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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.

IFV INSTITUTO FINLAY DE VACUNAS

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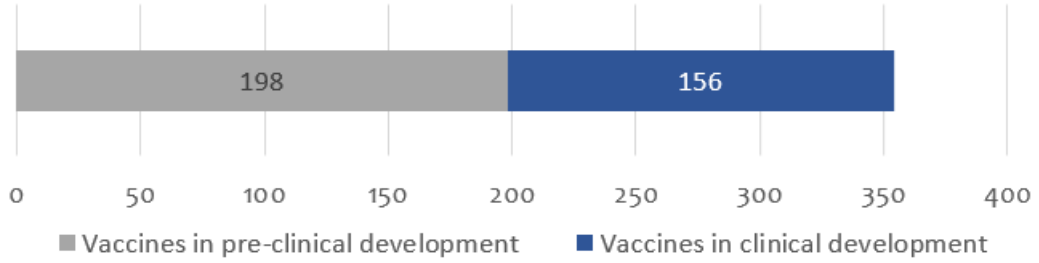
Resumen de la información publicada por la OMS sobre los candidatos vacunales contra la COVID-19 en desarrollo a nivel mundial

Última actualización por la OMS: 13 de mayo de 2022.

Fuente de información utilizada: World Health Organization; R&D Blueprint — Powering research to prevent epidemics

156 candidatos vacunales en evaluación clínica y 198 en evaluación preclínica



Candidatos vacunales en evaluación clínica por plataforma

Platform		Candidate vaccines (no. and %)	
PS	Protein subunit	52	34%
VVnr	Viral Vector (non-replicating)	21	14%
DNA	DNA	16	10%
IV	Inactivated Virus	21	14%
RNA	RNA	30	19%
VVr	Viral Vector (replicating)	4	3%
VLP	Virus Like Particle	6	4%
VVr + APC	VVr + Antigen Presenting Cell	2	1%
LAV	Live Attenuated Virus	2	1%
VVnr + APC	VVnr + Antigen Presenting Cell	1	1%
BacAg-SpV	Bacterial antigen-spore expression vector	1	1%
		156	

Candidatos vacunales mucosales en evaluación clínica

Desarrollador de la vacuna/fabricante/país	Plataforma de la vacuna	Vía de administración	Fase
University of Oxford/Reino Unido	Vector viral no replicativo	Intranasal	1
CanSino Biological Inc./Beijing Institute of Biotechnology/China	Vector viral no replicativo	Inhalación	4
Vaxart/Estados Unidos	Vector viral no replicativo	Oral	2
Univ. Hong Kong, Xiamen Univ./Beiging Wantai Biol. Pharm./China	Vector viral replicativo	Intranasal	3
Symvivo/Canadá	ADN	Oral	1
ImmunityBio, Inc./Estados Unidos	Vector viral no replicativo	Oral o SL	1/2
Codagenix/Serum Institute of India	Virus vivo atenuado	Intranasal	3
Center for Genetic Engineering and Biotechnology (CIGB)/Cuba	Subunidad proteica	Intranasal	1/2
Razi Vaccine and Serum Research Institute/India	Subunidad proteica	IM e IN	3
Bharat Biotech International Limited/India	Vector viral no replicativo	Intranasal	3
Meissa Vaccines, Inc./Estados Unidos	Virus vivo atenuado	Intranasal	1
Laboratorio Avi-Mex/México	Virus inactivado	IM o IN	2/3
USSF + VaxForm/Estados Unidos	Subunidad proteica	Oral	1
CyanVac LLC/Estados Unidos	Vector viral no replicativo	Intranasal	1
DreamTec Research Limited/Hong Kong	BacAg-SpV	Oral	NA
Sean Liu, Icahn School of Medicine at Mount Sinai	Vector viral replicativo	IN/IM	2/3
Hannover Medical School/Alemania	Vector viral no replicativo	Inhalación	1

