRERA, Valeska
The present invention relates to attenuated *Piscirickettsia salmonis* strains and their use as a vaccine.

17.20240000917INFLUENZA VACCINE
US - 04.01.2024
Clasificación Internacional A61K 39/145 Nº de solicitud 18322831 Solicitante ModernaTX, Inc. Inventor/a Giuseppe Ciaramella
The invention relates to compositions and methods for the preparation, manufacture and therapeutic use ribonucleic acid vaccines comprising polynucleotide molecules encoding one or more influenza antigens, such as hemagglutinin antigens.

18.20240000921CORONAVIRUS VACCINE
US - 04.01.2024
Clasificación Internacional A61K 39/215 Nº de solicitud 18341590 Solicitante BioNTech SE Inventor/a Alexander Muik
This disclosure relates to the field of RNA to prevent or treat coronavirus infection. In particular, the present disclosure relates to methods and agents for vaccination against coronavirus infection and inducing effective coronavirus antigen-specific immune responses such as antibody and/or T cell responses.

19.20240002127CORONAVIRUS VACCINE
US - 04.01.2024
Clasificación Internacional B65D 81/127 Nº de solicitud 17920569 Solicitante Pfizer Inc. Inventor/a Marjoh Nauta
The present disclosure relates to the fields of packaging, transportation, and storage of temperature-sensitive materials, such as biological and/or pharmaceutical products. Various aspects of such packaging, transportation, and storage are provided herein for ultra-low temperature materials useful for the treatment and/or prevention of disease. The present disclosure also provides packaging materials, methods of transportation, and methods of storage for maintaining biological and/or pharmaceutical

materials at ultra-low temperatures in order to maintain the integrity of the materials. The present disclosure further relates to the field of RNA to prevent or treat coronavirus infection.

20.20240000915C-TERMINALLY MODIFIED HUMAN PAPILLOMAVIRUS TYPE 11 L1 PROTEIN AND USE THEREOF
US - 04.01.2024
Clasificación Internacional A61K 39/12 Nº de solicitud 18254157 Solicitante INSTITUTE OF BASIC MEDICAL SCIENCES, CHINESE ACADEMY OF MEDICAL SCIENCES Inventor/a Xuemei Xu
The present application relates to a C-terminus modified human papillomavirus type 11 L1 protein and the use thereof. Specifically, the present application relates to a C-terminus modified human papillomavirus (HPV) type 11 L1 protein, a nucleotide encoded thereby, a vector containing the nucleotide, a cell containing the vector, a pentamer or virus-like particle composed of the HPV11 L1 protein, and a vaccine containing the pentamer or virus-like particle and a vaccine adjuvant, and the use thereof in the prevention of HPV infection and HPV infection-related diseases.

21.20240000909C-TERMINUS MODIFIED HUMAN PAPILLOMAVIRUS TYPE 6 L1 PROTEIN AND USE THEREOF
US - 04.01.2024
Clasificación Internacional A61K 39/00 Nº de solicitud 18254154 Solicitante INSTITUTE OF BASIC MEDICAL SCIENCES, CHINESE ACADEMY OF MEDICAL SCIENCES Inventor/a Xuemei Xu
The present application relates to a C-terminus modified human papillomavirus type 6 L1 protein and use thereof. Specifically, the present application relates to a C-terminus modified human papillomavirus (HPV) type 6 L1 protein, an encoded nucleotide thereof, a vector comprising the nucleotide, a cell comprising the vector, a pentamer or virus-like particle composed of the HPV6 L1 protein, a vaccine containing the pentamer or virus-like particle and a vaccine adjuvant, and the use thereof in prevention of HPV infection and HPV infection-related diseases.

22.20240002447MODIFIED HUMAN PAPILLOMAVIRUS TYPE 52 L1 PROTEIN AND USE THEREOF
US - 04.01.2024
Clasificación Internacional C07K 14/005 Nº de solicitud 18254576 Solicitante Institute of Basic Medical Sciences, Chinese Academy of Medical Sciences Inventor/a Xuemei Xu
The present application relates to a modified human papillomavirus (HPV) type 52 L1 protein and a use thereof. Specifically, the present application relates to a HPV type 52 L1 protein, a nucleotide encoded thereby, a carrier comprising the nucleotide, a cell comprising the carrier, a pentamer or virus-like particle consisting of the HPV-52 L1 protein, a vaccine comprising the pentamer or virus-like particle and a vaccine adjuvant, and a use thereof in the prevention of HPV infections and HPV infection-related diseases.

