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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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Resumen de vacunas contra la COVID-19 en desarrollo a nivel mundial, basadas en la plataforma de virus inactivados (primera parte)

Las **vacunas de virus inactivados o vacunas inactivadas** se obtienen mediante el aislamiento del virus que causa la enfermedad, en este caso el SARS-CoV-2, para luego inactivarlo o destruirlo con el uso de sustancias químicas, calor o radiación. Ha quedado demostrado que esta tecnología funciona para tratar enfermedades que afectan a los seres humanos (por ejemplo, este método se utiliza para fabricar las vacunas antigripales y antipoliomielíticas); además, la técnica hace posible fabricar vacunas a una escala aceptable. Este tipo de vacunas no suelen proporcionar una inmunidad tan fuerte como las vacunas vivas. Es posible que necesite varias dosis con el tiempo (vacunas de refuerzo) para tener inmunidad continua contra la enfermedad en cuestión.

Vacunas reportadas en el *draft landscape* de la Organización Mundial de la Salud (OMS) hasta el 31 de agosto de 2021, basadas en la plataforma de virus inactivados.

Nombre: CoronaVac (PiCoVacc)

Fabricante/País: Sinovac Research and Development Co., Ltd / China

Descripción: La vacuna está formulada con la cepa del SARS-CoV-2 que es inoculada en las células vero (provenientes del riñón del mono verde) para cultivo, se inactiva con β-propiolactona, se concentra y se purifica. Utiliza como excipientes: fosfato de hidrógeno disódico, cloruro de sodio, fosfato de dihidrógeno sódico y como adyuvante el hidróxido de aluminio. Según una publicación en la revista *The Lancet*, esta vacuna demostró que se tolera bien con un buen perfil de seguridad en personas de 18 años o más en ensayos de fase 1/2, y proporciona una buena respuesta humoral frente al SARS-CoV-2.

Fue autorizada por la entidad reguladora *China National Medical Products Administration* el 6 de febrero de 2021 e incluida en la Lista de Uso de Emergencia de la OMS el 1 de junio de 2021.

Fase de ensayo clínico: 4

Vía de administración: Intramuscular.

Esquema de administración: Dos dosis con intervalo de 14 días.

Eficacia: Según un estudio publicado por la OMS *Evidence Assessment: Sinovac/CoronaVac COVID-19 vaccine* se determinó que la vacuna era 67% efectiva contra los síntomas, redujo las hospitalizaciones en un 85%, los pacientes en cuidados intensivos en un 89% y las muertes en un 80%. En este documento se analizaron todos los resultados derivados de ensayos clínicos realizados en Brasil, Chile, Indonesia y Turquía.

Algunas publicaciones relacionadas:

Effectiveness of an Inactivated SARS-CoV-2 Vaccine in Chile

WHO approval of Chinese CoronaVac COVID vaccine will be crucial to curbing pandemic

Evidence Assessment: Sinovac/CoronaVac COVID-19 vaccine

Interim recommendations for use of the inactivated COVID-19 vaccine, CoronaVac, developed by Sinovac

Development of an inactivated vaccine candidate for SARS-CoV-2

Efficacy and safety of an inactivated whole-virion SARS-CoV-2 vaccine (CoronaVac): interim results of a double-blind, randomised, placebo-controlled, phase 3 trial in Turkey

CoronaVac: more data for regulators and policy makers

WHO validates Sinovac COVID-19 vaccine for emergency use and issues interim policy recommendations

COVID-19 Vaccine (Vero cell), Inactivated (Brief edition)

Safety, tolerability, and immunogenicity of an inactivated SARS-CoV-2 vaccine (CoronaVac) in healthy adults aged 60 years and older: a randomised, double-blind, placebo-controlled, phase 1/2 clinical trial

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Nombre: Inactivated SARS-CoV-2 vaccine (Vero cell)

Fabricante/País: Sinopharm + China National Biotec Group Co. + Wuhan Institute of Biological Products (WIBP) /China.

Descripción: La vacuna se produce inoculando la cepa WIV04 del SARS-CoV-2 en células Vero, que luego se cultivan, cosechan, inactivan, purifican, concentran, se inactivan y purifican nuevamente y por último se agrega adyuvante de hidróxido de aluminio. El virus fue inactivado con β-propiolactona a 2-8 ° C durante 48 horas. El proceso de producción de la vacuna comenzó con el aislamiento de una cepa COVID-19, denominada 2019-nCoV WIV04, de un paciente del Hospital Jinyintan a fines de diciembre de 2019. La nueva cepa de coronavirus demostró tener buenas características biológicas y, por lo tanto, podría usarse para la producción de vacunas. Utiliza como excipientes: fosfato de hidrógeno disódico, cloruro de sodio, fosfato de dihidrógeno sódico y como adyuvante el hidróxido de aluminio. Partiendo de los resultados de la evaluación clínica de la vacuna, se encontraron anticuerpos neutralizantes en todos los participantes a los 14 días del final de la vacunación y seroconversión en los que fueron vacunados con pautas 0-21 días en el estudio de fase 2. Se realizaron ensayos clínicos en China, Egipto, Emiratos Árabes Unidos, Perú, Marruecos, Bahrein y Jordania. Ha sido aprobada por las entidades regulatorias de China y Filipinas.

Fue inicialmente aprobada para uso en militares en China; actualmente está en uso en más de 55 países. Esta vacuna fue aprobada en China para niños en edades comprendidas entre 3 y 17 años.

Fase de ensayo clínico: 3

Vía de administración: Intramuscular.

Esquema de inmunización: Dos dosis con intervalo de 21 días.

Eficacia: 73 % en la prevención de la enfermedad.

Algunas publicaciones relacionadas:

Effect of 2 Inactivated SARS-CoV-2 Vaccines on Symptomatic COVID-19 Infection in AdultsA Randomized Clinical Trial

China's COVID vaccines are going global — but questions remain

Effect of an Inactivated Vaccine Against SARS-CoV-2 on Safety and Immunogenicity Outcomes. Interim Analysis of 2 Randomized Clinical Trials

A Study to Evaluate The Efficacy, Safety and Immunogenicity of Inactivated SARS-CoV-2 Vaccines (Vero Cell) in Healthy Population Aged 18 Years Old and Above (COVID-19)

China approves emergency use of Sinopharm COVID-19 vaccine for children aged 3-17

Nombre: BBIBP-CorV

Fabricante/País: Sinopharm + China National Biotec Group Co + Beijing Institute of Biological Products (BIBP)/China.

Descripción: Vacuna con virus completo inactivado con β-propiolactona, cepa HB02 de Beijing cultivada en células Vero, con hidróxido de aluminio como adyuvante en un buffer fosfato salino o BPS, compuesto por di-Sodio hidrogenofosfato dodecahidrato, cloruro de sodio, fosfato de dihidrógeno sódico.

La vacuna ha sido autorizada por la Autoridad Reguladora Nacional de China (NRA), la Administración Nacional de Productos Medicinales (NMPA), así como por otras entidades regulatorias como las de Vietnam y Filipinas. Fue incluida en la Lista de Uso de Emergencia de la OMS el 7 de mayo de 2021.

Gavi y UNICEF firmaron acuerdos de compra anticipada con Sinopharm para su vacuna de virus inactivado "BBIBP-CorV" contra COVID-19.

Fase de ensayo clínico: 4

Vía de administración: Intramuscular

Esquema de inmunización: Dos dosis en un intervalo de 21 días.

Eficacia: 79-86 % contra la infección sintomática por SARS-CoV-2, 14 días o más después de la segunda dosis.

Algunas publicaciones relacionadas:

COVID-19 Vaccine (Vero Cell), Inactivated (Sinopharm)

Effect of 2 Inactivated SARS-CoV-2 Vaccines on Symptomatic COVID-19 Infection in AdultsA Randomized Clinical Trial

UAE says Sinopharm vaccine has 86% efficacy against COVID-19

Gavi signs agreements with Sinopharm and Sinovac for immediate supply to COVAX

Recommendation for an Emergency Use Listing of COVID-19 Vaccine BIBP

Safety and immunogenicity of an inactivated SARS-CoV-2 vaccine, BBIBP-CorV: a randomised, double-blind, placebo-controlled, phase 1/2 trial

A promising inactivated whole-virion SARS-CoV-2 vaccine

Cómo funciona la vacuna de Sinopharm

Nombre: SARS-CoV-2 vaccine (vero cells)

Fabricante/País: Institute of Medical Biology + Chinese Academy of Medical Sciences/China.

Descripción: Vacuna con virus completo inactivado con formaldehído y β-propiolactona, cepa KMS-1 cultivada en células Vero, con hidróxido de aluminio como adyuvante.

Fue autorizada para uso de emergencia en su país el 9 de junio de 2021.

Fase de ensayo clínico: 3

Vía de administración: Intramuscular

Esquema de inmunización: Dos dosis en un intervalo de 28 días.

Eficacia:

Algunas publicaciones relacionadas:

Randomized, Double-Blinded, Placebo-Controlled Phase 2 Trial of an Inactivated Severe Acute Respiratory Syndrome Coronavirus 2 Vaccine in Healthy Adults

The Efficacy, Safety and Immunogenicity Study of Inactivated SARS-CoV-2 Vaccine for Preventing Against COVID-19

SARS-CoV-2 inactivated vaccine (Vero cells) shows good safety in repeated administration toxicity test of Sprague Dawley rats

The safety and immunogenicity of an inactivated SARS-CoV-2 vaccine in Chinese adults aged 18–59 years: A phase I randomized, double-blinded, controlled trial

New Chinese inactivated COVID-19 vaccine available for emergency use

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Nombre: QazCovid-in®

Fabricante/País: Research Institute for Biological Safety Problems/Republic of Kazakhstan.

Descripción: Para la obtención de la vacuna se utilizó un virus desarrollado en cultivo de células Vero, que se inactivó con formaldehído, se purificó, se concentró, se esterilizó por filtración y luego se absorbió en partículas de gel de hidróxido de aluminio.

El 5 de enero de 2021, se le concedió la autorización para uso de emergencia a la vacuna QazCovid-in en Kazajstán.

Fase de ensayo clínico: 3

Vía de administración: Intramuscular.

Esquema de inmunización: Dos dosis en un intervalo de 21 días.

Eficacia: Hasta el 15 de abril, la vacuna mostró una eficacia del 100% en la primera etapa de los ensayos clínicos y del 96% en la segunda etapa de los ensayos clínicos.

Algunas publicaciones relacionadas:

Development of the Inactivated QazCovid-in Vaccine: Protective Efficacy of the Vaccine in Syrian Hamsters

Safety and immunogenicity of a QazCovid-in® inactivated whole-virion vaccine against COVID-19 in healthy adults: A single-centre, randomised, single-blind, placebo-controlled phase 1 and an open-label phase 2 clinical trials with a 6 months follow-up in Kazakhstan

Reactogenicity, Safety and Immunogenicity of QazCovid-in® COVID-19 Vaccine

Immunogenicity, Efficacy and Safety of QazCovid-in® COVID-19 Vaccine

Where and how Kazakhstan's homegrown QazCovid-in vaccine is developed

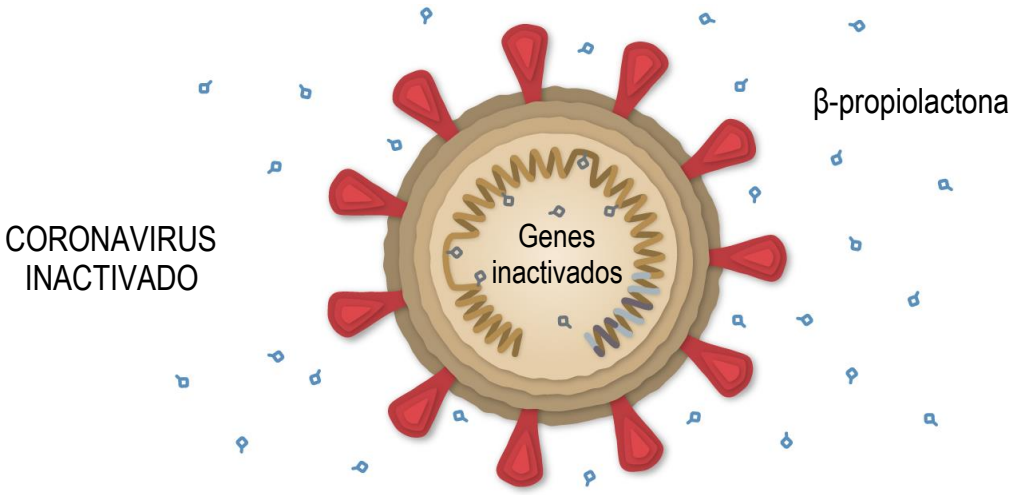
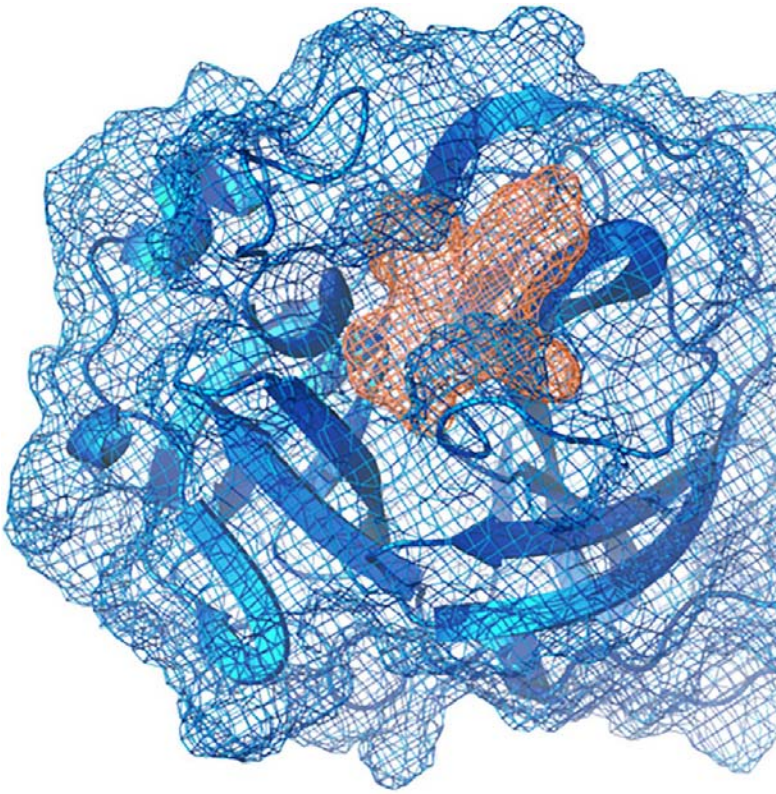


Imagen "The New York Times".

Noticias en la Web

Píldora oral una vez al día para tratar y prevenir las infecciones por SARS-CoV-2 comienza el primer estudio en humanos



1 sep. Un antiviral oral en desarrollo para tratar y prevenir las infecciones por SARS-CoV-2 comenzó el primer ensayo en humanos para explorar el potencial de dosificarlo como una pastilla una o dos veces al día.

Pardes Biosciences, Inc. (Berkeley, CA, EUA), inició un ensayo clínico de fase 1 para evaluar su candidato principal, PBI-0451, en desarrollo, como un posible antiviral oral de acción directa para tratar y prevenir infecciones por SARS-CoV- 2, el virus que causa la COVID-19.

PBI-0451 actúa inhibiendo la Proteasa Viral Principal (Mpro), una proteína clave altamente conservada en el virus necesaria para su replicación, bloqueando así la capacidad del virus para replicarse. La naturaleza altamente conservada de Mpro en múltiples coronavirus, incluidas variantes emergentes de preocupación como Delta y Lambda, respalda el potencial de PBI-0451 para apuntar a coronavirus existentes y futuros. En estudios preclínicos, se ha demostrado que PBI-0451 inhibe la replicación de una amplia gama de coronavirus, incluido el SARS-CoV-2, en múltiples modelos in vitro, y fue bien tolerado en estudios de toxicidad clínicamente habilitantes.