Candidatos vacunales más avanzados a nivel global

Desarrollador de la vacuna/fabricante/país	Plataforma de la vacuna	Fase
Sinovac/China	Virus Inactivado	4
Sinopharm/Wuhan Institute of Biological Products/China	Virus Inactivado	4
Sinopharm/Beijing Institute of Biological Products/China	Virus Inactivado	4
University of Oxford/AstraZeneca/Reino Unido	Vector viral no replicativo	4
CanSino Biological Inc./Beijing Institute Biotechnology/China	Vector viral no replicativo	4
CanSino Biological Inc./Beijing Institute Biotechnology/China	Vector viral no replicativo (IH)	4
Gamaleya Research Institute/Rusia	Vector viral no replicativo	3
Janssen Pharmaceutical Companies/Estados Unidos	Vector viral no replicativo	4
Novavax/Estados Unidos	Subunidad proteica	3
Moderna/NIAID/Estados Unidos	ARN	4
Pfizer/BioNTech Fosun Pharma/Estados Unidos	ARN	4
Anhui Zhifei Longcom Biopharmac./Inst. Microbiol, Chin Acad Sci/China	Subunidad proteica	3
CureVac AG/Alemania	ARN	3
Institute of Medical Biology/Chinese Academy of Medical Sciences	Virus inactivado	3
Research Institute for Biological Safety Problems, Kazakhstan	Virus inactivado	3
Inovio Pharmac. + Intern. Vacc Inst. + Advaccine Biopharm Co., Ltd	ADN	3
Zydus Cadila Healthcare Ltd./India	ADN	3
Bharat Biotech International Limited/India	Virus Inactivado	3
Sanofi Pasteur + GSK/Francia/Gran Bretaña	Subunidad proteica	3
Shenzhen Kangtai Biological Products Co., Ltd./China	Virus Inactivado	3
Clover Biopharmaceuticals Inc./GSK/Dynavax/China/Reino Unido/EE.UU	Subunidad proteica	3
Vaxine Pty Ltd. + CinnaGen Co./Australia, Irán	Subunidad proteica	3
Medigen Vaccine Biol./Dynavax/NIAID/Taiwán/EE.UU	Subunidad proteica	4
Instituto Finlay de Vacunas/Cuba	Subunidad proteica	3
Federal Budget Res Inst State Res Cent Virol Biotechnol "Vector"/Rusia	Subunidad proteica	3
West China Hospital + Sichuan University/China	Subunidad proteica	3
Vaxxinity/EE.UU	Subunidad proteica	3
Univ. Hong Kong, Xiamen Univ. & Beijing Wantai Biological Pharm./China	Vector viral replicativo	3
Acad Milit Sci (AMS) Walvax Biotechnol, Suzhou Abogen Biosci/China	ARN	3
Medicago Inc./Canadá	Partícula similar a virus	3
Codagenix/Serum Institute of India	Virus vivo atenuado	3
Center for Genetic Engineering and Biotechnology (CIGB)/Cuba	Subunidad proteica	3
Valneva, National Institute for Health Research, Reino Unido	Virus inactivado	3
Biological E. Limited/India	Subunidad proteica	3
Nanogen Pharmaceutical Biotechnology/Vietnam	Subunidad proteica	3
Shionogi/Japón	Subunidad proteica	3
Erciyes University/Turquía	Virus inactivado	3
SK Bioscience Co., Ltd./CEPI/Corea del Sur/Noruega	Subunidad proteica	3
Razi Vaccine and Serum Research Institute/Irán, India	Subunidad proteica	3
Bharat Biotech International Limited/India	Vector viral no replicativo (IN)	3
Radboud University/Holanda	Partícula similar a virus	3
Arcturus Therapeutics, Inc./Estados Unidos	ARN	3
Livzon Pharmaceutical/China	Subunidad proteica	3
Bagheiat-allah University of Medical Sciences/AmitisGen/Irán	Subunidad proteica	3
Laboratorios Hipra, S.A.	Subunidad proteica	3
Sinocelltech Ltd./China	Subunidad proteica	3

Fuente: https://www.who.int/publications/m/item/draft-landscape-of-covid-19-candidate-vaccines

Noticias en la Web

Comienza vacunación de refuerzo a adolescentes y jóvenes en Sancti Spíritus

3 may. A partir del martes 3 de mayo y durante los próximos 15 días, más de 29 100 adolescentes y jóvenes espirituanos entre los 12 y 18 años de edad recibirán una dosis de refuerzo con la vacuna cubana anticovid Soberana Plus.