23.20240000916DESIGN OF OPTIMIZED UNIVERSAL INFLUENZA VACCINES, THEIR DESIGNS AND USES
US - 04.01.2024
Clasificación Internacional A61K 39/145 Nº de solicitud 18252790 Solicitante Greffex, Inc. Inventor/a Uwe D. STAERZ
The present disclosure provides a universal influenza virus vaccine. A composition for a universal influenza virus vaccine comprises at least two, preferably more than two, different influenza hemagglutinin (HA) derived antigens. The HA proteins from which the antigens are derived have a hypervariable region located between conserved cysteines at positions 52 and 277, and the hypervariable region is deleted in the antigens. The at least two antigens each have a similarity with HA molecules of more than one influenza serotype in excess of 60, or 70, or 80, as calculated by the emboss explorer cons program.

24.20240000834RAS MUTANT EPITOPE PEPTIDE AND T CELL RECEPTOR RECOGNIZING RAS MUTANT
US - 04.01.2024
Clasificación Internacional A61K 35/17 Nº de solicitud 18038196 Solicitante SHANGHAI GENBASE BIOTECHNOLOGY CO., LTD. Inventor/a Nan Mou
The present invention relates to the field of immunology and tumor treatment. Specifically, an Ras G12V mutant epitope peptide, an antigen presenting cell expressing the epitope peptide, a tumor vaccine containing same, and a use of the tumor vaccine in preventing or treating a tumor having RAS G12V mutation. The present invention further relates to a T cell receptor (TCR) specifically recognizing an Ras G12V mutant, a conjugate and a fusion protein containing the TCR, an immune cell expressing the TCR, a T cell drug containing same, and a use of the T cell drug in preventing or treating a tumor having RAS G12V mutation.

25.4297775TRÄGERPROTEIN FÜR PEPTIDANTIGEN
EP - 03.01.2024
Clasificación Internacional A61K 39/00 Nº de solicitud 22711188 Solicitante CURAVAC EUROPE Inventor/a HAVELANGE NICOLAS
Pharmaceutical composition comprising a conjugated peptide of SEQ ID NO: 1 to which multiple peptide epitopes are covalently grafted, kit comprising the elements for producing said conjugated peptide, synthesis method, and vaccine use.

26.WO/2024/006863LIPID NANOPARTICLE FORMULATIONS FOR VACCINES
WO - 04.01.2024
Clasificación Internacional A61K 9/00 Nº de solicitud PCT/US2023/069303 Solicitante PRECISION NANOSYSTEMS ULC Inventor/a HARVIE, Pierrot
Provided is a lipid formulation capable of forming a lipid-based nanoparticle comprising an ionizable lipid to phospholipid molar ratio of 0.1 – 1.30 of in association with a nucleic acid payload, and in some embodiments, a stabilizing agent. In embodiments, the nucleic acid payload is a vaccine genetic element.

27.WO/2024/002331A LIVE BACTERIA STRAIN WITH REDUCED CAPSULES
WO - 04.01.2024
Clasificación Internacional C12N 1/21 Nº de solicitud PCT/CN2023/104567 Solicitante SHANGHAI YUGUAN BIOTECH CO., LTD. Inventor/a LIN, Qiubin
A live bacteria strain with reduced capsules is provided. More particularly, a live bacteria strain (for example, a live Staphylococcus aureus strain) in which the production of capsules is reduced, to a vaccine against bacterial infection comprising said live strain, and a method for preventing and/or treating bacterial infection in a subject by administering said live strain.

28.WO/2024/006252DUAL INHIBITION OF MDM2 AND EIF2-ALPHA INDUCES CELL DEATH IN MULTIPLE CANCER CELL TYPES
WO - 04.01.2024
Clasificación Internacional A61K 47/68 Nº de solicitud PCT/US2023/026310 Solicitante THE REGENTS OF THE UNIVERSITY OF COLORADO, A BODY CORPORATE Inventor/a ANDRYSIK, Zdenek
The present disclosure relates generally to novel recombinant coronavirus-based fusion proteins ("RBDs-IgG Fe protein" and "RBDs protein") and vaccine compositions using the same, in which the fusion proteins comprise tandemly arranged coronaviruses receptor binding domains (RBDs). The present disclosure further provides methods and kits for immunizing a subject using the compositions.