Para desarrollar este candidato, la empresa aprovechó el diseño de fármacos basado en la estructura y su plataforma de química covalente reversible y sintonizable. La compañía prevé utilizar su plataforma en el futuro para crear nuevos candidatos a fármacos para el tratamiento de otras enfermedades con una gran necesidad médica insatisfecha. El estudio de fase 1 será un estudio de escalada de dosis, controlado con placebo, ciego, aleatorizado, de PBI-0451, en voluntarios sanos diseñado para evaluar la seguridad, tolerabilidad y farmacocinética de PBI-0451 después de dosis ascendentes únicas y múltiples y también explorará el potencial de interacción fármaco-fármaco de PBI-0451. Este primer estudio en humanos está diseñado para explorar el potencial de dosificar PBI-0451 como una pastilla una o dos veces al día y se prevé que inscriba hasta 110 voluntarios sanos.

“Creemos que las terapias antivirales orales tienen el potencial de abordar los importantes desafíos de salud pública global tanto de la COVID-19 como de futuras pandemias”, dijo Uri A. Lopatin, M.D., director ejecutivo de Pardes Biosciences. “Este ensayo marca un hito importante en nuestros esfuerzos por desarrollar el PBI-0451 como una posible terapia antiviral oral para el SARS-CoV-2 y esperamos brindar actualizaciones sobre nuestro progreso”.

Fuente: LabMedica. Disponible en https://cutt.ly/uW2qkqH

Dialogan OPS y Cuba sobre reconocimiento de vacunas antiCovid-19

2 sep. Representantes del grupo empresarial BioCubaFarma y de la Organización Panamericana de la Salud (OPS) sostuvieron hoy en esta capital una reunión centrada en el proceso de reconocimiento internacional de las vacunas antiCovid-19 de la isla.

'Hoy sesionó encuentro de trabajo en la presidencia de BioCubaFarma, con el representante de la OPS/OMS en CUBA, el Doctor José Moya. Se desarrolló en un clima favorable y tuvo como objetivo el proceso de reconocimiento de nuestras vacunas Covid-19 por la OMS', anunció en su cuenta oficial en Twitter la entidad cubana.

Precisamente este miércoles, el presidente del Grupo Empresarial de las Industrias Biotecnológica y Farmacéutica de Cuba (BioCubaFarma), Eduardo Martínez, denunció en la misma red social una información falsa de la cadena noticiosa CNN sobre la supuesta negativa de la Organización Mundial de la Salud (OMS) a certificar los inmunógenos del país.

El directivo aclaró que resultaba imposible que la entidad internacional denegara el otorgamiento de licencia alguna, pues Cuba no había solicitado las verificaciones pertinentes para conseguir esos certificados.

Además, tampoco ha viajado a este país personal de la OMS para comprobar o valorar la eficacia y seguridad de las vacunas Soberana 02, Soberana Plus y Abdala.

Martínez precisó la víspera que luego de recibir la autorización de la autoridad regulatoria cubana de uso de emergencia para dichos productos, prevén comenzar intercambios con la OMS para su reconocimiento.

La nación caribeña avanza en la vacunación masiva antiCovid-19 y registra cinco millones 552 mil 931 personas con al menos una dosis, de ellas, con la segunda inyección hay cuatro millones 646 mil 23 y tres millones 916 mil 641 ya recibieron el esquema completo (tres inyecciones).

Los resultados de la tercera fase de los ensayos clínicos con el esquema heterólogo de la vacuna Soberana 02 (dos dosis) más una de refuerzo de su homóloga Soberana Plus evidenciaron 91,2 por ciento de eficacia en cuanto a la capacidad para prevenir la enfermedad sintomática; mientras con tres dosis de Abdala, la cifra fue de 92,28.

Científicos y personal de salud cubanos trabajan también en otras dos propuestas, en diferentes fases de ensayos clínicos: Soberana 01 y Mambisa, esta última una de las siete del mundo prevista para la administración por vía nasal.

En varias ocasiones, la OPS ha reconocido los esfuerzos de Cuba en el desarrollo de propuestas vacunales antiCovid-19 propias y su importancia para la región.

El doctor Jarbas Barbosa, subdirector de ese organismo sanitario, indicó a Prensa Latina que el desarrollo de propuestas vacunales propias en la región permite disminuir la vulnerabilidad de sus países frente a la pandemia.

Fuente: Prensa Latina. Disponible en https://cutt.ly/NW2eKsS

Aprueba el CECMED la Autorización de Uso en Emergencia a la Vacuna cubana SOBERANA® 02 en población pediátrica

3 sep. El Centro para el Control Estatal de Medicamentos, Equipos y Dispositivos Médicos (CECMED) decidió en el día de hoy, aprobar la Autorización de Uso en Emergencia (AUE) a la vacuna cubana SOBERANA® 02, cuyo titular es el Instituto Finlay de Vacunas (IFV), para ampliar su indicación en la población pediátrica en edades comprendidas entre los 2 a 18 años de edad, conforme a lo dispuesto en las regulaciones y disposiciones vigentes, una vez que se ha demostrado que cumple con los requisitos exigidos en cuanto a calidad, seguridad e inmunogenicidad para este grupo poblacional.

Esta aprobación está sustentada sobre la base de los resultados de los ensayos clínicos realizados, que evaluó la seguridad y la inmunogenicidad de esta vacuna, aplicada con un esquema de dos dosis en población pediátrica (3 a 18 años) y comparados con los resultados de un ensayo similar con igual esquema, conducido en población con edades entre 19 y 80 años donde se demostró la eficacia de esta vacuna. Los resultados obtenidos en el estudio en población pediátrica fueron superiores en todas las variables inmunológicas respecto a la población adulta de 19 a 80 años y similares comparado con el subgrupo de adultos jóvenes entre 19 y 29 años. El perfil de seguridad evidenciado fue similar entre los grupos comparados. Se incluye en esta aprobación a los niños a partir de los 2 años de edad, considerando información brindada por el fabricante que justificó esta inclusión.

El CECMED realizó inspecciones a los sitios clínicos donde se realizó el ensayo clínico, verificando el cumplimiento de las Buenas Prácticas Clínicas durante la ejecución del ensayo.

Fuente: CECMED Noticias. Disponible en https://cutt.ly/MW2ruRN

Chile autoriza vacuna Sinovac para niños mayores de 6 años

6 sep. El Instituto de Salud Pública de Chile aprobó el lunes el uso de emergencia de la vacuna de la farmacéutica china Sinovac en niños mayores de 6 años, anunció su director.

El uso del inmunizante chino, que debe ser ratificado por el Ministerio de Salud, fue autorizado por cinco votos a favor y uno en contra de una doctora que pidió contar con más antecedentes. Otros dos especialistas aprobaron su inoculación en mayores de 12 años, explicó el director del Instituto, el doctor Heriberto García.

Tras acoger la aprobación del Instituto de Salud Pública (ISP), el Ministerio de Salud debe decidir la forma en que se administrará la vacuna a los niños, considerando la disponibilidad del inmunizante chino, del cual han llegado 23,6 millones de dosis al país. Varios de los especialistas del ISP que autorizaron su uso sugirieron que se haga en forma escalonada, de mayor a menor edad, que es el método usado en los demás grupos etarios.

Los expertos que votaron, que incluían a los presidentes de las sociedades de pediatría e infectología, entre otras, analizaron un estudio del laboratorio Sinovac que inoculó a 500 menores de 3 a 17 años. En Chile la Universidad Católica desarrolla un ensayo clínico para estudiar el efecto del inmunizante en 4.000 niños de 3 a 17 años y que se encuentra en la fase final de reclutamiento.

García había anticipado que el ISP, además de conocer los datos del estudio chino publicados en la revista médica británica The Lancet, accedió a un manuscrito que indica que "el 100% de los niños sí produjo anticuerpos, lo que es muy bueno, porque permite terminar con la transmisión viral".

Un par de semanas atrás el ente regulador de Brasil, la Agencia Nacional de Vigilancia Sanitaria (ANVISA) rechazó la aplicación de la vacuna de Sinovac en niños y adolescentes y solicitó más antecedentes al laboratorio y consideró muy pequeño el grupo de estudio.

Hasta ahora Chile había autorizado la vacunación de menores de 12 a 18 años con el inmunizante estadounidense Pfizer. La inoculación de este grupo etario se inició a fines de junio en menores recluidos en hogares para adolescentes vulnerables, con comorbilidades y sanos, pero debió suspenderse un mes después por falta de dosis de Pfizer, la única autorizada hasta ahora por el Instituto. El ministro de Salud, Enrique Paris, anticipó que es probable que a fines de esta semana se reinicie la inmunización de los menores de 14 y 15 años.

El plan chileno es inmunizar a 15,2 de los 19 millones de habitantes. A la fecha el 90% de la población objetivo tiene una dosis y un 86% completó el proceso de vacunación con dos dosis.

Además, el 11 de agosto se inició la vacunación de refuerzo, o tercera dosis, con el inmunizante de AstraZeneca a la población mayor de 55 años que completo su esquema con Sinovac, según un calendario que considera la fecha de inoculación de la segunda dosis.

Las vacunas más usadas por la población chilena son Sinovac, Pfizer, la británica AstraZeneca y en último lugar se ubica la china Cansino, de las cuales han llegado poco más de 500.000 dosis al país.

Desde el inicio de la pandemia en Chile se han registrado más de 1,6 millones de casos del nuevo coronavirus y 37.108 fallecidos, según el Centro de Ciencia e Ingeniería en Sistemas de la Universidad Johns Hopkins.

Fuente: Local 10.com. Disponible en https://cutt.ly/1W2brVo

Perú instalará planta de producción de vacuna rusa Sputnik V

6 sep. El presidente Pedro Castillo dijo el lunes que se instalará en Perú una planta de producción de vacunas Sputnik V contra el coronavirus tras alcanzarse un acuerdo con Rusia.

En un mensaje a la nación, Castillo dijo de forma escueta que "producto de negociaciones entre el gobierno peruano y el gobierno ruso se ha coordinado la instalación de una planta de producción de la vacuna Sputnik en el país". Posteriormente el Ministerio de Salud dará más detalles, añadió.

La vacunas rusas contra el coronavirus ya se fabrican en Argentina, en la planta de una compañía de ese país sudamericano. Hasta ahora Perú no ha usado la vacuna rusa, pero sí la Sinopharm de origen chino y la Pfizer-BioNTech, desarrollada en una sociedad estadounidense-alemana.

Otros países latinoamericanos que han utilizado la vacuna rusa son Venezuela, México, Bolivia y

Guatemala, entre otros.

Perú es la nación con la tasa de mortalidad más alta por coronavirus del mundo. Desde que se detectó en el país han muerto más de 198.000 personas y más de 2 millones se han infectado, según el Ministerio de Salud.

Fuente: Local 10.com. Disponible en https://cutt.ly/wW2bRd7

SARS-CoV-2: La infección puede otorgar más inmunidad que la vacuna, pero eso no significa que sea buena idea contagiarse

.7 sep. Israel estaba muy por delante del resto del mundo en lo que se refiere a la vacunación contra la covid-19, por lo que no es de extrañar que los datos procedentes de este rincón del Mediterráneo causen gran expectación, ya que suponen un vistazo al futuro.

De hecho, eso ocurrió recientemente cuando los investigadores de los Servicios Sanitarios Maccabi de Tel Aviv publicaron un preprint (un estudio que aún debe ser revisado por otros expertos) que sugería que las personas que habían sido infectadas con covid-19 tenían una mayor protección que las personas vacunadas contra la reinfección con la variante delta. Desgraciadamente, algunos interpretaron esto como que haber pasado la enfermedad es mejor que vacunarse.

En primer lugar, la posibilidad de que una infección por covid-19 produzca una inmunidad más duradera que la vacunación no es descabellada. La infección expone a nuestro sistema inmunitario a varias proteínas víricas, mientras que las vacunas más utilizadas introducen un único antígeno: la proteína de la espiga. Esto da lugar a una respuesta inmunitaria más dirigida pero también más restringida que tras la infección.

Aunque las personas que han padecido covid-19 pueden volver a infectarse, la inmunidad adquirida de forma natural sigue evolucionando con el paso del tiempo y los anticuerpos siguen siendo detectables durante más tiempo del que se había previsto en un principio. Nuevas pruebas sugieren que la inmunidad tras una infección grave y leve protege tanto contra la reinfección sintomática como asintomática.

Sin embargo, aparte del peligro de sacar conclusiones de datos que otros científicos aún no han revisado, también es crucial poner los datos en el contexto adecuado. Aunque el estudio llama la atención sobre la potencia de la inmunidad adquirida de forma natural, no tiene en cuenta los riesgos que conlleva conseguir la inmunidad natural a través de la infección. Tampoco pone en duda la inmunidad generada por las vacunas.

De hecho, el beneficio de la vacunación ni siquiera se aborda en el estudio, ya que no se incluyeron personas no vacunadas sin infección previa para la comparación. La baja tasa de hospitalizaciones relacionadas con la covid-19 entre los participantes vacunados (8 de 16 000) sería probablemente menor que entre las personas no vacunadas sin infección previa, pero este grupo no se incluyó en los análisis.

Una razón común para no vacunarse es la idea errónea de que esperar la inmunidad natural eligiendo la infección en lugar de la vacunación es una opción. Pero la inmunidad adquirida por la infección puede tener un alto coste.

De hecho, aparte de los riesgos manifiestos de enfermedad grave o muerte, varios estudios recientes muestran que las personas por lo demás sanas que se han recuperado de la covid-19 tienen un riesgo sustancialmente mayor de sufrir problemas de salud graves a más largo plazo, como miocarditis (inflamación del músculo cardíaco), coágulos sanguíneos e ictus, en comparación con las personas

vacunadas. El control de seguridad más riguroso de la historia de EE. UU. ha demostrado que las vacunas de la covid-19 son seguras y eficaces.

Con el aumento de los casos en todo el mundo y las muertes provocadas por la variante delta, esperar a que se produzca la infección –y arriesgarse a sufrir problemas de salud a largo plazo, enfermedades graves y la muerte– para conseguir la inmunidad a la misma infección es tan infructuoso como peligroso.

Inmunidad híbrida

Sin embargo, el preprint israelí arroja luz sobre nuestra creciente comprensión de la potente inmunidad inducida al recibir la vacuna después de haber tenido covid-19, la llamada "inmunidad híbrida". Varios estudios muestran un aumento sustancial de las respuestas de anticuerpos y células T a la vacuna en personas con una infección previa por coronavirus.

Un informe reciente de los Centros para el Control y la Prevención de Enfermedades de EE. UU. demostró que las personas que se habían recuperado y se habían vacunado posteriormente tenían la mitad de riesgo de reinfección en comparación con las personas no vacunadas que habían tenido covid-19 anteriormente. Por lo tanto, sigue mereciendo la pena vacunarse, incluso si se ha padecido previamente esta enfermedad.

La eficacia del refuerzo inmunitario tras la combinación de la inmunidad natural y una única inyección posterior de la vacuna también plantea la cuestión de si una dosis es suficiente para las personas que han tenido covid-19. Varios estudios informan de que las respuestas inmunitarias a una sola dosis de la vacuna de Pfizer o AstraZeneca superan a las de dos dosis en personas sin infección previa.

Por ello, varios países, como Francia, Italia y Alemania, recomiendan ahora una sola dosis para las personas con una infección previa por covid-19. La infección sin vacunación se reconoce como inmunidad para las actuales normas israelíes sobre el certificado COVID (Green Pass).

Aunque dirigir los refuerzos a las personas que no han sido infectadas puede servir para aprovechar al máximo los limitados suministros de vacunas, los calendarios personalizados y las exenciones de los mandatos de vacunación pueden ser logísticamente complicados en medio de una pandemia.

El cribado de anticuerpos antes de la vacunación lleva mucho tiempo y es caro, e introduce retos prácticos a la hora de identificar a los que han pasado previamente, o no, la enfermedad. Estas exenciones podrían ralentizar el despliegue de las vacunas en lugar de acelerarlo.

A medida que los esfuerzos sin precedentes de investigación aportan diariamente conocimientos sobre nuestras respuestas inmunitarias a la infección por covid-19 y la vacunación, debemos considerar críticamente los datos junto con todos los hechos que los relacionan.