Según informó a la prensa la licenciada en Enfermería Yadimí Díaz Rojas, jefa del Programa Provincial de Inmunización, esta dosis de refuerzo se aplicará a quienes hayan cumplido seis meses de haber recibido el esquema completo de vacunación. Para tal proceso los muchachos deberán presentar en cada sitio vacunal su carné de vacunación.

Apuntó la propia fuente que, en el caso de los muchachos que han padecido COVID-19 no podrán recibir el inmunógeno hasta después de transcurridos seis meses de haber contraído la enfermedad.

Además del fármaco, para llevar a cabo este proceso de vacunación, en la provincia también se han certificado más de 170 vacunatorios, la mayoría de ellos ubicados en los centros educacionales de los diferentes niveles de enseñanza de cada territorio.

Fuente: Cubadebate. Disponible en https://bit.ly/39juFFH

Monetizando la pandemia: Moderna ganó 200 por ciento más en el primer trimestre de 2022 por ventas de vacuna

4 may. La compañía farmacéutica Moderna, de Estados Unidos, ganó 3 657 millones de dólares entre enero y marzo pasados, casi el triple de los 1 221 millones registrados en el primer trimestre de 2021, como resultado de las ventas de su vacuna de ARN mensajero (ARNm) contra la covid, que escalaron hasta 5 925 millones de dólares, informó la empresa.

En el primer trimestre de 2022, la compañía también triplicó sus ingresos, que alcanzaron los 6 066 millones de dólares, frente a los 1 937 reportados en enero-marzo de 2021.

Moderna reiteró que sus previsiones de ventas de la vacuna contra la covid-19 para el conjunto del año ascienden a 21 000 millones de dólares.

“El equipo de Moderna tuvo un sólido desempeño en el primer trimestre y estoy agradecido por el progreso que nuestro equipo continúa logrando a medida que avanzamos en nuestra cartera de medicamentos de ARNm”, señaló el consejero delegado, Stéphane Bancel.

La semana pasada, Moderna solicitó a las autoridades sanitarias estadounidenses y de la Unión Europea la autorización de emergencia de su vacuna anticovid para niños de entre seis meses y seis años de edad.

En septiembre pasado, un análisis de Oxfam Intermón, miembro de la confederación internacional Oxfam, señalaba que grandes compañías como Moderna, BioNTech y Pfizer están obteniendo desorbitados beneficios debido a su monopolio de las vacunas contra la covid con tecnología ARNm, con márgenes de beneficios en el caso de Moderna o BioNTech en torno al 69%, según la Alianza People's Vaccine.

Solo en los primeros seis meses de 2021, las tres corporaciones ganaron en conjunto 26 000 millones de dólares de beneficios, de los que dos tercios fueron beneficios netos para Moderna y BioNTech.

De acuerdo con ese análisis, “no solo han logrado volúmenes de facturación muy elevados, sino que desde la Alianza se ha podido detectar que al menos Moderna y Pfizer además pagan muy pocos impuestos. Moderna pagó un tipo efectivo a nivel global en el impuesto de sociedades del 7% y Pfizer del 15%, muy por debajo del tipo nominal establecido en la mayoría de países en los que se localiza su negocio real, como es el caso de Estados Unidos, donde el tipo nominal del IS es del 21%”.

El análisis añadía que “el hecho de que estas grandes empresas, tan rentables, puedan llegar a pagar tan poco, es un claro reflejo de un sistema disfuncional que descarga el esfuerzo de sostener el gasto público sobre las familias trabajadoras, que acaban aportando proporcionalmente mucho más.

“Dado que Moderna y BioNTech no comercializan otros productos importantes además de las vacunas COVID-19, sus márgenes de beneficio total resultan casi exclusivamente de estas”.