29.WO/2024/002335A LIVE BACTERIA STRAIN OF PSEUDOMONAS SP.
WO - 04.01.2024

Clasificación Internacional C12N 1/20 Nº de solicitud PCT/CN2023/104598 Solicitante SHANGHAI YUGUAN BIOTECH CO., LTD. Inventor/a LIN, Qiubin
Provided is a live bacteria strain of a species from Pseudomonas sp. such as Pseudomonas aeruginosa and uses thereof. More particularly, provided is a live bacteria strain of P.aeruginosa with reduced OprF activity, to a vaccine against P. aeruginosa infection comprising said live bacteria strain, and to a method for preventing and/or treating P.aeruginosa infection in a subject by administering said live bacteria strain.

30.20240000918ROTAVIRUS VACCINES
US - 04.01.2024
Clasificación Internacional A61K 39/15 Nº de solicitud 18463235 Solicitante CureVac SE Inventor/a Susanne RAUCH
The present invention provides mRNA sequences comprising at least one coding region, encoding for at least one epitope of a protein, or of a fragment, variant or derivative thereof, of a virus of the genus rotavirus. Particularly preferred is the protein respectively the protein cleavage product VP8* of rotavirus. The mRNA sequence may be used as a vaccine or generally as a pharmaceutical composition for prophylaxis or treatment of rotavirus infections.

31.20240000930METHODS AND COMPOSITIONS FOR TREATING KIDNEY DISEASES
US - 04.01.2024
Clasificación Internacional A61K 39/395 Nº de solicitud 18265205 Solicitante Siwa Corporation Inventor/a Lewis S. Gruber
A method of treating or preventing the onset of kidney disease comprises administering to a subject a composition comprising an anti-AGE antibody. The anti-AGE antibody binds an AGE antigen comprising at least one protein or peptide that exhibits AGE modifications selected from the group consisting of FFI, pyrraline, AFGP, ALI, carboxymethyllysine, carboxyethyllysine and pentosidine. A method of treating or preventing the onset of kidney disease comprises administering to a subject a vaccine comprising an AGE antigen.

32.WO/2024/006915METHODS AND COMPOSITIONS FOR MODULATION OF IMMUNE RESPONSES
WO - 04.01.2024
Clasificación Internacional C07K 14/705 Nº de solicitud PCT/US2023/069385 Solicitante THE UNIVERSITY OF CHICAGO Inventor/a ESSER-KAHN, Aaron
Aspects of the present disclosure relate to functionalized polymers and methods of use thereof. Certain aspects are directed to polymers comprising adjuvants for use in stimulating an immune response. In some cases, provided are polymers comprising inflammasome activators, in some cases also comprising a TLR agonist, which may be formulated in a pharmaceutical composition. Also disclosed are methods for improving vaccine efficacy and immunotherapy efficacy. Certain aspects relate to compositions and methods for stimulation of CD4+ and/or CD8+ T cell responses in a subject.

33.WO/2024/003368HIGH-YIELD GENOTYPE 1a, 2a AND 3a HCV
WO - 04.01.2024
Clasificación Internacional C12N 7/00 Nº de solicitud PCT/EP2023/068038 Solicitante HVIDOVRE HOSPITAL Inventor/a ALZUA, Garazi Pena
The present invention relates to nucleic acid sequences that encode high-yield hepatitis C viruses (HCV) of genotype 1a, 2a or 3a that are useful in the fundamental research of HCV as well as in the search of antivirals and vaccines against HCV. In particular, the present invention relates to nucleic acid sequences that comprise HCV, which are capable of expressing the virus when transfected into cells and are capable of replication or infectivity in cultured cells as well as being functional as a vaccine.

34.WO/2024/003346MAMMALIAN CELL LINE FOR THE PRODUCTION OF MODIFIED VACCINIA VIRUS ANKARA (MVA)
WO - 04.01.2024
Clasificación Internacional C07K 14/005 Nº de solicitud PCT/EP2023/067987 Solicitante BAVARIAN NORDIC A/S Inventor/a STEIGERWALD, Robin
The present invention relates to a mammalian non-human cell line, specifically Chinese hamster ovary (CHO) cells, that is genetically modified to express poxvirus host range genes CP77, K1 L and/or SPI-1 which are not expressed in MVA, and to the use of said cell line in the reproduction of MVA.