Estamos lejos de poner fin a la pandemia, y los riesgos potenciales de ser infectados son incuestionables. Nuestra prioridad debe ser ralentizar la transmisión y hacer llegar las vacunas a quienes siguen sin vacunarse y más las necesitan. Evitar la vacunación, esperar el contagio y confiar en la inmunidad natural tiene poco sentido.

Fuente: THE CONVERSATION. Disponible en https://cutt.ly/5W2nRsy

Moderna reveals findings of vaccine contamination event

Sep 8. A rare presence of Grade 316 stainless steel particles in the vaccine vials has been found but does not pose an undue risk to patient safety.

Three lots of the Moderna COVID-19 Vaccine have been suspended in Japan following reports from vaccination sites of a potential foreign particulate substance observed in unused vials.

Moderna and its vaccine distributor, Takeda Pharmaceutical, have announced the suspension of the use of three lots of the Moderna COVID-19 vaccine in Japan following reports from vaccination sites of a potential foreign particulate substance found in vials. There have been two deaths (at the time of the statement) of recipients, however, no causal link has been established.

The vaccine manufacturer, ROVI Pharma Industrial Services in Spain, have worked with the Ministry of Health, Labour and Welfare (MHLW) to conduct a thorough investigation, which includes:

Identification of the root cause of the particles and the corrective and preventive actions being taken

An assessment of the nature of a particle from one vial from Lot 3004667

An associated medical safety assessment, to determine if the identified particle poses a health or safety risk

Root cause investigation, and corrective and preventive actions

According to the root cause analysis report, conducted by ROVI, the most probable cause of the particulates identified in lot 3004667 is related to friction between two pieces of metal installed in the stoppering module of the production line due to an incorrect set-up.

The two pieces are the star-wheel and the stoppers feeding device piece which feeds stoppers into the star-wheel.

It is believed that this condition occurred during the assembling of the line prior to production of batch 3004667 and was a result of improper alignment during a line changeover before starting this batch.

Based on the analysis conducted by ROVI, the manufacturing issue only impacted the lots that were included in the suspension.

The following steps have been taken by ROVI to correct and prevent future defects:

Full inspection of the manufacturing line

Improving standard operating procedure for changeover of manufacturing line

Setting alert inspection limits in the automatic visual inspection, as an internal process control

Takeda, as the Japan Marketing Authorization Holder, is planning to initiate the recall of the three suspended lots 3004667, 3004734, and 3004956 from the market as of September 2, 2021, in consultation with the MHLW. Moderna as the Global Marketing Authorization Holder is in full agreement with this decision.

Preliminary particulate analysis

According to Moderna's independent analysis, the particle from lot 3004667 has been thoroughly analysed and is confirmed to be grade 316 stainless steel. This is consistent with the root cause determination described above. Grade 316 is a high grade of stainless steel commonly used in manufacturing and in food processing.

Current medical safety assessment

After a health assessment conducted by Moderna and Takeda, the rare presence of stainless steel particles in the Moderna COVID-19 vaccine does not pose an undue risk to patient safety and it does not adversely affect the benefit/risk profile of the product.

Metallic particles of this size injected into a muscle may result in a local reaction, but are unlikely to result in other adverse reactions beyond the local site of the injection.

Stainless steel is routinely used in heart valves, joint replacements and metal sutures and staples. As such, it is not expected that injection of the particles identified in these lots in Japan would result in increased medical risk.

Investigation of two deaths

At this time, there is no evidence that the two tragic deaths following administration of the Moderna COVID-19 vaccine (from lot 3004734) were in any way related to administration of the vaccine. The relationship is currently considered to be coincidental.

It is important to conclude a formal investigation to confirm this. The investigation is being conducted with the greatest sense of urgency, transparency and integrity and is of the highest priority.

Fuente: Clean Room Technology. Disponible en https://cutt.ly/XW2mFBC

Novavax inicia un ensayo de fase 1/2 de la vacuna combinada contra la gripe y la COVID-19

8 sep. Novavax ha anunciado este miércoles la inscripción de los primeros participantes en un estudio de fase 1/2 para evaluar la seguridad e inmunogenicidad de una vacuna combinada que utiliza las vacunas contra la influenza estacional y COVID-19 de la compañía. El ensayo clínico combina las candidatas a vacunas NVX-CoV2373 y NanoFlu basadas en proteínas recombinantes de Novavax y el adyuvante Matrix-M, patentado a base de saponina en una única formulación (vacuna combinada COVID-NanoFlu). Tanto NVX-CoV2373 como NanoFlu han demostrado previamente resultados sólidos como vacunas independientes en ensayos clínicos de fase 3.

"Este estudio es el primero de su tipo en evaluar el potencial de la vacuna para inducir una respuesta inmune robusta, aumentada por nuestro adyuvante Matrix-M, contra dos enfermedades potencialmente mortales simultáneamente", ha dicho Gregory M. Glenn, presidente de Investigación y Desarrollo de Novavax, al tiempo que ha explicado que "la combinación de estas dos vacunas, que individualmente han brindado resultados sobresalientes con perfiles favorables de seguridad y tolerabilidad, puede conducir a una mayor eficiencia para el sistema de salud y lograr altos niveles de protección contra COVID-19 y la influenza con un solo régimen".

El ensayo evaluará la seguridad, la tolerabilidad y la respuesta inmune a NanoFlu formulado junto con el adyuvante NVX-CoV2373 y Matrix-M en 640 adultos sanos de 50 a 70 años de edad. Los participantes habrán sido previamente infectados con el virus SARS-CoV-2 que causa COVID-19 o vacunados a través de una vacuna autorizada al menos ocho semanas antes de la inscripción. Todos los participantes serán asignados aleatoriamente a cohortes para evaluar múltiples

formulaciones y se les administrará la dosis el día 0 y nuevamente el día 56. El ensayo se llevará a cabo en Australia en hasta 12 sitios de estudio, con resultados esperados durante la primera mitad de 2022.

"La combinación de estas dos vacunas puede conducir a una mayor eficiencia para el sistema de salud y lograr altos niveles de protección contra COVID-19 y la influenza con un solo régimen"

En estudios preclínicos, la vacuna combinada COVID-NanoFlu demostró respuestas inmunitarias sólidas y funcionales a cada componente de la vacuna tetravalente contra la influenza y la proteína de pico SARS-CoV-2, con el adyuvante Matrix-M jugando un papel clave.

En un ensayo clínico de fase 3 con casi 30.000 adultos en Estados Unidos y México, NVX-CoV2373 demostró una protección del 100% contra la infección por COVID-19 moderada y grave y una eficacia del 90,4% en general. En un ensayo fundamental de fase 3 realizado entre adultos de 65 años o más, NanoFlu logró los criterios de valoración primarios, demostrando una inmunogenicidad no inferior a un comparador autorizado en las cuatro cepas del virus de la influenza incluidas en la vacuna, al tiempo que mostró tanto la hemaglutinación de tipo salvaje mejorada. inhibir las respuestas de anticuerpos contra cepas A / H3N2 homólogas y heterólogas múltiples, y una potente inducción de respuestas de células T.

NVX-CoV2373 también se evaluó en un estudio de coadministración en el que se administró simultáneamente con una vacuna contra la influenza aprobada. El estudio demostró que la eficacia de la vacuna pareció conservarse en los que recibieron ambas vacunas en comparación con los vacunados con NVX-CoV2373 solo.

Fuente: Empresas ConSalud. Disponible en https://cutt.ly/6W3gMlP

La vacuna argentina contra el Covid-19 logró buenos resultados y avanza hacia los ensayos clínicos

9 sep. Diseñada por el Instituto Leloir y el Conicet, la monodosis CoroVaxG.3 produjo en ratones una capacidad inmune neutralizante contra diversas variantes, que no decayó en cinco meses.

La vacuna argentina de segunda generación contra el Covid-19, denominada CoroVaxG.3 y diseñada por la Fundación Instituto Leloir y el Conicet, fue probada en ratones con resultados prometedores. En los roedores produjo una capacidad inmune neutralizante contra diferentes variantes del virus y buena durabilidad, que no decayó en cinco meses. Esta monodosis que pasó a la etapa de ensayos clínicos tiene características parecidas a la segunda dosis de la Sputnik V y la de CanSino.

"Apuntamos a lograr vacunas que con una única dosis nos protejan al menos doce meses", señaló Osvaldo Podhajcer, coordinador del proyecto, jefe del Laboratorio de Terapia Molecular y Celular (LTMC) del Instituto Leloir e investigador superior del Conicet.

"El modelo sería algo similar a la antigripal que hoy es tetravalente y nos protege anualmente contra diferentes cepas del virus de la gripe", señaló el científico a Télam. Y al referirse al SARS-CoV-2 (coronavirus de tipo 2) sostuvo que "deberíamos lograr algo similar".

De confirmarse los resultados de la investigación en los ensayos clínicos, la vacuna podría tener efectividad con una única aplicación. El trabajo fue presentado como preimpresión y enviado para publicar en una revista científica, para la correspondiente revisión de pares.

La CoroVaxG.3 “es generada a partir de un vector adenoviral humano con características cercanas al de la segunda dosis de la Sputnik V y la de CanSino, al cual le hemos hecho modificaciones con partes de otros adenovirus humanos, por eso se trata de un híbrido que en sí mismo sigue siendo inocuo", indicó el investigador.

Sobre el diseño de inoculaciones de tercera generación contra el COVID-19, Podhajcer definió: “Deben ser capaces de neutralizar a todas las variantes actuales y las que pudieran aparecer en un futuro inmediato". En este trabajo también están comprometidos el Instituto de Biotecnología Ambiental y Salud de la Universidad Nacional de Río Cuarto y el Centro de Rediseño e Ingeniería de Proteínas de la Universidad Nacional de San Martín.

"Nos basamos en el análisis de la interacción del virus con su receptor en la superficie de las células que infecta. Este análisis se realiza en base a datos de la literatura y a estudios computacionales", añadió a Télam.

Ensayos clínicos

En mayo pasado, la Fundación Instituto Leloir, el Conicet y la compañía biotecnológica Vaxinz firmaron un acuerdo para el desarrollo de esta vacuna CoroVaxG.3 y llevarla a ensayos clínicos.

Para acompañar esa etapa, recientemente, se aprobó un financiamiento de 60 millones de pesos que será otorgado a través de la Agencia Nacional de Promoción de la Investigación, el Desarrollo Tecnológico y la Innovación.

El diseño y ejecución de los ensayos de fase clínica 1 y 2 estarán a cargo de la Sección de Farmacología Clínica del Hospital Italiano.

La vacuna utiliza una plataforma de vector adenoviral no replicativo, es decir que toma un virus inocuo como el adenovirus, lo modifica genéticamente para que no se replique en el organismo y le "introduce" una parte del virus contra el cual se quiere inmunizar. En este caso se trata de la proteína Spike del coronavirus SARS-COV-2.

Fuente: PERFIL. Disponible en https://cutt.ly/qW3z2Lq

7 Things We've All Learned About Vaccines

Sep 10. The pandemic has proven quite a teacher when it comes to understanding the science of our shots.

Before COVID-19, you probably didn't spend much time thinking about vaccines — or hours discussing them. They were just something you had to endure when you went in for your annual checkup.

The coronavirus pandemic — and the extraordinary development of new vaccines to combat it — changed that. Suddenly, we were asking questions about how vaccines are developed, their potential side effects and how to assess effectiveness.

Experts and health care providers say much of what we've learned about the COVID-19 vaccine also applies to other recommended vaccines, and they hope those lessons will help encourage Americans to stay up to date on all of their shots.

"When people get older, we tend to see vaccination rates drop,” says Ranit Mishori, M.D., a professor of family medicine at Georgetown University School of Medicine. And that's discouraging, she adds, since these shots aren't just something you need until you graduate from college. “They're also incredibly effective for older adults.”

Here are seven important lessons we've learned about vaccines during COVID-19.

1. Aging means you need some shots more than ever

Not only have older adults proven the most vulnerable to COVID-19 — with 95 percent of all deaths from the virus occurring in those 50 and older — they're also more susceptible to other types of illness because of how their immune system weakens with age, Mishori explains.

What's more, older adults are more likely to have other health conditions — such as diabetes, heart disease or high blood pressure — that increase the chance of complications from a disease, whether it's COVID-19, influenza or pneumonia. For those reasons, experts say it's crucial for older adults to get all of their recommended shots on time.

The waning immunity that comes with age is also why the U.S. Centers for Disease Control and Prevention (CDC) recommends some shots just for those 65 and older, such as the pneumococcal vaccine. “It's not that you're more likely to get a pneumococcal infection” than younger people, Mishori says. “It's that if you get one with advancing age and a weakened immune system, you are more likely to have complications.”

Shingles is another shot recommended just for older adults — specifically, those 50 and older. Caused by the same virus as chicken pox, it lays dormant in your body for decades. Then, as you get older and your immune system weakens, it emerges with a painful, blistering rash. “Vaccines are really critical for older adults because your body isn't as adept at launching its immune system,” Mishori says. “You need that additional kick from a vaccine.”

2. Some work better than others

It's a fact: Because of their weaker immune response, people 65 and older also get less protection from certain vaccines. The standard flu shot, for example, has been shown to stimulate a less robust immune response in older adults. For that reason, the CDC recommends either the adjuvanted flu vaccine or the high-dose version for people 65 and older. Both are specifically formulated to stimulate more antibodies to fight influenza.

In one study, participants age 65-plus who received the high-dose flu vaccine had 24 percent fewer influenza illnesses, compared with those who received a standard vaccine.

But then there's the two-dose COVID-19 vaccines — which have very high effectiveness for every age group tested so far. Part of their success may be due to their newer mRNA technology, says L.J. Tan, a medical researcher and chief strategy officer for the Immunization Action Coalition. The Pfizer-BioNTech vaccine was shown to be 95 percent effective in both older and younger adults, while the Moderna vaccine showed only a slight decrease in effectiveness among those 65 and older.

"There is a lot of optimism because the COVID vaccines have shown us that there are platforms that can develop strong responses in older adults,” Tan says. “I think you're going to see mRNA technology used as a platform for more vaccines.”

3. Their side effects can be — yes — uncomfortable

For many, the second dose of their COVID-19 packed more punch than they may have expected — by way of fatigue, headache, chills and fever, among other side effects — if only for a day or two.

Reactions from other vaccines are less well-known, but they're not uncommon, experts say. The seasonal flu shot, for example, can cause fever, fatigue and other reactions. And the vaccine to prevent shingles can induce shivering, muscle pain and an upset stomach.

The upside of this kind of discomfort? Side effects are “an indicator the vaccine is working,” Mishori says. “Once [the side effects] go away, you're left with the immune protection.”

4. Protection can be imperfect — yet still lifesaving

Most vaccines aren't an all-or-nothing proposition. Just because you're vaccinated doesn't mean you won't get sick. However, the vaccine significantly reduces your risk of having a severe case.

"If you do get illness, it will be a milder illness,” says Clare Rock, M.D., an infectious diseases physician and hospital epidemiologist at Johns Hopkins School of Medicine. “The chance of having a serious illness and needing hospitalization is much, much lower.”

Many Americans seem to have a better understanding of vaccine effectiveness as a result of the COVID-19 vaccines. That's important, Tan says, because the numbers can be confusing. For example, if the seasonal flu vaccine is 40 percent effective one year, that doesn't mean that 60 out of 100 vaccinated people will get influenza. What it actually means, he explains, is that vaccinated people are 40 percent less likely to get influenza when compared with people who didn't get the vaccine.

In their clinical trials, both of the mRNA vaccines for COVID-19 posted efficacy rates of about 95 percent — exceeding scientists’ expectations by a long margin. The data shows that the actual percentage of vaccinated people who got COVID-19 in both of those trials was just 0.4 percent, and none died of the disease.

The vaccine's efficacy in preventing infection has likely dropped in recent months, with the delta variant fueling breakthrough cases across the country. But the vaccines are still highly effective when it comes to what's most important: preventing death.

5. They are rigorously tested – group by group by group

As anyone reading headlines in the past year and half knows, all authorized vaccines — even those that received emergency authorization from the Food and Drug Administration (FDA) — go through many rounds of study, examination and research before they are allowed to be used.