La Alianza People’s Vaccine, que agrupa a más de 80 organizaciones, advirtió que, además, las tres empresas están aplicando precios muy por encima del valor de coste, lo que les está permitiendo márgenes de beneficios muy elevados. No hay que olvidar que el desarrollo de estas vacunas ha sido posible gracias a más de 100 millones de dólares de fondos públicos de Estados Unidos o Alemania, entre otros países.

“El modelo de negocio de estas grandes farmacéuticas –recibir miles de millones en fondos públicos, cobrar precios exorbitantes por medicamentos y pagar pocos impuestos– es una mina de oro para sus grandes inversores, así como para los responsables de estas grandes corporaciones, pero devastador para la salud pública mundial”, decía por entonces Susana Ruiz, responsable de Justicia Fiscal de Oxfam Intermón.

“En lugar de trabajar conjuntamente con Gobiernos y otros fabricantes calificados para asegurar que tengamos suficientes dosis de vacunas para todas las personas, estas compañías farmacéuticas priorizan sus propias ganancias protegiendo sus monopolios y vendiendo la vacuna al mejor postor. Es urgente anteponer las personas a las ganancias”, añadía.

Fuente: Cubadebate. Disponible en https://bit.ly/3w9jkkC

Recibe orden Carlos J. Finlay doctora francesa vinculada con las vacunas cubanas contra la COVID-19

5 may. La doctora francesa Françoise Keita recibió este jueves en La Habana el reconocimiento que la acredita con la orden Carlos J. Finlay, condecoración otorgada por el Consejo de Estado de Cuba.

El acto de homenaje aconteció en los predios del Instituto Finlay de Vacunas (IFV) y a él asistieron la ministra de Ciencia, Tecnología y Medio Ambiente de Cuba, Elba Rosa Pérez, y el embajador de Francia en Cuba, Patrice Paoli.

Según se reconoció durante el homenaje, los aportes de la científica facilitaron el estudio acelerado a nivel molecular del Dominio del Enlace al Receptor (RBD por sus siglas en inglés), lo que a su vez contribuyó en la selección de esa proteína como antígeno de los inmunizantes Soberana 01, Soberana 02 y Soberana Plus, desarrollados por el IFV.

Asimismo, la colaboración de la especialista en resonancia magnética nuclear del Centro de Biofísica Molecular de la ciudad de Orleans, constituyó un elemento clave en el avance y en la realización de las vacunas cubanas contra el *Haemophilus influenzae* tipo b, y la multivalente contra el neumococo, en estos momentos en estudios de fase III.

También formó parte de otras investigaciones como la referida a la obtención de una vacuna conjugada contra la *Salmonella typhi*, que ha merecido importantes galardones nacionales e internacionales.

En el momento de la entrega del reconocimiento, Keita manifestó estar muy contenta y orgullosa de haber intervenido en la obtención de los inmunógenos de la familia de las Soberanas, al tiempo que ratificó que es un placer trabajar con Cuba.

“Este es el proyecto más exitoso en el que he participado durante mi carrera científica”, afirmó.

Por su parte, el embajador francés alabó la colaboración entre el territorio galo y la nación caribeña, y abogó por mantener y estrechar los vínculos existentes.

Igualmente, el director general del IFV, Vicente Verez, agradeció al equipo de expertos que intervino en el desarrollo de los productos cubanos y, en particular, destacó el compromiso y la dedicación asumida por Keita en dicha empresa.

También reveló la existencia de planes conjuntos con entidades del territorio galo, y declaró que en estos momentos ejecutan un proyecto de inversión con la Agencia Francesa de Desarrollo.

La orden Carlos J. Finlay es concedida a ciudadanos cubanos y extranjeros en reconocimiento a extraordinarios méritos por valiosos aportes al desarrollo de las ciencias naturales o sociales, a actividades o de investigación que hayan contribuido de forma excepcional al progreso científico, y a la preservación y mejoramiento de la salud y bienestar del pueblo.