35.WO/2024/001845PREPARATION METHOD AND USE OF DEFECTIVE FILOVIRUS
WO - 04.01.2024
Clasificación Internacional C12N 7/01 Nº de solicitud PCT/CN2023/101148 Solicitante SHANGHAI INSTITUTE OF MATERIA MEDICA, CHINESE ACADEMY OF SCIENCES Inventor/a ZUO, Jianping
The present invention provides a preparation method and use of a defective filovirus. Specifically, the present invention provides a defective recombinant filovirus, a coding sequence of one or more key viral proteins in a genome of the defective recombinant filovirus being replaced with a recombinase coding sequence, and a use of the defective recombinant filovirus in the aspects of antiviral drug research and development, virology research, vaccine development, and the like. The defective recombinant filovirus of the present invention has a good biosafety feature, is easy to produce, can completely simulate related immune response of host cells caused by virus infection, and is a tool virus having extremely high practicability.

36.2023285703Tri-segmented Pichinde viruses as vaccine vectors
AU - 04.01.2024
Clasificación Internacional Nº de solicitud 2023285703 Solicitante HOOKIPA Biotech GmbH Inventor/a BONILLA, Weldi

37.4297774IMPFSTOFF ZUR THERAPEUTISCHEN ODER PROPHYLAKTISCHEN BEHANDLUNG VON MYASTHENIA GRAVIS
EP - 03.01.2024
Clasificación Internacional A61K 39/00 Nº de solicitud 22711187 Solicitante CURAVAC EUROPE Inventor/a HAVELANGE NICOLAS
A pharmaceutical composition for treating myasthenia gravis, comprising a carrier protein of SEQ ID NO: 1 coupled to a plurality of peptide epitopes, the corresponding peptide epitopes, and the method of synthesizing the conjugate.

38.WO/2024/003239RECOMBINANT MODIFIED saRNA (VRP) AND VACCINIA VIRUS ANKARA (MVA) PRIME-BOOST REGIMEN
WO - 04.01.2024
Clasificación Internacional A61K 39/12 Nº de solicitud PCT/EP2023/067805 Solicitante BAVARIAN NORDIC A/S Inventor/a STEIGERWALD, Robin
The present invention provides compositions, vaccines and methods for inducing protective immunity against an immunogen in humans. The protective immune response is obtained by using a saRNA, in particular a VRP vector as prime and a MVA for boost. Specifically, the present invention relates to genetically engineered (recombinant) VRP and MVA vectors comprising at least one heterologous nucleotide sequence encoding an antigenic determinant of an infectious virus such as EBV.

39.WO/2024/006930PREFUSION STABILIZED EBV GB MUTATIONS AND USES THEREOF
WO - 04.01.2024

Clasificación Internacional C07K 14/01 Nº de solicitud PCT/US2023/069411 Solicitante SEATTLE CHILDREN'S HOSPITAL DBA SEATTLE CHILDREN'S RESEARCH INSTITUTE Inventor/a PRICE, Jason
We have generated a 3D model of the glycoprotein B (gB) of Epstein-Barr virus (EBV) to design candidate stabilizing mutations that increase the stability of the prefusion state essential for an effective EBV gB based vaccine. Provided herein are engineered polypeptides derived from the EBV gB, which include an altered EBV gB ectodomain that has modifications relative to the native EBV gB ectodomain that stabilize a prefusion conformation of the polypeptides. In various aspects, the modifications are amino acid substitutions to generate pairs of cysteine amino acid residues, preferably positioned to connect different domains of the polypeptide or different copies of the polypeptide in a trimeric or multimeric conformation via formation of disulfide bonds during protein expression. In additional aspects, the modifications and/or the engineered polypeptides do not contain pairs of cysteine amino acid residues that may form disulfide bonds in a postfusion conformation.

40.20240006029SYSTEMS AND METHODS FOR PREDICTING THERAPY EFFICACY FROM NORMALIZED BIOMARKER SCORES
US - 04.01.2024
Clasificación Internacional G16B 45/00 Nº de solicitud 18460330 Solicitante BostonGene Corporation Inventor/a Alexander Bagaev
Techniques for determining therapy scores for at least two of an anti-PD1 therapy, an anti-CTLA4 therapy, an IL-2 therapy, an IFN alpha therapy, an anti-cancer vaccine therapy, an anti-angiogenic therapy, and an anti-CD20 therapy. The techniques include determining, using sequencing data for the subject and information indicating distribution of biomarker values across one or more reference populations, a first set of normalized biomarker scores for a first set of biomarkers associated with a first therapy; and a second set of normalized biomarker scores for a second set of biomarkers associated with a second therapy; providing the first set of normalized biomarker scores as input to a statistical model to obtain a first therapy score for the first therapy; and providing the second set of normalized biomarker scores as input to the statistical model to obtain a second therapy score for the second therapy.