Mishori says manufacturers must conduct clinical trials on thousands of people and that vaccines have to show efficacy across different groups: sex, race/ethnicity and age. The data is then examined by a panel of scientific advisers who make recommendations to the FDA and the CDC.

"In general, the CDC can't make a recommendation for an age group unless clinical trials have happened in that age group,” Mishori says, because “there are all kinds of physiological differences.” For example, she says, the kidneys of older people may not be as robust in clearing medications as they are in younger patients — so it's especially important for vaccines to be tested in adults over 65.

Many manufacturers go through the FDA process and never get authorization, Tan says. “A lot of research goes on that ultimately doesn't meet the FDA minimums. The truth of the matter is, only about 1 in 10 make it out.” Even after an approval, both the CDC and FDA continue to track the safety of all licensed vaccines.

6. Yes, their protection can wear off over time

Studies in recent months reveal that the effectiveness of the COVID-19 vaccines does appear to wane. A Mayo Clinic study from five states, conducted through July, found that the Pfizer-BioNTech vaccine's effectiveness against the delta variant dropped from 76 percent to 42 percent, while the Moderna vaccine's effectiveness went from 86 percent to 76 percent. Another CDC analysis of both vaccines found that among

nursing home residents, the effectiveness against infection dropped from about 75 percent to 53 percent between March 1 and Aug. 1.

The data prompted the Biden administration to announce plans for a vaccine "booster" shot. It's not unusual for a vaccine to require a booster, Rock says. Many childhood vaccines require boosters later in life, for example. How long immunity lasts varies by vaccine. Some shots (measles) protect for life, while others (the flu shot) need to be renewed every year.

"The immune response — the body's memory — can wane over time," Rock says. "The body needs another reminder, in a safe way, how to respond to the virus."

A vaccine's durability depends on a variety of factors, Rock adds, including the type of vaccine, an individual's immune system and whether mutations in the virus allow it to evade immunity.

7. They work best if both you and the grandkids get them

Since the pandemic arrived, there has been a lot of talk about so-called "herd immunity" or "community immunity." This is the idea that if enough people are vaccinated against a pathogen, it can't travel as easily from person to person — and the entire community is less likely to get the disease.

Many experts talk about community immunity as a way to end the COVID-19 pandemic. But it's also how we protect those who can't get vaccinated (like children who are younger than 12 who can't get the COVID-19 vaccine) or those who don't mount a strong immune response to a vaccine due to their age or health condition, Mishori says.

The concept of community immunity also applies to other vaccines such as the TDAP booster, Mishori notes. "When I see older patients who have a new grandkid, I tell them: 'If you're going to hold the newborn, you need the TDAP booster.' Newborns aren't able to get it early, and whooping cough [pertussis] is a very severe disease in infants before they can get vaccinated."

A vaccine is a means of contributing to society as well as to your immediate family, she says. "You are protecting those who can't protect themselves."

Fuente: AARP. Disponible en https://cutt.ly/vW3cyNV

What are the technologies of the vaccines against Covid-19 that can be applied to other diseases

Sep 11. A few hours ago it was announced that Argentina will be part of a Phase 3 study for a new vaccine against respiratory syncytial virus (RSV), responsible for the bronchiolitis. For this development, the same technology applied in the development of Pfizer and Modern for the vaccine Covid-19: the messenger RNA. However, this would not be the only pathology that could be corrected with these new advances, which is why it seems that, in the end, the pandemic may contribute something positive.

"In the case of Covid-19, the coordinated investment of money for the rapid development of vaccines was key. And, without a doubt, these technologies can be applied to any of the infectious diseases that can be prevented", he pointed Victor Romanowski, director of the Molecular Virology Laboratory at IBBM-Fac. of Cs. Exactas (UNLP / CONICET) and vice president of the Argentine Society of Virology (SAV), in dialogue with TN.com.ar.

While, Ricardo Rüttimann (MN 72.566), infectious pediatrician and coordinator of the Covid-19 unit of the National Immunization Commission (CoNaIn), stated that "mRNA vaccines have been evaluated not only for

infectious but also for allergic or autoimmune type, and in the prevention of other types of diseases ".

The pandemic with a positive balance: advances in science

With thousands dead and millions infected, thinking about a positive balance from the pandemic might seem disrespectful. However, the work carried out by the scientists could generate a change in the face of a similar future event, since vaccine technologies driven by the coronavirus could be the solution to existing diseases

"These technologies can be applied to any of the infectious diseases worth preventing and the key to rapid development, which in this case was for Covid-19, was the coordinated investment of money. The technological development of each of the vaccines is expensive, but the stage of evaluating the vaccine in a situation close to reality is even more expensive, "the virologist highlighted.

As he explained, beyond this process, there is a certain resistance "to using new technologies when there are already developed vaccines for a more traditional technology ". A situation that became evident when the first immunizations against the coronavirus began to be applied.

"Many began to wonder things that they never asked, but when there is enough investment it is faster, not in the clinical process, but in the time of presentation of the report, in the evaluation by the regulatory agency, or in the design. prior to vaccination ", highlighted the scientist from La Plata.

For his part, Rüttimann noted that novel technologies are DNA and messenger RNA. "Non-replicative viral vector vaccines, such as Sputnik V and AstraZeneca, had already been used for the Ebola vaccine in Africa; We apply inactivated vaccines, such as Sinopharm, for Hepatitis A and rabies; and the recombinant subunit vaccines, with adjuvants, are those for Hepatitis B and HPV ", he explained.

"The only novelty would be the use of mRNA, which has already been evaluated not only for infectious diseases but also for the allergic or autoimmune type. A disease that is being considered to be prevented is the flu and also the respiratory syncytial virus (RSV) ", he completed.

A change in the paradigm of disease prevention?

During 2009 and 2010, the influenza A pandemic shocked the planet, although there was a treatment. However, for Covid-19 it is not the same. International multicenter studies have been deployed, even promoted by the World Health Organization (WHO), but so far the scientific community has not obtained an effective therapy for the disease.

Faced with this reality, what they described as a "long-term solution" became an urgent need and vaccines were put at the forefront of the pandemic. With the possibility of an event of this magnitude happening again, science has deployed its full range of knowledge and is already preparing to avoid new events.

"The scientific community shifted his focus from original interest and aimed all his ability in trying to solve the pandemic problem, with greater openness in the exchange of information. On January 10, the Chinese made the genome sequence of the virus that caused the outbreak available in a database. On January 11, Sarah Gilbert, from the University of Oxford, was already synthesizing the gene to include it in the vaccine, "said Romanowski.

As the virologist explained, with this information and current technology, it was no longer necessary to isolate the virus to develop the vaccine, although for clinical trials "of effectiveness and efficiency it is necessary to use the pathogen with the capacity to produce the disease."

“First you have to have a basic study on the development of the disease and the animal models before moving on to human volunteers. This is an unavoidable part of the development of vaccines ”, added the vice president of the SAV.

Meanwhile, regarding the strategy of combining vaccines to generate heterologous schemes, both the infectologist and the virologist stressed that it is not a novel method, but that the results were highly promising.

“Interchangeability could be done with some vaccines, but it is not surprising that these improvements in efficacy and effectiveness can occur. We have always exchanged, many times empirically, out of necessity due to the lack of products, and others with documentation“Rüttimann said, adding that this improvement was already documented in” the adult pneumococcal vaccination schedule, which uses two different vaccines and exchanges them. We call it a sequential scheme ”.

For his part, Romanowski assured that the improvements in the effectiveness and efficacy of the vaccines when they were exchanged “was a nice surprise because, in some combinations, the immune response was greater than or equivalent to the two original doses “.

Diseases in the spotlight

SARS-CoV-2 raised the need to assess not only the emergence of new diseases, but also how to address existing ones. Currently, the idea of seasonal diseases that can be fought with a vaccine began to gain ground and scientists began to analyze which should be the first to attack.

“The flu has a vaccine that is administered every year, but for a long time we have asked for better vaccines to prevent it. The vaccines we have for Covid-19 are better than flu vaccines and also the respiratory syncytial virus (RSV) ”, said the also member of the Argentine Society of Infectious Diseases (SADI).

At the same time, the virologist stressed that mRNA-based vaccines could become an answer to combat a large number of diseases, since they can “express antigens of various pathogens and are encapsulated in nanoparticles, and they are not incompatible at all. Of the traditional vaccines there are heptavalents, that is, for seven diseases, and the immune system is not confused, but rather discriminates each one ”.

On the other hand, given the recent approval of a DNA vaccine for the coronavirus, Romanowski explained that producing a vaccine in this format “means enormous technological simplicity in the laboratory. One can produce DNA by combining and replicating bacteria, which allows the production of multiple and millions of copies “, while Rüttimann pointed out that” its mechanism of action is similar to mRNA, although the decoding is done in the nucleus of the cell and the administration is a bit more complex, which can make logistics more expensive ”.

In any case, both specialists noted the importance of moving towards these new technologies. “You have to overcome the fear of the new, which is like 50 years of development, and you have to go step by step. It is possible that the different types of vaccines that are being used will be replaced “, said the virologist and stressed that the pandemic also caused” people to realize that scientific curiosity is not a game, that people who are interested in discovering how things work are going to apply this learning in solving a problem ”.

Fuente: Market Research Telecast. Disponible en https://cutt.ly/vW7LsrP

La vacuna española avanza "muy bien"

12 sep. La ministra de Ciencia e Innovación, Diana Morant, ha señalado este domingo que el ensayo clínico de la vacuna contra la covid-19 desarrollada por la farmacéutica Hipra "esta yendo todo muy bien" y ha avanzado que, si tiene buenos resultados, podría comercializarse ya "a principios del año que viene".

Morant ha agregado que hay "bastantes esperanzas, tanto en España como en Europa, de que sea una muy buena vacuna". "Si todo va bien y el ensayo tiene buenos resultados", Hipra tiene capacidad para "empezar a producir en octubre y estaríamos hablando de tener una vacuna española que ya se podría comercializar a principios del año que viene".

No es solo que sea española y que "por eso tenemos que sentirnos orgullosos, que también, sino que además va a ser una muy buena vacuna", ha reseñado.

Mejor logística

La ministra ha destacado que "está presentando buenos resultados" y además incorpora como novedad que no necesita conservarse a temperaturas de congelación sino de nevera, con lo que se podría hablar de estrategias de logística, a la hora de su transporte hasta los centros de vacunación, distintas a las que tenemos ahora.

La vacuna de Hipra es de proteína recombinante y ha tenido en cuenta en su diseño las variantes alfa y beta del coronavirus, "la delta ha sido posterior", pero la empresa ya ha dicho "muchas veces" que "no le costaría nada" recombinar con nuevas variantes.

Por lo tanto, ha destacado Morant, también tiene esa característica de ir adaptándose, porque "en definitiva es una recombinación de las proteínas de cada una de las variantes", y el diseño ya "contempla la incorporación de variantes: puede ir adaptándose conforme vayan apareciendo".

Además, es de plataforma de proteína, "ninguna de las que nos han inyectado es de proteína, y hay bastantes esperanzas tanto en España como en Europa de que sea una muy buena vacuna".

La ministra ha recordado que España hizo una apuesta por las vacunas, y hay "muchas líneas de investigación todavía abiertas" en diferentes fases.

Entre las más adelantadas ha citado la que desarrolla el equipo dirigido por Mariano Esteban en el Centro Nacional de Biotecnología (CNB-CSIC), que "ahora mismo está todavía en la fase de aclaraciones que le ha pedido la Agencia Española del Medicamento", antes de pasar a la fase clínica.

Fuente: El Periódico. Disponible en https://cutt.ly/aW7LH5W

Número de cubanos vacunados con esquema completo roza el 40 por ciento de la población

12 sep. El 38 por ciento de la población cubana ya ha recibido las tres dosis previstas del esquema de vacunación antiCovid-19 con los fármacos nacionales, en un empeño por lograr la inmunización en 2021, informaron este domingo fuentes oficiales.

En una población de un poco más de 11 millones de habitantes, los tres pinchazos lo recibieron cuatro millones 258 mil 396 personas, de las dos vacunas desarrolladas en la isla: Abdala del Centro de ingeniería Genética y Biotecnología, así como Soberana 02 y Soberana Plus, del Instituto Finlay de Vacunas.

El director nacional de Epidemiología Francisco Durán dio a conocer en esta jornada que fueron aplicadas 16 millones 195 mil 960 dosis desde el inicio de la estrategia de inmunización en el país, en mayo último.

Hasta la fecha, el 60, 6 por ciento, o sea, seis millones 784 mil 652 personas recibieron la primera dosis y se les administró la segunda a cinco millones 141 mil 557, lo que significa un 45,9 por ciento de la población.

Como parte del cronograma de vacunación, en estos días se completa con la tercera dosis de la vacuna en las ciudades capitales de las diferentes provincias en grupos de riesgo como embarazadas, puérperas que lactan, trasplantados y nefrópatas.

El pasado 3 de septiembre a los adolescentes de 18 años que cursan el último grado de la enseñanza preuniversitaria y técnica profesional se les aplicó la primera inyección con la vacuna Abdala, etapa que deberá culminar el 1 de octubre.

Mientras la población infantil recibe además en estos días su primer pinchazo del inmunógeno, primero a aquellos entre 12 y 18 años y en breve los pequeños entre dos y 11 años.

Fuente: Cubadebate. Disponible en https://cutt.ly/rW7Vd9d

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Estrategia de búqueda: *Vaccine in the title or abstract AND 20210901:20210912 as the publication date 83 records.*

1.201911046164LIVE ATTENUATED CLASSICAL SWINE FEVER CELL CULTURE VACCINE FROM AN INDIAN VIRULENT CSF VIRUS THEREOF
IN - 03.09.2021
Clasificación Internacional A61K / Nº de solicitud 201911046164 Solicitante INDIAN COUNCIL OF AGRICULTURAL RESEARCH Inventor/a Dhar, Pronab
A live attenuated classical swine fever cell culture vaccine from any Indian virulentisolate. The exceptionally high titre of 108.5 to 109.5 TCID50 per ml of the vaccine virushas made this a unique virus in the world. The vaccine batches to be produced fromthis vaccine seed would be the most economical

vaccine ever produced anywhere in the globe. Since the vaccine is a 100% make-in-India product, it would havetremendous export potential too. The attenuation of the Indian virulent CSF virus at44 passages in PK-15 and development of vaccine at 70th passage level is also the firstreport of any CSF vaccine development at such an early passage. The multiplicity ofinfection (m.o.i.) of 0.006 TCID50/cell for passaging of CSF vaccine virus and harvest time of 66 hrs which has produced the highest virus titre are also being reported forthe first time.

2.20210268088HEROIN VACCINE
US - 02.09.2021
Clasificación Internacional A61K 39/00 Nº de solicitud 16761012 Solicitante THE SCRIPPS RESEARCH INSTITUTE Inventor/a Kim D. Janda
An improved heroin conjugate vaccine is detailed; to accomplish this task the systematic exploration of twenty vaccine formulations with varying combinations of carrier proteins and adjuvants were undertaken. In regard to adjuvants, a Toll-like receptor 9 (TLR9) agonist and a TLR3 agonist in the presence of alum were explored. The vaccine formulations containing TLR3 or TLR9 agonist alone-elicited strong anti-heroin antibody titers and blockade of heroin-induced antinociception when formulated with alum; however, a combination of TLR3 and 9 adjuvants did not result in improved efficacy. Investigation of stability of the two lead formulations revealed that the TLR9 but not the TLR3 formulation was stable when stored over 30 days. Furthermore, mice immunized with the TLR9+alum heroin vaccine gained significant protection from lethal heroin doses, suggesting that this vaccine formulation is suitable for mitigating the lethal effects of heroin, even following long-term storage at room temperature.

3.20210275663CORONAVIRUS-TARGETING UNIVERSAL DC CELL VACCINE, AND PREPARATION METHOD AND USE THEREOF
US - 09.09.2021
Clasificación Internacional A61K 39/215 Nº de solicitud 16989517 Solicitante Shunchang Jiao Inventor/a Shunchang JIAO
The present invention provides a method for preparing a coronavirus-targeting universal DC cell vaccine, and belongs to the technical field of virus vaccine preparation. The preparation method includes the following steps: ligating a fusion gene including a HLA gene and a coronavirus antigen gene onto an expression vector to obtain a recombinant vector; then transferring the recombinant vector into antigen-presenting cells to be transfected to obtain the coronavirus-targeting universal DC cell vaccine. The universal DC cell vaccine of the present invention has a targeting property against a coronavirus, can effectively stimulate a CTL, and has a killing effect on a target cell.