Fuente: Cubadebate. Disponible en https://bit.ly/3l5QCec

5 cosas que sabemos sobre la vacuna de Johnson & Johnson contra la COVID-19

6 may. La Administración de Alimentos y Medicamentos de EE.UU. (FDA, por sus siglas en inglés) advirtió este jueves que la vacuna contra la COVID-19 de Johnson & Johnson/Janssen tiene el riesgo de generar una rara y peligrosa condición de coagulación llamada síndrome de trombosis con trombocitopenia (STT) que se puede producir después de recibir la vacuna.

La FDA limitará entonces la autorización de uso de emergencia de la vacuna Janssen a quienes tengan 18 años o más y para quienes otras vacunas no son apropiadas o accesibles y a las que optan por la de J&J porque de otro modo no se vacunarían.

Esto es lo que sabemos.

1. ¿Por qué la vacuna de de Johnson & Johnson estará limitada?

La FDA advirtió este jueves que tras una vigilancia estricta de la vacuna contra la COVID-19 de J&J, observó la aparición de trombosis con trombocitopenia.

El Dr. Peter Marks, director del Centro de Evaluación e Investigación Biológica de la FDA, dijo que están revisando la información actualizada de los sistemas de vigilancia y que se limitará la autorización de uso de emergencia de esta vacuna.

La autorización de uso de emergencia es cuando un producto médico obtiene una autorización especial de la FDA para usarse durante una emergencia. A veces es un producto que la FDA ya aprobó para otra condición, y a veces es un producto nuevo que aún no ha recibido la luz verde de la agencia.

"Reconocemos que la vacuna contra la COVID-19 de Janssen sigue teniendo un papel en la actual respuesta a la pandemia en Estados Unidos y en toda la comunidad mundial... La acción de hoy demuestra la solidez de nuestros sistemas de vigilancia de la seguridad y nuestro compromiso de garantizar que la ciencia y los datos guíen nuestras acciones".

La agencia confirmó a CNN que la autorización actualizada también se aplica a las dosis de refuerzo.

La FDA dice que ha determinado que los beneficios de la vacuna de J&J superan los riesgos para ciertas personas.

2. ¿Quiénes pueden seguir vacunándose con esta vacuna de J&J?

La FDA recomienda que cierto tipo de personas accedan preferiblemente a esta vacuna.

Quienes hayan tenido una reacción alérgica grave a una vacuna de ARNm como las de Pfizer/BioNTech o Moderna

Aquellos con preocupaciones personales sobre las vacunas de ARNm que seguirían sin vacunarse si no estuviera disponible la vacuna de J&J

Aquellos con acceso limitado a las vacunas de ARNm contra la COVID-19

Hasta este jueves, se han administrado más de 18,7 millones de dosis de la vacuna de J&J en Estados Unidos, según los CDC.

El análisis actualizado de la agencia sobre la vacuna incluye los casos notificados a su base de datos del Sistema de Notificación de Reacciones Adversas a las Vacunas (VAERS) hasta el 18 de marzo.

3. ¿Cuál es el riesgo de desarrollar trombosis con trombocitopenia?

En una hoja informativa actualizada sobre la vacuna, la FDA afirma que el 15% de los casos de STT han sido mortales. Se han confirmado 60 casos de STT, entre ellos nueve muertes.

En general, el riesgo de STT es extremadamente raro: unos tres casos por cada millón de dosis de vacuna administradas. La tasa más alta de STT se ha dado en mujeres de 30 a 49 años de edad. Unos ocho casos por cada millón de dosis de vacunas administradas se han dado en mujeres de este grupo de edad.

Los casos de STT suelen comenzar una o dos semanas después de la vacunación. Los síntomas incluyen dificultad para respirar, dolor en el pecho, hinchazón de las piernas, dolor abdominal persistente, síntomas neurológicos como dolores de cabeza o visión borrosa, o manchas rojas justo debajo de la piel llamadas petequias lejos del sitio donde se recibió la vacuna.

4. ¿Es nueva esta alerta?

No del todo. Desde el principio, el suministro de la vacuna de J&J fue más limitado. Después de que se autorizara la vacuna, el gobierno federal suspendió brevemente su uso debido a las preocupaciones de seguridad en torno a los raros eventos de coagulación de la sangre. Incluso una vez que se reanudaron las vacunaciones, el ritmo de las vacunas J&J nunca se recuperó.