41.WO/2024/002576REAGENT AND METHOD FOR DIAGNOSING THROMBOTIC EVENTS
WO - 04.01.2024
Clasificación Internacional G01N 33/543 Nº de solicitud PCT/EP2023/062615 Solicitante BIOKIT RESEARCH & DEVELOPMENT, S.L.U Inventor/a ESTEBAN TORTAJADA, Olga
The disclosure refers to reagents, kits and methods for detecting anti-PF4 antibodies and diagnosing thrombotic events not induced by heparin, including vaccine-induced thrombotic thrombocytopenia. The method provided by the disclosure comprises: (i) contacting whole blood, plasma or serum sample obtained from a subject with a reagent comprising: (a) a binding molecule selected from the group consisting of platelet factor 4 protein (PF4), a fragment of PF4 which can bind anti-PF4 antibodies, and an anti- idiotype antibody of anti-platelet factor 4 antibodies (anti-PF4 antibodies); and (b) a solid support, wherein the binding molecule (a) is covalently bound to the surface of the solid support (b), and wherein the binding molecule (a) does not include heparin or a heparin surrogate, and (ii) analysing the sample to detect a complex formed by the reagent and the anti-PF4 antibodies, wherein detecting the complex is indicative of the sample containing anti-PF4 antibodies.

42.20240002451BROAD-SPECTRUM PEPTIDE ANTIGEN OF THE NOVEL CORONAVIRUS SARS-COV-2, SPECIFIC NEUTRALIZING ANTIBODY AND USE THEREOF
US - 04.01.2024
Clasificación Internacional C07K 14/165 Nº de solicitud 17620528 Solicitante YANGZHOU UNIVERSITY Inventor/a Jianqiang YE

The present disclosure belongs to the technical field of virus immunoassay and provides a broad-spectrum peptide antigen of SARS-CoV-2, a specific neutralizing antibody and use thereof. A broad-spectrum peptide antigen of SARS-CoV-2, with an amino acid sequence set forth in SEQ ID NO: 1, reacts with human SARS-CoV-2 positive serum, and can specifically bind to a novel coronavirus antibody. Based on the peptide sequence of the present disclosure, a fusion protein with broad-spectrum triple tandem peptides of SARS-CoV-2 is prepared using PCR, prokaryotic expression and protein purification technology to simulate the trimeric mode of SARS-CoV-2 S protein in its natural state. The fusion protein is used as an antigen to immunize mice, and can produce a specific anti-SARS-CoV-2 neutralizing antibody. The neutralizing antibody may be promising in anti-infective treatment, vaccine development and detection kit development for SARS-CoV-2.

43.20240002446PROTEOLIPOSOMES COMPRISING A SARS-COV-2 S GLYCOPROTEIN ECTODOMAIN AND THEIR USE AS A VACCINE
US - 04.01.2024
Clasificación Internacional C07K 14/005 Nº de solicitud 17853541 Solicitante UNIVERSITÉ GRENOBLE ALPES Inventor/a Winfried WEISSENHORN
A recombinant SARS-CoV-2 S glycoprotein ectodomain trimer is disclosed, including three recombinant protomers each containing at least the SARS-CoV-2 S glycoprotein ectodomain, and wherein: in each protomer, the furin cleavage site is inactivated/disrupted; Arg408 of one of the protomers is covalently linked to Lys378 of another one of the protomers; and Lys947 of one of the protomers is covalently linked to Arg1019 and/or to Lys776 of another one of the protomers.

44.WO/2024/011250ONCOLYTIC VACCINIA VIRUSES AND RECOMBINANT VIRUSES AND METHODS OF USE THEREOF
WO - 11.01.2024
Clasificación Internacional A61K 35/768 Nº de solicitud PCT/US2023/069837 Solicitante VIROMISSILE, INC. Inventor/a CHEN, Nanhai George
Provided herein are clonal strains of a vaccinia virus that exhibits enhanced anti-tumor properties and/or reduced immunogenicity, and recombinant vaccinia virus derived from the same. Also provided herein are recombinant oncolytic virus strains that include an inactivating mutation in one or more viral genes, and/or one of more heterologous nucleic acids each encoding one or more heterologous gene products. The viruses, e.g., vaccinia viruses, provided herein, including recombinant vaccinia viruses, can be used as an oncolytic virus therapy, e.g., an oncolytic vaccinia virus therapy, for treating cancer. Also provided herein are pharmaceutical compositions and methods and uses of the viruses, e.g., vaccinia viruses, for treating cancer, as well as nucleic acids encoding the viruses.