4.WO/2021/176409PRESERVATIVE COMBINATION FOR VACCINE COMPOSITION
WO - 10.09.2021
Clasificación Internacional A61K 47/10 Nº de solicitud PCT/IB2021/051848 Solicitante SANOFI HEALTHCARE INDIA PRIVATE LIMITED Inventor/a JAGANATHAN, Kilvani Semburakkiannan
The present invention relates to a combination of preservatives for vaccine composition or formulation, more particularly a combination of 2-phenoxyethanol and formaldehyde and to a method of preparing a vaccine composition comprising 2-phenoxyethanol and formaldehyde. Particularly, the invention relates to a vaccine composition comprising 2-phenoxyethanol (2-PE) and formaldehyde, wherein the formaldehyde is present in an amount of less than 0.0025%.

5.3875111STAMMZELLKREBSIMPFSTOFFZUSAMMENSETZUNG
EP - 08.09.2021
Clasificación Internacional A61K 39/00 Nº de solicitud 20461518 Solicitante POZNAN UNIV OF MEDICAL SCIENCES Inventor/a MACKIEWICZ ANDRZEJ

The invention relates to tumour therapy. In particular, the present invention relates to cancer vaccine compositions comprising both allogenic cancer cells modified with hyper-cytokines and stem cells. The invention further relates to a pharmaceutical composition comprising the cancer vaccine composition and to the cancer vaccine composition for use in a method of treatment of cancer, prevention of recurrence of cancer and/or prevention of cancer in general and in particular for the treatment, prevention of recurrence and prevention of melanoma.

6.WO/2021/168522METHOD FOR OBTAINING OF AN ANTITUMOR COMPOSITION, AN ANTITUMOR COMPOSITION AND ITS USE
WO - 02.09.2021
Clasificación Internacional A61K 39/04 Nº de solicitud PCT/BG2021/000008 Solicitante HADJIEVA, Nasya Spartakova Inventor/a HADJIEVA, Nasya Spartakova
The present invention relates to a method for obtaining of an anti-tumor composition with antitumor activity, as well as to a composition with antitumor activity, both of them based on the BCG vaccine and its use for prophylaxis and treatment of oncologic diseases. The method according to the present invention provides the obtaining of medications with differentiated impact of effect and allowing adequate dosing. The composition obtained by this method demonstrates reduced toxicity because of the low content of live bacteria and unexpectedly higher therapeutic effect than the already known one. This problem, according to the present invention is solved by method for preparation that includes the mixing of three fractions - fraction 1 containing live bacteria Mycobacterium bovis from BCG vaccine, fraction 2 consisting of suspension of killed bacteria Mycobacterium bovis from BCG vaccine, and fraction 3 that is a filtrate of a suspension of Mycobacterium bovis bacteria from BCG vaccine, destroyed by ultrasound, the fraction quantities being in a proportion of 1 : 10 : 100 volumetric units. The antitumour composition obtained by the method consisting the fraction 1 with live bacteria Mycobacterium bovis, fraction 2 consisting of suspension of killed bacteria Mycobacterium bovis and fraction 3 containing a filtrate of suspension of destroyed by ultrasound cells of Mycobacterium bovis bacteria in a volumetric proportion of 1 : 10 : 100, which contains not only live and killed bacteria but also parts of bacteria, bacterial cell walls, inner cytoplasmic membrane, enzymes, ribosomes, bacterial nuclei, wax D, proteins, carbohydrates, lipids and nucleic acids. The composition obtained by the present method is intended for the treatment of oncologic diseases that affect different organs and systems in the human body. The composition is especially suitable for prophylaxis of the occurrence of oncologic diseases in predisposed individuals and for prophylaxis to prevent recurrence.

7.3870302DARMBAKTERIEN AUS MIKROVESIKELN ZUR IMPFSTOFFABGABE
EP - 01.09.2021
Clasificación Internacional A61P 37/04 Nº de solicitud 19801076 Solicitante QUADRAM INST BIOSCIENCE Inventor/a STENTZ REGIS
The present invention relates to a vaccine suitable for immunisation against influenza, plague or Y. pestis infection said vaccine comprising outer membrane vesicles (OMVs) and the plague vaccine including the V and/or F1 antigens of Y. pestis.

8.WO/2021/172418METHOD FOR PRODUCING INACTIVATED INFLUENZA VACCINE AND VACCINE COMPOSITION THEREOF
WO - 02.09.2021
Clasificación Internacional A61K 39/145 Nº de solicitud PCT/JP2021/007073 Solicitante DENKA COMPANY LIMITED Inventor/a MITSUMATA, Ryotaro
Provided are an inactivated influenza vaccine having high immunogenicity and a method for producing the same. This method for producing an inactivated influenza vaccine, wherein an inactivation treatment is

performed using formaldehyde, comprises a step for preliminarily treating a virus solution containing influenza virus, which is collected from a host, with β-propiolactone.

9.WO/2021/174567NOVEL CORONAVIRUS S PROTEIN DOUBLE-REGION SUBUNIT NANO-VACCINE BASED ON BACTERIAL COMPLEX
WO - 10.09.2021
Clasificación Internacional C07K 19/00 Nº de solicitud PCT/CN2020/078709 Solicitante SUN YAT-SEN UNIVERSITY Inventor/a ZHANG, Hui
Disclosed is a novel coronavirus S protein double-region subunit nano-vaccine based on a bacterial complex. In the present invention, a receptor binding domain (RBD) and a fusion peptide (FP) of a virus are used together as dual antigens, and are connected to a bacterial complex (such as PF_Ferritin or Lumazine Synthase (LS)) to form a fusion protein, so as to achieve antigen multimerization; and then expression is performed by using a eukaryotic cell expression system, and a tetracosamer nanoantigen or a hexacontamer nanoantigen can be formed by means of self-assembly. The solution can overcome the defect of insufficient immunogenicity of an RBD monomer. The obtained vaccine can significantly increase the level of a neutralizing antibody against a virus in a host, and the resulting antibody has the capability of strongly blocking a virus from invading a target cell. Furthermore, the vaccine of the present application has a simple preparation method, is easily purified, has high safety, and can be quickly applied to clinical trials.

10.2592769CpG-adjuvanted SARS-CoV-2 virus vaccine
GB - 08.09.2021
Clasificación Internacional A61K 39/215 Nº de solicitud 202104898 Solicitante VALNEVA AUSTRIA GMBH Inventor/a ANDREAS MEINKE
A SARS-CoV-2 vaccine comprising an inactivated SARS-CoV-2 particle, a CpG containing oligodeoxynucleotide (CpG-ODN), and an alum adjuvant. The alum adjuvant can be aluminium hydroxide. The vaccine can comprise the oligodeoxynucleotide and alum adjuvant at varying ratios e.g. 1:2. The alum adjuvant can be present at 0.1 to 2 mg/ml. The CpG content of the vaccine can be between 0.25 and 6 mg/ml. The amount of inactivated SARS-CoV-2 virus per dose can be between 0.01 and 25 mAU. The virus particle can be inactivated by beta-propiolactone. The inactivated particle can have amino acid residue modifications in the spike protein, membrane glycoprotein, or nucleocapsid protein. The SARS-CoV-2 vaccine can have a native non-inactivated SARS-CoV-2 particle comprising an RNA sequence which is able to pack a virulent SARS-CoV-2. The CpG-ODN can be CpG 1018. Further aspects of the invention are methods of producing the SARS-CoV-2 vaccine and pharmaceutical compositions comprising the SARS-CoV-2 vaccine for use in prevention or treatment of a SARS-CoV-2 infection e.g. COVID-19.

11.20210275661Vaccine
US - 09.09.2021
Clasificación Internacional A61K 39/12 Nº de solicitud 16494211 Solicitante VyVax, AB Inventor/a Kim Andrea Blom Nihlen
The invention provides a vaccine composition comprising a Yellow Fever Virus vaccine, for use in vaccinating an individual against infection by a Flavivirus; wherein the Flavivirus is not Yellow Fever Virus. The invention also provides a vaccine composition comprising a Yellow Fever Virus vaccine and one or more additional vaccine against a Flavivirus, for use in vaccinating an individual against infection by the Flavivirus; wherein the Flavivirus is not Yellow Fever Virus.

12.WO/2021/1788792019-NCOV SUBUNIT VACCINE AND MICRONEEDLE ARRAY DELIVERY SYSTEM
WO - 10.09.2021

Clasificación Internacional A61K 39/215 Nº de solicitud PCT/US2021/021192 Solicitante UNIVERSITY OF PITTSBURGH - OF THE COMMONWEALTH SYSTEM OF HIGHER EDUCATION Inventor/a GAMBOTTO, Andrea A.
A recombinant coronavirus vaccine is provided. Methods of making and delivering the coronavirus vaccine also are provided. A microneedle array is provided, along with methods of making and using the microneedle array.

13.3875112GENETISCH STABILER, LEBEND ABGESCHWÄCHTER IMPFSTOFF GEGEN DAS RESPIRATORISCHE SYNZYTIALVIRUS UND DESSEN HERSTELLUNG
EP - 08.09.2021
Clasificación Internacional A61K 39/155 Nº de solicitud 20217105 Solicitante US HEALTH Inventor/a COLLINS PETER L
Provided herein are recombinant respiratory syncytial viruses that contain mutations that make the disclosed viruses attractive vaccine candidates. The viruses disclosed contain attenuating mutations designed to have increased genetic and phenotypic stability. Desired combinations of these mutations can be made to achieve desired levels of attenation. Exemplary vaccine candidates are described. Also provided are polynucleotides capable of encoding the described viruses, as wells as methods for producing the viruses and methods of use.

14.WO/2021/169255ANTI-SARS-COV-2 INFECTION PROTEIN AND VACCINE
WO - 02.09.2021
Clasificación Internacional C07K 19/00 Nº de solicitud PCT/CN2020/116109 Solicitante WEST VAC BIOPHARMA CO., LTD. Inventor/a WEI, Xiawei
An anti-SARS-CoV-2 infection protein and vaccine. The protein contains a structural domain bound to an angiotensin converting enzyme 2 receptor in an S protein of SARS-CoV-2. A vaccine for preventing and/or treating the SARS-CoV-2 infection contains the anti-SARS-CoV-2 infection protein, and pharmaceutically acceptable auxiliary materials or auxiliary components.

15.201911043992MYCOBACTERIUM TUBERCULOSIS MIMIC FOR IMMUNIZATION AND ENHANCEMENT OF BCG VACCINE EFFICACY
IN - 03.09.2021
Clasificación Internacional A61K / Nº de solicitud 201911043992 Solicitante International Centre for Genetic Engineering and Biotechnology Inventor/a Ved Prakash Dwivedi
The present invention relates to liposomally bound novel peptide fragments complexed with one or more TLRl/2 and TLR9 ligands useful as vaccine against tuberculosis and for enhancing BCG vaccine efficacy upon concomitant use.

16.3870217MUTANTE VACCINIA-VIREN UND VERWENDUNG DAVON
EP - 01.09.2021
Clasificación Internacional A61K 39/275 Nº de solicitud 19877342 Solicitante ICELLKEALEX THERAPEUTICS LLC Inventor/a SONG XIAOTONG
The present invention discloses recombinant vaccinia virus (VV) virions that are resistant to antiviral defenses and have enhanced anti-tumor activities. In one embodiment, the recombinant VV comprise one or more variant VV proteins that have mutations at one or more neutralizing antibody epitopes, thereby conferring viral escape from the neutralizing antibodies. In another embodiment, the recombinant VV is resistant to complement-mediated neutralization due to the expression of a regulator of complement activation (e.g. CD55). In another embodiment, the recombinant VV has enhanced anti-tumor activities due to the expression of bi-specific antibodies co-targeting cancer cells and immune effector cells, or the expression of a polypeptide blocking the PD-1 pathway. The recombinant vaccinia virus virions can be used to treat cancer in a subject.

17.20210268079ANTI-VENOM VACCINE
US - 02.09.2021
Clasificación Internacional A61K 39/00 Nº de solicitud 16803953 Solicitante NATIONAL OFFICE FOR TECHNOLOGY ACQUISTIONS AND PROMOTIONS Inventor/a John C. Aguiyi
A vaccine comprising a protein immunogen capable of stimulating a protective immune response against snake venom as well as spider and bee venoms. The DNA encoding the protein is disclosed. The protein can be expressed in both recombinant host cells. The protein is useful as a thermostable, parenteral administration anti venom vaccine protective against envenomation by diverse snake species, spiders and bees.

18.WO/2021/177979BACTERIAL VECTOR VACCINE AGAINST PARASITIC WORMS AND METHOD OF VACCINATION
WO - 10.09.2021
Clasificación Internacional A61K 39/112 Nº de solicitud PCT/US2020/021588 Solicitante THE ROYAL INSTITUTION FOR THE ADVANCEMENT OF LEARNING/MCGILL UNIVERSITY Inventor/a WARD, Brian
A method of immunizing a human against infection by parasitic worms, comprising orally administering a live attenuated recombinant bacterium, expressing at least one antigen corresponding to a parasitic worm antigen; and a sterile injectable vaccine comprising the at least one antigen corresponding to a parasitic worm antigen. The method is effective against worms, including schistosomes.

19.3873518ZUSAMMENSETZUNGEN MIT BAKTERIENSTÄMMEN
EP - 08.09.2021
Clasificación Internacional A61K 39/39 Nº de solicitud 19805547 Solicitante 4D PHARMA RES LTD Inventor/a HENNESSY EMMA ELIZABETH CLARE
The invention provides compositions comprising bacterial strains for use as a vaccine adjuvant; for use in treating, preventing or delaying immunosenescence; or for use in enhancing a cell therapy, such as CAR-T. The invention also provides vaccine compositions comprising bacterial strains and one or more antigens.

20.20210268086PERSONALIZED CANCER VACCINE EPITOPE SELECTION
US - 02.09.2021
Clasificación Internacional A61K 39/00 Nº de solicitud 17255949 Solicitante ModernaTX, Inc. Inventor/a Shan Zhong

The disclosure relates to optimized cancer vaccines, as well as methods of making the vaccines, using the vaccines, and compositions comprising the vaccines. The cancer vaccines comprise personalized cancer antigens or portions of cancer hotspot antigens. Additionally, the disclosure relates to a computerized system for selecting nucleic acids to include in an optimized cancer vaccine.

21.20210268089PEPTIDES AND COMBINATION OF PEPTIDES FOR USE IN IMMUNOTHERAPY AGAINST HEPATOCELLULAR CARCINOMA (HCC) AND OTHER CANCERS
US - 02.09.2021
Clasificación Internacional A61K 39/00 Nº de solicitud 17245918 Solicitante IMMATICS BIOTECHNOLOGIES GMBH Inventor/a Toni WEINSCHENK
The present invention relates to peptides, proteins, nucleic acids and cells for use in immunotherapeutic methods. In particular, the present invention relates to the immunotherapy of cancer. The present invention furthermore relates to tumor-associated T-cell peptide epitopes, alone or in combination with other tumor-associated peptides that can for example serve as active pharmaceutical ingredients of vaccine compositions that stimulate anti-tumor immune responses, or to stimulate T cells ex vivo and

transfer into patients. Peptides bound to molecules of the major histocompatibility complex (MHC), or peptides as such, can also be targets of antibodies, soluble T-cell receptors, and other binding molecules. In particular, the present invention relates to several novel peptide sequences and their variants derived from HLA class I and class II molecules of human tumor cells that can be used in vaccine compositions for eliciting anti-tumor immune responses or as targets for the development of pharmaceutically/immunologically active compounds and cells.