En esta ocasión la FDA dijo que pondrá límites a la vacuna. Pero ya en diciembre de 2021, la FDA había advertido que las personas con antecedentes de un tipo raro de coagulación de la sangre deben evitar recibir la vacuna contra el covid-19 de Johnson & Johnson.

La hoja informativa de diciembre del año pasado dice que no deben recibir la vacuna contra la COVID-19 de Janssen quienes hayan tenido una reacción alérgica grave después de una dosis anterior de esta vacuna ni un coágulo de sangre junto con un nivel bajo de plaquetas (células sanguíneas que ayudan a su cuerpo a detener las hemorragias) después de darse esta vacuna o la de AstraZeneca (no autorizada ni aprobada en Estados Unidos).

El comité asesor de vacunas de los CDC citó las mismas preocupaciones sobre el síndrome de trombosis con trombocitopenia.

Tanto los CDC como la FDA recomendaron previamente una pausa en el uso de esta vacuna por los informes de STT. Pero luego, las agencias acordaron levantar la pausa en abril de 2021 después de que una búsqueda exhaustiva arrojara solo 15 casos del raro síndrome de coagulación sanguínea entre casi 8 millones de personas que habían recibido la vacuna.

5. ¿Qué hay de la eficacia de la vacuna contra la COVID-19?

Si bien la nueva advertencia en la hoja informativa de la vacuna dice que "La vacuna contra la COVID-19 Janssen puede causar síndrome de trombosis con trombocitopenia (STT) que puede poner en peligro la vida", un estudio reciente reveló que la vacuna de J&J sigue siendo duradera y eficaz, incluso a pesar del aumento de casos provocado por la variante delta.

La vacuna fue un 76% efectiva en general en la prevención de las infecciones por COVID-19 y un 81% efectiva en la prevención de las hospitalizaciones relacionadas con COVID-19. El estudio también mostró que proporcionaba una inmunidad duradera al menos seis meses después de las inyecciones.

Y un análisis de CNN de la información recopilada por los Centros para el Control y la Prevención de Enfermedades (CDC) de EE.UU. mostró que la vacuna de J&J tenía la menor tasa de infecciones posvacunación de todas las vacunas desde la semana que terminó el 25 de diciembre, las últimas cinco semanas de datos disponibles.

En enero, durante la ola de ómicron, las infecciones posvacunación fueron mayores entre los que recibieron la vacuna de Pfizer/BioNTech, seguidos por los que recibieron la de Moderna. Las personas vacunadas con la vacuna de Johnson & Johnson tuvieron la menor incidencia de infecciones posvacunación.

En la semana que terminó el 22 de enero, hubo 650 infecciones por cada 100.000 personas con la vacuna de J&J. Con Moderna, hubo 757 por cada 100.000, y con Pfizer, la tasa fue de 862 por cada 100.000.

Fuente: CNN en español. Disponible en https://cnn.it/3l8HPZa

Estudios en Cuba buscan proteger a lactantes contra la COVID-19

9 may. El Instituto Finlay de Vacunas (IFV) de Cuba, autor de los inmunizantes Soberana 02 y Soberana Plus contra la COVID-19, impulsa hoy dos estudios con el objetivo de proteger a los lactantes contra el SARS-CoV-2.

De acuerdo con declaraciones a Prensa Latina de la directora de Investigaciones de la entidad, Dagmar García, esa institución entregó ya al Centro para el Control Estatal de Medicamentos, Equipos y Dispositivos Médicos (CECMED) un ensayo de intervención para niños de uno a dos años.

Según alegó, después de haber vacunado a toda la población pediátrica del país con Soberana 02 a partir de los dos años, mover la inmunización a este grupo etario tiene muy bajo riesgo en términos de seguridad porque no es mucha la diferencia entre un pequeño de 12 o 13 meses con uno de 24.

Por tanto, añadió, buscamos aportar evidencias de seguridad con el fin de extender la inoculación a ese segmento poblacional.