45.WO/2024/010553IMMUNOTHERAPUTIC CANCER VACCINE
WO - 11.01.2024
Clasificación Internacional A61K 39/395 Nº de solicitud PCT/TR2023/050629 Solicitante ARSLAN, Filiz Inventor/a ARSLAN, Filiz
This invention is related to prove the possibility of using as an antigen, that is, as a vaccine material by identifying its anticancer peptide properties of the antimicrobial peptide of bacteriocin origin, which is a natural antimicrobial substance belonging to the strain of Lactobacillus acidophilus LA-S2, which is a lactic acid bacterium, and then to development anti-idiotypic vaccine by obtaining antibodies from these antigens again and to use of these in immunotherapy treatment method in cancer treatments especially in colon cancer treatment.

46.WO/2024/010962VACCINE INCORPORATING PROTEIN-BASED IMMUNE ADJUVANT
WO - 11.01.2024

Clasificación Internacional A61K 39/12 Nº de solicitud PCT/US2023/027186 Solicitante POZNANSKY, Mark, C. Inventor/a POZNANSKY, Mark, C.
Disclosed are a composition and method of treating some HPV-related solid tumors in mammalian subjects. In one embodiment, a method comprises delivering a self-assembling vaccine intradermally to a subject. In at least one embodiment, the self-assembling vaccine comprises a fusion protein non-covalently attached to two or more biotinylated E6/E7 peptides, derived from targeted viral or oncogenic protein epitopes, using a biotin-avidin engagement.

47.WO/2024/008014PHARMACEUTICAL COMPOSITION FOR RESISTING INFECTION WITH SARS-COV-2 OR MUTANT THEREOF, AND COMBINED DRUG THEREOF
WO - 11.01.2024
Clasificación Internacional C07K 14/165 Nº de solicitud PCT/CN2023/105178 Solicitante WESTVAC BIOPHARMA CO., LTD. Inventor/a WEI, Xiayu
Provided are a pharmaceutical composition for resisting infection with SARS-CoV-2 or a mutant thereof, and a combined drug thereof. To solve the problem of the lack of effective prevention and treatment drugs for infection with SARS-CoV-2 or a mutant virus thereof, provided are a recombinant protein vaccine and/or an adenovirus vaccine for preventing and/or treating an infection with SARS-CoV-2 or a mutant thereof, and in particular, provided are a nasal spray administration compound formulation containing active ingredients of two vaccines, i.e., a recombinant protein vaccine and an adenovirus vaccine, and a combination of the two vaccines for nasal spray administration, which can induce generation of strong antibody and cellular immune responses in vivo and block the binding of a protein S of SARS-CoV-2 to an ACE2 receptor of a host cell, thus enabling a host to resist coronavirus infection. Particularly, the present invention has good prevention and treatment effects on various mutant viruses.

48.WO/2024/010686VACCINE TISSUE ASSAYS
WO - 11.01.2024
Clasificación Internacional Nº de solicitud PCT/US2023/025705 Solicitante THE TRUSTEES OF COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK Inventor/a SIMS, Peter Alan
Provided herein are methods, compositions, systems and kits for testing immune responses, safety, and efficacy of vaccines. In particular, the methods, compositions, systems and kits of the present invention test immune responses, duration of the immune responses, dose responses and age dependencies in cellular components of lymph nodes, other lymphoid tissues, mucosal tissues, barrier tissues, intestinal tissues, pulmonary tissues, and other solid tissues to vaccines after exposure in cell culture and tissue slices.

49.WO/2024/009316CATIONIC LIPID BASED COMPOSITION, FORMULATION AND USE FOR NUCLEIC ACID VACCINE DELIVERY AND PREPARATION THEREOF
WO - 11.01.2024
Clasificación Internacional A61K 9/127 Nº de solicitud PCT/IN2023/050596 Solicitante BHARAT BIOTECH INTERNATIONAL LIMITED Inventor/a MAHADIK, Namita Santosh
The present invention discloses a cationic lipid-based formulation for in vivo delivery of nucleic acid. The present invention describes the development of a lipid system that can induce efficient non-viral delivery of nucleic acid, especially RNA, for the purpose of efficient nucleic acid transfection toward eliciting vaccination in vivo. Present invention provides a lipid/RNA complex (lipoplex) formulation having sufficiently long shelf life that performs without any compromise in its transfection output. The present invention further provides cationic lipid- based formulations for RNA delivery with maximum nucleic acid complexation ability and with comparatively lesser amount of cationic lipid having higher stability.

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