22.WO/2021/176352CUSTOMMUNE: A WEB TOOL FOR DESIGNING PERSONALIZED AND POPULATION-TARGETED PEPTIDE VACCINES
WO - 10.09.2021
Clasificación Internacional A61K 39/21 Nº de solicitud PCT/IB2021/051732 Solicitante TAREK, Mohammad Inventor/a TAREK, Mohammad
Computational prediction of immunogenic epitopes is a promising platform for designing therapeutic and preventive vaccines. A potential target is, for example, the human immunodeficiency virus (HIV-1) for which, despite decades of efforts, no vaccine is available. Indeed, due to the enormous variability of the virus, a single formulation effective against all or most HIV strains might not be achievable. Moreover, upon infecting host cells, HIV-1 can integrate in the host genome and form long lasting latent reservoirs that are not susceptible to common antiretroviral treatments. Therefore, a therapeutic vaccine designed to eliminate infected cells might represent a key component of strategies aimed at curing the infection. We herein introduce an automated algorithm to produce personalized and population-based vaccines.

23.3873499KREBSSPEZIFISCHE IMMUNTHERAPEUTISCHE ZIELE, DIE DURCH CHEMOTHERAPEUTISCHE BEHANDLUNG ERZEUGT WERDEN
EP - 08.09.2021
Clasificación Internacional A61K 35/17 Nº de solicitud 19877790 Solicitante HEALTH RESEARCH INC Inventor/a IONOV YURIJ
Provided are methods for identifying antigens containing amino acid sequences for use in a cancer vaccine. The vaccines and methods of use for prophylaxis and/or therapy of cancer are included. The method involves: i) exposing cancer cells to a chemotherapeutic agent that damages DNA; ii) determining open reading frames encoded by mRNA transcribed from a gene in the cancer cells of i); iii) comparing the open reading frames of the mRNA of i) to open reading frames encoded by mRNA transcribed from the gene in the cancer cells that were not exposed to the chemotherapeutic agent, iv) determining a different open reading frame encoded by the mRNA of i) and an open reading frame of the mRNA of ii), wherein the different open reading frame encoded by the mRNA of i) encodes a contiguous amino acid sequence comprising the sequence of the antigen for use in the cancer vaccine.

24.WO/2021/178637IMMUNOGENIC AND VACCINE COMPOSITIONS AGAINST SARS-CoV-2
WO - 10.09.2021
Clasificación Internacional A61K 39/12 Nº de solicitud PCT/US2021/020826 Solicitante IOWA STATE UNIVERSITY RESEARCH FOUNDATION, INC. Inventor/a CHO, Michael Wan
Disclosed herein are immunogenic and/or vaccine compositions and methods for treating or preventing Severe acute respiratory syndrome (SARS). The compositions and methods include an immunogenic portion of the receptor-binding domain (RBD) of the SARS-CoV-2-2 (COVID-19) spike protein. In at least particular cases, a mutated version of a portion of the RBD is utilized, such as a deglycosylated, or amino acid substituted mutant of the spike protein.

25.WO/2021/178877PRODUCTION OF VACCINES COMPRISING INACTIVATED SARS-COV-2 VIRAL PARTICLES
WO - 10.09.2021

Clasificación Internacional A61K 39/12 Nº de solicitud PCT/US2021/021190 Solicitante THE COLORADO STATE UNIVERSITY RESEARCH FOUNDATION Inventor/a GOODRICH, Raymond P.
Provided herein are methods for inactivating a viral particle, the methods comprising contacting the viral particle with UV light in the presence of riboflavin. In some embodiments, the viral particle is a SARS-CoV-2 particle. Vaccine compositions comprising inactivated viral particles (e.g., inactivated SARS-CoV-2 particles) are also provided. In some embodiments, the vaccine compositions comprise an adjuvant capable of promoting a Th1-type immune response.

26.20210275665IMMUNOGENIC AND VACCINE COMPOSITIONS AGAINST SARS-CoV-2
US - 09.09.2021
Clasificación Internacional A61K 39/215 Nº de solicitud 17249546 Solicitante Iowa State University Research Foundation, Inc. Inventor/a MICHAEL WAN CHO

Disclosed herein are immunogenic and/or vaccine compositions and methods for treating or preventing Severe acute respiratory syndrome (SARS). The compositions and methods include an immunogenic portion of the receptor-binding domain (RBD) of the SARS-CoV-2-2 (COVID-19) spike protein. In at least particular cases, a mutated version of a portion of the RBD is utilized, such as a deglycosylated, or amino acid substituted mutant of the spike protein.

27.WO/2021/168875HELICOBACTER PYLORI FERRITIN-BASED NOVEL CORONAVIRUS S PROTEIN DOUBLE-REGION SUBUNIT NANOVACCINE
WO - 02.09.2021
Clasificación Internacional C07K 19/00 Nº de solicitud PCT/CN2020/077676 Solicitante SUN YAT-SEN UNIVERSITY Inventor/a ZHANG, Hui
Disclosed in the present invention is a Helicobacter pylori ferritin-based novel coronavirus S protein double-region subunit nanovaccine. According to the present invention, both a receptor binding domain (RBD) and a fusion peptide (FP) of a virus are taken as double antigens and are connected with a Helicobacter pylori polymeric protein (HP_Ferritin) to form a fusion protein RBD-FP-HP_Ferritin, so that antigen multimerization is realized; and an eukaryotic cell expression system is then utilized for expression, so as to form a 24-mer nano-antigen by means of the self-assembly action of the H_Ferritin. According to the solution, the defect that RBD monomers are insufficient in immunogenicity can be overcome; the obtained vaccine can remarkably improve the level of neutralizing antibodies of a host to viruses; and the generated antibodies have the capacity to strongly prevent the viruses from invading target cells. Moreover, the vaccine provided by the present invention is simple in preparation method, easy to purify and high in safety, and can be quickly applied to clinical trials.

28.WO/2021/178886CORONAVIRUS DISEASE (COVID-19) VACCINE
WO - 10.09.2021
Clasificación Internacional A61K 39/215 Nº de solicitud PCT/US2021/021200 Solicitante THOMAS JEFFERSON UNIVERSITY Inventor/a SCHNELL, Matthias J.
The present invention includes a vaccine comprising a SARS-CoV-2 spike protein (S) or portion thereof, and methods of use thereof.

29.WO/2021/175960FULLY SYNTHETIC, LONG-CHAIN NUCLEIC ACID FOR VACCINE PRODUCTION TO PROTECT AGAINST CORONAVIRUSES
WO - 10.09.2021
Clasificación Internacional A61K 39/12 Nº de solicitud PCT/EP2021/055401 Solicitante ROCKETVAX AG Inventor/a CHRISTEN, Matthias
This invention describes a fully synthetic, long-chain nucleic acid that can be used in biotechnological manufacturing processes to produce envelope proteins, virus envelopes and fragments of virus envelopes

of SARS-CoV-2 and related coronaviruses in highly purified form, which, as a vaccine protect against COVID-19 and other viral diseases

30.20210268084Cancer Vaccines and Methods of Treatment Using The Same
US - 02.09.2021
Clasificación Internacional A61K 39/00 Nº de solicitud 17226633 Solicitante Inovio Pharmaceuticals, Inc. Inventor/a Jian Yan
The invention provides a vaccine comprising a nucleic acid molecule that encodes a dog telomerase reverse transcriptase (dTERT) antigen, as well as methods of using the vaccine to induce an immune response against a TERT and to treat cancer in a mammal.

31.3875471REKOMBINANTES F-PROTEIN DES RESPIRATORISCHEN SYNZYTIALVIRUS UND IMPFSTOFFZUSAMMENSETZUNG DAMIT
EP - 08.09.2021
Clasificación Internacional C07K 14/005 Nº de solicitud 19877972 Solicitante SK BIOSCIENCE CO LTD Inventor/a KIM EUN-SOM
The present invention provides a respiratory syncytial virus (RSV) recombinant fusion protein (F protein) in which a polymerization domain derived from a foreign protein is bound to the C terminal of a fusion protein (F protein) lacking a transmembrane domain of a wild-type respiratory syncytial virus (RSV) fusion protein (F protein). The recombinant fusion protein of the present invention is soluble and can retain an F protein trimer. Excellent immune-inducing effects can be expected from the recombinant fusion protein of the present invention, and vaccine composition containing same.

32.20210268098METHODS AND COMPOSITIONS FOR ALPHAVIRUS VACCINE
US - 02.09.2021
Clasificación Internacional A61K 39/12 Nº de solicitud 17264377 Solicitante UAB Research Foundation Inventor/a Elena I. Frolova
The present invention provides an attenuated Old World alphavirus particle and methods of making same and using same as a vaccine and in gene therapy and immunotherapy methods.

33.3875110MODIFIZIERTES CMV-GB-PROTEIN UND CMV-IMPFSTOFF DAMIT
EP - 08.09.2021
Clasificación Internacional A61K 39/00 Nº de solicitud 19875424 Solicitante KM BIOLOGICS CO LTD Inventor/a TORIKAI MASAHARU
The present invention is directed to provide a modified CMV gB protein that can induce a group of antibodies including a high ratio of neutralizing antibodies that exhibit a high neutralizing activity against a CMV gB protein, in comparison with a wild type CMV gB, upon induction of immunity and that can be used in the prevention and/or treatment of CMV infection and a CMV vaccine comprising the modified CMV gB protein. The modified CMV gB protein according to the present invention is a modified CMV gB protein having an improved ability to induce body region-recognizing antibodies and comprising modification in a head region.

34.3873515H52-IBV-IMPFSTOFF MIT HETEROLOGEM SPIKE-PROTEIN
EP - 08.09.2021
Clasificación Internacional A61K 39/12 Nº de solicitud 19797221 Solicitante BOEHRINGER INGELHEIM VETMEDICA GMBH Inventor/a KRAEMER-KUEHL ANNIKA
The present invention relates i.a. to an H52 IBV (infectious bronchitis virus) encoding for a heterologous S (spike) protein or fragment thereof. Further, the present invention relates to an immunogenic composition comprising said H52 IBV encoding for a heterologous S (spike) protein or fragment thereof. Furthermore, the present invention relates to methods for immunizing a subject comprising administering to such subject the immunogenic composition of the present invention. Moreover, the present invention relates to

methods of treating or preventing clinical signs caused by IBV in a subject of need, the method comprising administering to the subject a therapeutically effective amount of an immunogenic composition according to the present invention.

35.20210275660MANNHEIMIA HAEMOLYTICA VECTOR AND MYCOPLASMA BOVIS VACCINE PRODUCT
US - 09.09.2021
Clasificación Internacional A61K 39/102 Nº de solicitud 17190182 Solicitante The United States of America, as represented by the Secretary of Agriculture Inventor/a ROBERT E BRIGGS
The present invention relates to modified *Mannheimia haemolytica* (*M. haemolytica*) lktCA gene cluster cassettes, compositions comprising such cassettes, methods of using such cassettes and compositions, and kits comprising such cassettes and compositions. Also described herein are *Mycoplasma bovis* (*M. bovis*) protective antigens, compositions comprising such antigens, methods of using such antigens and compositions, and kits comprising such antigens and compositions. Also described herein are modified *M. haemolytica* lktCA gene cluster cassettes engineered to express *M. bovis* protective antigens, compositions comprising such cassettes, methods of using such cassettes and compositions, and kits comprising such cassettes and compositions.

36.WO/2021/174142RECOMBINANT POXVIRUS BASED VACCINE AGAINST SARS-COV-2 VIRUS
WO - 02.09.2021
Clasificación Internacional A61K 39/215 Nº de solicitud PCT/US2021/020119 Solicitante TONIX PHARMACEUTICALS HOLDING CORP. Inventor/a GOEBEL, Scott, J.
The invention relates in various aspects to a recombinant poxvirus comprising a nucleic acid encoding a SARS-CoV-2 virus protein, methods for producing such viruses and the use of such viruses. The recombinant poxviruses are well suited, among others, as protective virus vaccines against SARS-CoV-2 virus.

37.WO/2021/168577GENE DELIVERY SYSTEM
WO - 02.09.2021
Clasificación Internacional A61K 47/62 Nº de solicitud PCT/CA2021/050236 Solicitante SYMVIVO CORPORATION Inventor/a GRAVES, Herbert Alexander
A system for delivering a payload nucleic acid into target cells of a subject and production of a payload (or payloads) encoded by the payload nucleic acid in the cells. The system includes a Bifidobacterium sp. bacterium comprising a plasmid and a transporter nucleic acid, the transporter nucleic acid configured for expression in the bacterium. The transporter nucleic acid encodes a transporter polypeptide comprising, in an amino-terminal to carboxy-terminal order, a bacterial secretion signal peptide, a DNA-binding domain to bind the plasmid, and a cell penetrating peptide. The transporter polypeptide complexes with the plasmid and transports the plasmid from the bacterium into the target cells. The plasmid encodes one or more payloads (protein and/or ribonucleic acid) for production in the target cells. The target cells may be colonic cells. When the payload(s) include an antigen, the system may be a DNA vaccine.

38.3870216IMPF- UND ANTIKÖRPERERZEUGUNGSPLATTFORM
EP - 01.09.2021
Clasificación Internacional A61K 39/00 Nº de solicitud 19795167 Solicitante DEUTSCHES KREBSFORSCHUNGSZENTRUM STIFTUNG DES OEFFENTLICHEN RECHTS Inventor/a PAPAVASILIOU NINA
The invention is based on a platform for vaccination and/or antibody generation. The invention is based on the display of small molecular immunogenic compounds on the coat of variant surface glycoproteins (VSG) on trypanosomes which results in a highly effective immune response when used as a vaccine or in immunization for antibody production. The herein disclosed antigenic particles are applicable for

producing antibodies or can be directly used as vaccines for the treatment of various medical conditions. Most preferably the invention relates to the VSG based vaccines specific for dependency causing substances for the treatment of addiction or avoidance of adverse events during drug abuse. Other applications include methods and uses involving the disclosed compounds and compositions for a treatment or prevention of cancer, infectious disease, contagious neurodegenerative diseases, non-communicable disorders (e.g. certain neurodegenerative diseases, allergies) and any condition or industrial use for which an immune response from vaccination or antibody use would be desirable.

39.20210275648SOUTHERN CATTLE TICK VACCINE PRODUCT
US - 09.09.2021
Clasificación Internacional A61K 39/00 Nº de solicitud 17190235 Solicitante The United States of America, as represented by the Secretary of Agriculture Inventor/a ADALBERTO A PEREZ DE LEON
This invention relates to novel fusion peptides and immunogenic compositions containing the fusion peptides useful in the control and prevention of tick infestations. The invention also relates to compositions comprising said fusion peptides, methods of vaccination against tick infestation using said fusion peptides and compositions, and kits for use with such compositions and methods.

40.WO/2021/173907HIGH DOSE INFLUENZA VACCINE FOR PEDIATRIC SUBJECTS
WO - 02.09.2021
Clasificación Internacional A61K 39/12 Nº de solicitud PCT/US2021/019781 Solicitante SANOFI PASTEUR, INC. Inventor/a CHANG, Lee-Jah
Disclosed herein are immunogenic compositions and vaccination regimes for immunizing humans against influenza disease.

41.WO/2021/176434CPG-ADJUVANTED SARS-COV-2 VIRUS VACCINE
WO - 10.09.2021
Clasificación Internacional A61K 39/12 Nº de solicitud PCT/IB2021/052858 Solicitante VALNEVA AUSTRIA GMBH Inventor/a MEINKE, Andreas
Described herein are CpG-adjuvanted SARS-CoV-2 vaccines and compositions and methods of producing and administering said vaccines to subjects in need thereof.

42.WO/2021/178549SOUTHERN CATTLE TICK VACCINE PRODUCT
WO - 10.09.2021
Clasificación Internacional C12N 15/62 Nº de solicitud PCT/US2021/020683 Solicitante THE UNITED STATES OF AMERICA, as represented by THE SECRETARY OF AGRICULTURE Inventor/a PEREZ DE LEON, Adalberto A.
This invention relates to novel fusion peptides and immunogenic compositions containing the fusion peptides useful in the control and prevention of tick infestations. The invention also relates to compositions comprising said fusion peptides, methods of vaccination against tick infestation using said fusion peptides and compositions, and kits for use with such compositions and methods.

43.3870161GUANABENZ ALS ADJUVANS FÜR DIE IMMUNTHERAPIE
EP - 01.09.2021
Clasificación Internacional A61K 31/155 Nº de solicitud 19801220 Solicitante UNIV LOUVAIN Inventor/a VAN DEN EYNDE BENOÎT
The present invention relates to guanabenz for use with an immunotherapy in the treatment of a cancer or of an infectious disease. In particular, guanabenz is used as an adjuvant for an immunotherapy, such as a cancer immunotherapy or a vaccination. The present invention relates more specifically to guanabenz for use with an adoptive cell therapy, with a therapeutic vaccine, with a checkpoint inhibitor therapy or with a T-cell agonist therapy in the treatment of a cancer. The present invention also relates to guanabenz for use with a vaccination in the prophylactic and/or therapeutic treatment of an infectious disease.

44.201911013062"MUTANT HEV PORF2 BASED ANTIGENS AND USES THEREOF"
IN - 03.09.2021
Clasificación Internacional A61K / Nº de solicitud 201911013062 Solicitante Translational Health Science and Technology Institute Inventor/a Milan Surjit
Mutant HEV pORF2 based antigens and uses thereofThe present invention provides an engineered mutant 112-608 ORF2 protein/peptide to produce soluble VLP in E.coli expression system. 112–608aa ORF2 of HEV accumulates as insoluble form, in the inclusion bodies of E.coli. The 20 point mutations in different positions of 112–608aa ORF2 of genotype-1 HEV introduced and which made the expression of ORF2 protein in soluble form. The purified the mutant protein from soluble fraction by affinity chromatography is used as VLPs and these VLPs were found more immunogenic as compared to existing HEV239 vaccine. The mutant peptide introduced in E. coli for the development of next-generation prophylactic vaccines against hepatitis E and used as a drug delivery agent for variety of drugs.

45.3873535FERRITINNANOPARTIKEL MIT EINEM CHEMOTHERAPEUTISCHEN MITTEL
EP - 08.09.2021
Clasificación Internacional A61K 47/69 Nº de solicitud 19808536 Solicitante INTHENA S R L Inventor/a MAZZUCCHELLI SERENA
The present invention concerns the field of cancer therapy, and in particular to the use of nanoparticles for the preservation of T cells. In particular, the present invention relates to the use of nanoparticles for the treatment of recurrent cancer and for use as a cancer vaccine.

46.WO/2021/178522MANNHEIMIA HAEMOLYTICA VECTOR AND MYCOPLASMA BOVIS VACCINE PRODUCT
WO - 10.09.2021
Clasificación Internacional C12N 15/62 Nº de solicitud PCT/US2021/020650 Solicitante THE UNITED STATES OF AMERICA, AS REPRESENTED BY THE SECRETARY OF AGRICULTURE Inventor/a BRIGGS, Robert, E.
The present invention relates to modified Mannheimia haemolytica (M. haemolytica) lktCA gene cluster cassettes, compositions comprising such cassettes, methods of using such cassettes and compositions, and kits comprising such cassettes and compositions. Also described herein are Mycoplasma bovis (M. bovis) protective antigens, compositions comprising such antigens, methods of using such antigens and compositions, and kits comprising such antigens and compositions. Also described herein are modified M. haemolytica lktCA gene cluster cassettes engineered to express M. bovis protective antigens, compositions comprising such cassettes, methods of using such cassettes and compositions, and kits comprising such cassettes and compositions.

47.20210277038IMIDAZOQUINOLINE DERIVATIVES AND THEIR USE IN THERAPY
US - 09.09.2021
Clasificación Internacional C07F 9/6561 Nº de solicitud 16330599 Solicitante GLAXOSMITHKLINE BIOLOGICALS, S.A. Inventor/a Helene G. BAZIN-LEE
This invention relates inter alia to novel imidazoquinoline derivatives and their use in therapy, particularly as vaccine adjuvants.

48.WO/2021/176235VACCINE AGAINST AFRICAN SWINE FEVER VIRUS INFECTION
WO - 10.09.2021
Clasificación Internacional A61K 39/12 Nº de solicitud PCT/GB2021/050561 Solicitante THE PIRBRIGHT INSTITUTE Inventor/a DIXON, Linda
The present invention relates to attenuated African Swine Fever Viruses. The attenuated viruses protect pigs against subsequent challenge with virulent virus. The present invention also relates to the use of such attenuated viruses to treat and/or prevent African Swine Fever.

49.2021902566Vaccine compositions
AU - 02.09.2021
Clasificación Internacional Nº de solicitud 2021902566 Solicitante Monash University Inventor/a

50.3875470CHIMÄRES ANTIGEN MIT ERHÖHTER MEHRFACHIMMUNFUNKTION DURCH SPEZIFISCHE BINDUNG AN EINE ZIELZELLE UND DESSEN VERWENDUNG
EP - 08.09.2021
Clasificación Internacional C07K 14/005 Nº de solicitud 19869281 Solicitante RNAGENE INC Inventor/a LEE WOO GHIL
The present invention relates to a chimeric antigen, which binds specifically to target cells and enhances multiple immune functions, and the use thereof. Specifically, the present invention relates to: a chimeric antigen for inducing multiple immune functions wherein an immune response-inducing domain and a domain for inducing target cell-specific binding are fused to each other; a pharmaceutical composition for preventing or treating cancer, containing, as an active ingredient, the chimeric antigen for enhancing multiple immune functions; a pharmaceutical composition for preventing or treating infectious disease; a composition for enhancing immunity; and a vaccine composition.

51.WO/2021/169673PD-1-BASED VACCINES AGAINST CORONAVIRUS INFECTION
WO - 02.09.2021
Clasificación Internacional C07K 14/435 Nº de solicitud PCT/CN2021/072657 Solicitante VERSITECH LIMITED Inventor/a CHEN, Zhiwei
Disclosed soluble PD-1 (sPD-1) proteins and nucleic acids, and therapeutic compositions comprising sPD-1 proteins and nucleic acids, for enhancing immunity of a subject against coronavirus infection. Disclosed are soluble PD-1 fusion proteins that include a soluble PD-1 protein fragment and an antigenic protein fragment, preferably where the antigenic protein fragment comprises a coronavirus protein fragment. In some forms, the coronavirus protein fragment is derived from a coronavirus receptor binding domain (RBD) or a coronavirus nucleoprotein (N). In some forms, the sPD-1 proteins, nucleic acids, and compositions are formulated as a vaccine composition. Also disclosed are methods for treating a subject at risk of or suffering a coronavirus infection.

52.20210268092SUBUNIT VACCINE DELIVERY PLATFORM FOR ROBUST HUMORAL AND CELLULAR IMMUNE RESPONSES
US - 02.09.2021
Clasificación Internacional A61K 39/015 Nº de solicitud 17139280 Solicitante Cornell University Inventor/a David A. Putnam
The present invention relates to a probiotic cell transformed with a construct suitable to overexpress and display on the surface of the probiotic cell a fusion protein comprising at least a portion of a transport protein coupled to at least a portion of one or more antigenic proteins or peptides. Probiotic-derived vesicles displaying this fusion protein as well as methods of inducing an immune response using the probiotic cells or vesicles are also disclosed.

53.3873498VERFAHREN UND ZUSAMMENSETZUNGEN ZUR BEHANDLUNG VON HEPATOZELLULÄREM KARZINOM MITTELS ANTISENSE
EP - 08.09.2021
Clasificación Internacional A61K 35/13 Nº de solicitud 19879363 Solicitante UNIV JEFFERSON Inventor/a HOOPER DOUGLAS CRAIG
The present disclosure relates to compositions and methods for treating liver cancers, especially hepatocellular carcinoma, using antisense (AS) nucleic acids directed against Insulin- like Growth Factor 1 Receptor (1GF-1R). The AS may be administered to the patients systemically, or may be used to produce an autologous cancer cell vaccine. In embodiments, the AS are provided in an implantable

irradiated biodiffusion chamber comprising tumor cells and an effective amount of the AS. The chambers are irradiated and implanted in the abdomen of subjects and stimulate an immune response that attacks tumors distally. The compositions and methods disclosed herein may be used to treat many different kinds of liver cancer.

54.3875467PEPTIDE UND KOMBINATION AUS PEPTIDEN ZUR VERWENDUNG IN DER IMMUNTHERAPIE GEGEN MAMMAKARZINOM UND ANDERE KARZINOME
EP - 08.09.2021
Clasificación Internacional C07K 7/06 Nº de solicitud 21162594 Solicitante IMMATICS BIOTECHNOLOGIES GMBH Inventor/a MAHR ANDREA
The present invention relates to peptides, proteins, nucleic acids and cells for use in immunotherapeutic methods. In particular, the present invention relates to the immunotherapy of cancer. The present invention furthermore relates to tumor-associated T-cell peptide epitopes, alone or in combination with other tumor-associated peptides that can for example serve as active pharmaceutical ingredients of vaccine compositions that stimulate anti-tumor immune responses, or to stimulate T cells ex vivo and transfer into patients. Peptides bound to molecules of the major histocompatibility complex (MHC), or peptides as such, can also be targets of antibodies, soluble T-cell receptors, and other binding molecules.

55.20210275652PEPTIDES AND COMBINATION OF PEPTIDES AND SCAFFOLDS FOR USE IN IMMUNOTHERAPY AGAINST RENAL CELL CARCINOMA (RCC) AND OTHER CANCERS
US - 09.09.2021
Clasificación Internacional A61K 39/00 Nº de solicitud 17314492 Solicitante Immatics Biotechnologies GmbH Inventor/a Andrea MAHR
The present invention relates to peptides, proteins, nucleic acids and cells for use in immunotherapeutic methods. In particular, the present invention relates to the immunotherapy of cancer. The present invention furthermore relates to tumor-associated T-cell peptide epitopes, alone or in combination with other tumor-associated peptides that can for example serve as active pharmaceutical ingredients of vaccine compositions that stimulate anti-tumor immune responses, or to stimulate T cells ex vivo and transfer into patients. Peptides bound to molecules of the major histocompatibility complex (MHC), or peptides as such, can also be targets of antibodies, soluble T-cell receptors, and other binding molecules.

56.WO/2021/178442NOVEL PEPTIDES FOR VACCINATION AND TREATMENT OF 2019-NCOV INFECTIONS
WO - 10.09.2021
Clasificación Internacional C07K 14/005 Nº de solicitud PCT/US2021/020526 Solicitante CEL-SCI CORPORATION Inventor/a ZIMMERMAN, Daniel, H.
The invention relates to novel peptide immunoconjugates for treatment, prevention, and diagnosis of coronaviral infections in animals and humans. The immunoconjugates can be used alone or in conjunction with vaccine adjuvants, immune system cells, or other immunomodulators.

57.20210268101NOVEL PEPTIDES FOR VACCINATION AND TREATMENT OF 2019-nCoV INFECTIONS
US - 02.09.2021
Clasificación Internacional A61K 39/215 Nº de solicitud 17148266 Solicitante Cel-Sci Corporation Inventor/a Daniel H. Zimmerman
The invention relates to novel peptide immunoconjugates for treatment, prevention, and diagnosis of coronaviral infections in animals and humans. The immunoconjugates can be used alone or in conjunction with vaccine adjuvants, immune system cells, or other immunomodulators.

58.3873526MONOKLONALE ANTIKÖRPER GEGEN TOLLWUT UND COCKTAIL DARAUS
EP - 08.09.2021

Clasificación Internacional A61K 39/42 Nº de solicitud 19809146 Solicitante CADILA HEALTHCARE LTD Inventor/a MENDIRATTA SANJEEV KUMAR
The disclosure provides a murine monoclonal antibody capable of binding and neutralizing rabies or rabies related viruses. It also provides a cocktail of at least two monoclonal antibodies with said properties. The cocktail can neutralize the virus that is derived from species such as bats, dogs, cows, mongooses, skunks, and wolves, and thus can be useful in treating a patient that has potentially been infected. Further, the disclosure provides a combination of muring monoclonal antibody or cocktail of at least two monoclonal antibodies and anti-rabies vaccine for use in post-exposure prophylaxis (PEP) with rabies or rabies-related viruses.

59.2021218112VACCINE CANDIDATES FOR HUMAN RESPIRATORY SYNCYTIAL VIRUS (RSV) HAVING ATTENUATED PHENOTYPES
AU - 02.09.2021
Clasificación Internacional Nº de solicitud 2021218112 Solicitante Codagenix, Inc. Inventor/a

60.20210277086NOVEL PEPTIDES AND COMBINATION OF PEPTIDES FOR USE IN IMMUNOTHERAPY AGAINST ESOPHAGEAL CANCER AND OTHER CANCERS
US - 09.09.2021
Clasificación Internacional C07K 14/74 Nº de solicitud 17314650 Solicitante Immatics Biotechnologies GmbH Inventor/a Andrea MAHR
The present invention relates to peptides, proteins, nucleic acids and cells for use in immunotherapeutic methods. In particular, the present invention relates to the immunotherapy of cancer. The present invention furthermore relates to tumor-associated T-cell peptide epitopes, alone or in combination with other tumor-associated peptides that can for example serve as active pharmaceutical ingredients of vaccine compositions that stimulate anti-tumor immune responses, or to stimulate T cells ex vivo and transfer into patients. Peptides bound to molecules of the major histocompatibility complex (MHC), or peptides as such, can also be targets of antibodies, soluble T-cell receptors, and other binding molecules.

61.20210277087NOVEL PEPTIDES AND COMBINATION OF PEPTIDES FOR USE IN IMMUNOTHERAPY AGAINST ESOPHAGEAL CANCER AND OTHER CANCERS
US - 09.09.2021
Clasificación Internacional C07K 14/74 Nº de solicitud 17314668 Solicitante Immatics Biotechnologies GmbH Inventor/a Andrea MAHR
The present invention relates to peptides, proteins, nucleic acids and cells for use in immunotherapeutic methods. In particular, the present invention relates to the immunotherapy of cancer. The present invention furthermore relates to tumor-associated T-cell peptide epitopes, alone or in combination with other tumor-associated peptides that can for example serve as active pharmaceutical ingredients of vaccine compositions that stimulate anti-tumor immune responses, or to stimulate T cells ex vivo and transfer into patients. Peptides bound to molecules of the major histocompatibility complex (MHC), or peptides as such, can also be targets of antibodies, soluble T-cell receptors, and other binding molecules.

62.20210277088NOVEL PEPTIDES AND COMBINATION OF PEPTIDES FOR USE IN IMMUNOTHERAPY AGAINST ESOPHAGEAL CANCER AND OTHER CANCERS
US - 09.09.2021
Clasificación Internacional C07K 14/74 Nº de solicitud 17314688 Solicitante Immatics Biotechnologies GmbH Inventor/a Andrea MAHR
The present invention relates to peptides, proteins, nucleic acids and cells for use in immunotherapeutic methods. In particular, the present invention relates to the immunotherapy of cancer. The present invention furthermore relates to tumor-associated T-cell peptide epitopes, alone or in combination with other tumor-associated peptides that can for example serve as active pharmaceutical ingredients of

vaccine compositions that stimulate anti-tumor immune responses, or to stimulate T cells ex vivo and transfer into patients. Peptides bound to molecules of the major histocompatibility complex (MHC), or peptides as such, can also be targets of antibodies, soluble T-cell receptors, and other binding molecules.

63.3873517RSV-VIRUSÄHNLICHE PARTIKEL UND VERFAHREN ZUR HERSTELLUNG DAVON
EP - 08.09.2021
Clasificación Internacional A61K 39/12 Nº de solicitud 19878493 Solicitante UNIV EMORY Inventor/a HA BINH
The present disclosure relates to virus-like particles and vaccine compositions for inducing immunity and preventing respiratory syncytial virus (RSV) infection. Specifically, the disclosure provides virus like-particles (VLPs) for use in inducing immunity to respiratory syncyhial virus (RSV) infections or symptoms thereof, wherein the VLP comprising a respiratory RSV matrix protein (M) and an RSV M2-1 protein, a glycoprotein (G), a fusion protein (F), and/or a phosphoprotein (P).

64.WO/2021/176236VACCINE AGAINST AFRICAN SWINE FEVER VIRUS INFECTION
WO - 10.09.2021
Clasificación Internacional A61K 39/12 Nº de solicitud PCT/GB2021/050562 Solicitante THE PIRBRIGHT INSTITUTE Inventor/a DIXON, Linda
The present invention relates to attenuated African Swine Fever viruses. The attenuated viruses protect pigs against subsequent challenge with virulent virus. The present invention also relates to the use of such attenuated viruses to treat and/or prevent African Swine Fever. The invention also relates to EP402R proteins of African Swine Fever virus comprising particular amino acid substitutions, as well as polynucleotides encoding such proteins and African Swine Fever viruses comprising such proteins.

65.38735164/91-IBV-IMPFSTOFF MIT HETEROLOGEM SPIKE-PROTEIN
EP - 08.09.2021
Clasificación Internacional A61K 39/12 Nº de solicitud 19797627 Solicitante BOEHRINGER INGELHEIM VETMEDICA GMBH Inventor/a KRAEMER-KUEHL ANNIKA
The present invention relates i.a. to a 4/91 IBV (infectious bronchitis virus) encoding for a heterologous S (spike) protein or fragment thereof. Further, the present invention relates to an immunogenic composition comprising said 4/91 IBV encoding for a heterologous S (spike) protein or fragment thereof. Furthermore, the present invention relates to methods for immunizing a subject comprising administering to such subject the immunogenic composition of the present invention. Moreover, the present invention relates to methods of treating or preventing clinical signs caused by IBV in a subject of need, the method comprising administering to the subject a therapeutically effective amount of an immunogenic composition according to the present invention.

66.3873497VERFAHREN UND ZUSAMMENSETZUNGEN ZUR BEHANDLUNG VON BRUSTKREBS MIT ANTISENSE
EP - 08.09.2021
Clasificación Internacional A61K 35/13 Nº de solicitud 19878509 Solicitante UNIV JEFFERSON Inventor/a HOOPER DOUGLAS CRAIG
The present disclosure relates to compositions and methods for treating breast cancer using antisense (AS) nucleic acids directed against Insulin-like Growth Factor 1 Receptor (IGF-1R). The AS may be administered to the patients systemically, or may be used to produce an autologous cancer cell vaccine. In embodiments, the AS are provided in an implantable irradiated biodiffusion chamber comprising tumor cells and an effective amount of the AS. The chambers are irradiated and implanted in the abdomen of subjects and stimulate an immune response that attacks tumors distally. The compositions and methods disclosed herein may be used to treat many different kinds of breast cancer, including metastatic breast cancer.

67.20210268093MALARIA VACCINE AND METHODS FOR PRODUCING SAME
US - 02.09.2021
Clasificación Internacional A61K 39/015 Nº de solicitud 17174797 Solicitante The Walter and Eliza Hall Institute of Medical Research Inventor/a Alan Cowman
The present description relates to malaria vaccines comprising *Plasmodium falciparum* (Pf) polypeptide complexes and methods of producing the same. The Pf polypeptides in complexes or in a partially complexed arrangement may comprise two or more of the following polypeptides: PfRipr, PfCyrPa and PfRh5. *Drosophila* cells and expression vectors are also described.

68.20210277361METHOD FOR EVALUATING ANTI-INFECTIVE DRUGS, VACCINES, ETC. USING IMMORTALIZED MONOCYTIC CELLS AND INDUCED CELLS
US - 09.09.2021
Clasificación Internacional C12N 5/10 Nº de solicitud 17271902 Solicitante MICAN TECHNOLOGIES INC. Inventor/a Kazuo MIYAZAKI
The present invention has been made in view of a problem regarding stability, reproducibility, economy, and easiness of operation in studies for a monocyte- or dendritic cell-mediated infectious microorganism, and is directed to provide a method for maintenance culturing a monocyte- or dendritic cell-mediated infectious microorganism utilizing a monocyte having a proliferative capacity. The present invention is based on the finding that a dengue virus efficiently infects a proliferable human monocytic cell obtained by introducing a gene into a CD14-positive cell and a cell having a phagocytic capacity obtained by inducing the monocytic cell to differentiate (e.g., dendritic cell) and proliferates therein. Thus, provided is a novel method for evaluating a pharmaceutical such as a compound or a vaccine for treating an infection with a monocyte- or dendritic cell-mediated infectious microorganism.

69.WO/2021/178281ZIKA VIRUS POLYPEPTIDES
WO - 10.09.2021
Clasificación Internacional C07K 14/18 Nº de solicitud PCT/US2021/020217 Solicitante MAYO FOUNDATION FOR MEDICAL EDUCATION AND RESEARCH Inventor/a POLAND, Gregory A.
This document provides methods and materials related to selected Zika virus polypeptides. For example, vaccine compositions that contain one or more selected Zika virus polypeptides provided herein and that have the ability to increase immune responses against flaviviruses such as Zika viruses within a mammal (e.g., a human) are provided.

70.3870222ANTI-HIV-ANTIKÖRPER
EP - 01.09.2021
Clasificación Internacional A61K 39/395 Nº de solicitud 19875194 Solicitante INT AIDS VACCINE INITIATIVE Inventor/a LANDAIS ELISE
The present disclosure relates to anti-HIV Env antibodies and their use in the treatment or prevention of HIV/AIDS.

71.20210277080B*44 RESTRICTED PEPTIDES FOR USE IN IMMUNOTHERAPY AGAINST CANCERS AND RELATED METHODS
US - 09.09.2021
Clasificación Internacional C07K 14/47 Nº de solicitud 17314397 Solicitante Immatics Biotechnologies GmbH Inventor/a Colette SONG
The present invention relates to peptides, proteins, nucleic acids and cells for use in immunotherapeutic methods. In particular, the present invention relates to the immunotherapy of cancer. The present invention furthermore relates to tumor-associated T-cell peptide epitopes, alone or in combination with other tumor-associated peptides that can for example serve as active pharmaceutical ingredients of vaccine compositions that stimulate anti-tumor immune responses, or to stimulate T cells ex vivo and

transfer into patients. Peptides bound to molecules of the major histocompatibility complex (MHC), or peptides as such, can also be targets of antibodies, soluble T-cell receptors, and other binding molecules

72.20210275653PEPTIDES AND COMBINATION OF PEPTIDES FOR USE IN IMMUNOTHERAPY AGAINST PROSTATE CANCER AND OTHER CANCERS
US - 09.09.2021
Clasificación Internacional A61K 39/00 Nº de solicitud 17320878 Solicitante Immatics Biotechnologies GmbH Inventor/a Andrea MAHR
The present invention relates to peptides, proteins, nucleic acids and cells for use in immunotherapeutic methods. In particular, the present invention relates to the immunotherapy of cancer. The present invention furthermore relates to tumor-associated T-cell peptide epitopes, alone or in combination with other tumor-associated peptides that can for example serve as active pharmaceutical ingredients of vaccine compositions that stimulate anti-tumor immune responses, or to stimulate T cells ex vivo and transfer into patients. Peptides bound to molecules of the major histocompatibility complex (MHC), or peptides as such, can also be targets of antibodies, soluble T-cell receptors, and other binding molecules.

73.20210275654NOVEL PEPTIDES AND COMBINATION OF PEPTIDES FOR USE IN IMMUNOTHERAPY AGAINST PROSTATE CANCER AND OTHER CANCERS
US - 09.09.2021
Clasificación Internacional A61K 39/00 Nº de solicitud 17320929 Solicitante Immatics Biotechnologies GmbH Inventor/a Andrea MAHR
The present invention relates to peptides, proteins, nucleic acids and cells for use in immunotherapeutic methods. In particular, the present invention relates to the immunotherapy of cancer. The present invention furthermore relates to tumor associated T-cell peptide epitopes, alone or in combination with other tumor associated peptides that can for example serve as active pharmaceutical ingredients of vaccine compositions that stimulate anti-tumor immune responses, or to stimulate T cells ex vivo and transfer into patients. Peptides bound to molecules of the major histocompatibility complex (MHC), or peptides as such, can also be targets of antibodies, soluble T-cell receptors, and other binding molecules.

74.WO/2021/173597DENGUE SEROTYPE SPECIFIC RT-PCR MULTIPLEX ASSAY
WO - 02.09.2021
Clasificación Internacional C12Q 1/70 Nº de solicitud PCT/US2021/019306 Solicitante MERCK SHARP & DOHME CORP. Inventor/a ARNOLD, Beth, A.
The present invention provides an RT-PCR multiplex assay to detect, differentiate and quantify dengue vaccine and wild type dengue viremia by serotype. The invention further provides methods, kits, primers and probes.

75.WO/2021/176234VACCINE AGAINST AFRICAN SWINE FEVER VIRUS INFECTION
WO - 10.09.2021
Clasificación Internacional A61K 39/12 Nº de solicitud PCT/GB2021/050560 Solicitante THE PIRBRIGHT INSTITUTE Inventor/a DIXON, Linda
The present invention relates to attenuated African Swine Fever viruses. The attenuated viruses protect pigs against subsequent challenge with virulent virus. The present invention also relates to the use of such attenuated viruses to treat and/or prevent African Swine Fever.

76.WO/2021/178844ZIKA AND FLAVIVIRUS IMMUNOGENIC COMPOSITIONS AND THEIR USE
WO - 10.09.2021
Clasificación Internacional C07K 14/005 Nº de solicitud PCT/US2021/021149 Solicitante ALTIMMUNE, INC Inventor/a ROBERTS, M., Scot

This disclosure relates to anti-flavivirus vaccine vectors, including anti-zika virus (ZIKV) vectors, immunogenic compositions and formulations, and methods of using the same to treat and/or prevent flavivirus infection, including ZIKV infection.

77.20210270599QUALITY CONTROL OF SUBSTRATE COATINGS
US - 02.09.2021
Clasificación Internacional G01B 11/06 Nº de solicitud 17323671 Solicitante Vaxxas Pty Limited Inventor/a Michael Carl JUNGER
The present invention relates to devices and methods for detecting the amount (degree, extent) of material coating a medical device or substrate, in particular the present invention relates to devices and methods for detecting the amount of vaccine material coating a microarray patch.

78.20210275681EXPEC GLYCOCONJUGATE VACCINE FORMULATIONS
US - 09.09.2021
Clasificación Internacional A61K 47/64 Nº de solicitud 17318616 Solicitante Janssen Pharmaceuticals, Inc. Inventor/a Olga LABOVITIADI
Compositions and methods for inducing an immune response against extra-intestinal pathogenic *Escherichia coli* (ExPEC) are described. In particular, multivalent vaccines containing O-antigen polysaccharide covalently bound to an exotoxin A of *Pseudomonas aeruginosa* (EPA) carrier protein that can withstand multiple environmental stresses are describe.

79.20210268087MAJOR HISTOCOMPATIBILITY COMPLEX CLASS II-EXPRESSING CANCER CELL VACCINE AND METHODS OF USE FOR PRODUCING INTEGRATED IMMUNE RESPONSES
US - 02.09.2021
Clasificación Internacional A61K 39/00 Nº de solicitud 17262163 Solicitante Health Research, Inc. Inventor/a Kunle ODUNSI
Provided are modified cancer cells that are modified to co-express class II trans-activator (CIITA), and an immuno-stimulatory molecule. The immuno-stimulatory molecule is OX-40-ligand or 4-1BB-Ligand. Methods of making the cells are provided by introducing polynucleotides encoding the CIITA and the immune-stimulatory molecule into cancer cells. Methods of stimulating humoral and cell-mediated immune responses by administering the modified cancer cells, or polynucleotides encoding the CIITA and immune-stimulatory molecules are also provided. These approaches can be used to stimulate an immune response against any of a wide variety of cancer antigens.

80.20210275656NOVEL PEPTIDES AND COMBINATION OF PEPTIDES FOR USE IN IMMUNOTHERAPY AGAINST VARIOUS CANCERS
US - 09.09.2021
Clasificación Internacional A61K 39/00 Nº de solicitud 17327458 Solicitante Immatics Biotechnologies GmbH Inventor/a Andrea MAHR
The present invention relates to peptides, proteins, nucleic acids and cells for use in immunotherapeutic methods. In particular, the present invention relates to the immunotherapy of cancer. The present invention furthermore relates to tumor-associated T-cell peptide epitopes, alone or in combination with other tumor-associated peptides that can for example serve as active pharmaceutical ingredients of vaccine compositions that stimulate anti-tumor immune responses, or to stimulate T cells ex vivo and transfer into patients. Peptides bound to molecules of the major histocompatibility complex (MHC), or peptides as such, can also be targets of antibodies, soluble T-cell receptors, and other binding molecules.

81.20210275655NOVEL PEPTIDES AND COMBINATION OF PEPTIDES FOR USE IN IMMUNOTHERAPY AGAINST LUNG CANCER, INCLUDING NSCLC AND OTHER CANCERS
US - 09.09.2021

Clasificación Internacional A61K 39/00 Nº de solicitud 17327193 Solicitante Immatics Biotechnologies GmbH Inventor/a Andrea MAHR
The present invention relates to peptides, proteins, nucleic acids and cells for use in immunotherapeutic methods. In particular, the present invention relates to the immunotherapy of cancer. The present invention furthermore relates to tumor-associated T-cell peptide epitopes, alone or in combination with other tumor-associated peptides that can for example serve as active pharmaceutical ingredients of vaccine compositions that stimulate anti-tumor immune responses, or to stimulate T cells ex vivo and transfer into patients. Peptides bound to molecules of the major histocompatibility complex (MHC), or peptides as such, can also be targets of antibodies, soluble T-cell receptors, and other binding molecules.

82.20210277081NOVEL PEPTIDES AND COMBINATION OF PEPTIDES FOR USE IN IMMUNOTHERAPY AGAINST OVARIAN CANCER AND OTHER CANCERS
US - 09.09.2021
Clasificación Internacional C07K 14/47 Nº de solicitud 17314629 Solicitante IMMATICS BIOTECHNOLOGIES GMBH Inventor/a Andrea MAHR
The present invention relates to peptides, proteins, nucleic acids and cells for use in immunotherapeutic methods. In particular, the present invention relates to the immunotherapy of cancer. The present invention furthermore relates to tumor-associated T-cell peptide epitopes, alone or in combination with other tumor-associated peptides that can for example serve as active pharmaceutical ingredients of vaccine compositions that stimulate anti-tumor immune responses, or to stimulate T cells ex vivo and transfer into patients. Peptides bound to molecules of the major histocompatibility complex (MHC), or peptides as such, can also be targets of antibodies, soluble T-cell receptors, and other binding molecules.

83.20210275658EDIBLE VACCINATION AGAINST MICROBIAL PATHOGENS
US - 09.09.2021
Clasificación Internacional A61K 39/02 Nº de solicitud 17208797 Solicitante Dalan Animal Health, Inc. Inventor/a Heli SALMELA
The present invention relates to animals and more specifically to insects. In more details the invention relates to an edible composition or insect artificial diet comprising bacteria, fungi or any fragment or spore thereof for use as a vaccine in pre venting a microbial disease or infection in an insect. Still, the present invention relates to preventive methods and different uses relating to said compositions or bacteria, fungi or fragments or spores thereof.

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

Results Search in US Patent Collection db for: (ABST/vaccine AND ISD/20210912->20210901), 14 records.

	PAT. NO.	Title
1	11,111,281	B*44 restricted peptides for use in immunotherapy against cancers and related methods
2	11,111,280	Peptides and combination of peptides for use in immunotherapy against small cell lung cancer and other cancers
3	11,111,276	Epitope-substituted vaccine for use in improving safety and immunogenicity against dengue viruses

4	11,110,169	Compositions of vaccines and adjuvants and methods for the treatment of urinary tract infections
5	11,110,167	Vaccine adjuvant composition comprising inulin particles
6	11,110,166	Polymeric carrier cargo complex for use as an immunostimulating agent or as an adjuvant
7	11,110,163	Heat stable vaccines
8	11,110,162	Recombinant Zika vaccines
9	11,110,161	Vaccine for prophylaxis or treatment of an allergen-driven airway pathology
10	11,110,158	Prostate-associated antigens and vaccine-based immunotherapy regimens
11	11,110,157	Combination of vaccination and OX40 agonists
12	11,110,156	Nucleic acid comprising or coding for a histone stem-loop and a poly(a) sequence or a polyadenylation signal for increasing the expression of an encoded tumour antigen
13	11,110,155	Immunotherapeutic compositions for the treatment of Alzheimer's disease
14	11,110,132	Live attenuated parasitic vaccine

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