Ese estudio, denominado Soberana Pequeñines, está previsto a hacerse en la provincia de Cienfuegos y consideramos que podrá iniciarse en los próximos días, refirió.

También posee el CECMED, afirmó García, un proyecto de ensayo clínico que, bajo el nombre de Soberana Futuro, evaluará Soberana 02 y Soberana Plus en los lactantes de siete a 11 meses.

Hemos demostrado que los niños de madres vacunadas, o de gestantes convalecientes, tienen altos títulos de anticuerpos contra el SARS-CoV-2 cuando nacen, explicó.

Por tanto, ahondó, la protección del infante menor de seis meses debe ser promovida a partir de vacunar a la mamá y de la lactancia materna.

Sin embargo, ya en el segundo semestre de vida los anticuerpos disminuyen, por lo que proponemos inmunizar a esos niños, afirmó.

En ese caso, dijo, sí debemos buscar las evidencias de seguridad porque los menores son receptores de otros inmunógenos.

Es preciso probar entonces que no hay interferencia con otros antígenos del esquema de vacunación y, por tanto, es menester realizar un ensayo clínico, precisó.

A partir de haber constatado en los infantes pequeños que la respuesta con solo dos dosis de Soberana 02 es muy superior a la encontrada en adultos, e incluso en los niños grandes, planeamos un esquema en lactantes con un mayor intervalo entre dosis, detalló.

“Proponemos usar las dos dosis de Soberana 02 con 28 días entre una y otra, pero aplicaríamos la tercera, o sea, la inoculación de Soberana Plus, a los tres meses de la segunda dosis», reveló.

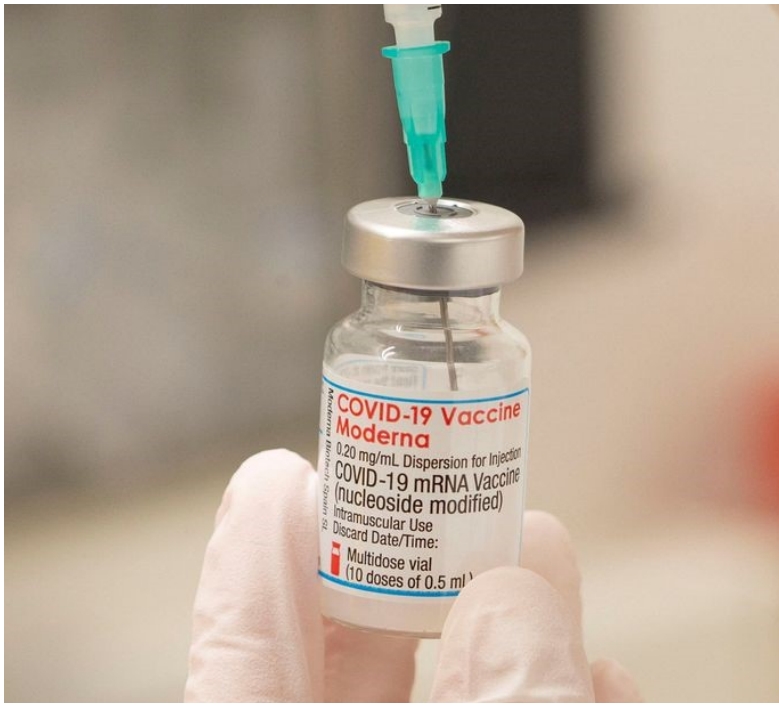
En el lactante, agregó, la respuesta inmune necesita niveles de maduración distintos en comparación con otras edades, y el intervalo óptimo para ellos es de dos meses, de manera que su sistema aprenda a reconocer mejor el antígeno.

La vacunación pediátrica con el esquema heterólogo Soberana 02 y Soberana Plus, realizada en Cuba a finales del pasado año, alcanzó cerca de un millón 800 mil niños de dos a 18 años.

Esa campaña demostró la seguridad del inmunizante porque se aplicaron más de cinco millones de dosis sin que se produjeran efectos adversos graves, recordó García.

Fuente: Prensa Latina. Disponible en https://bit.ly/3sVZKGP

COVID vaccine makers shift focus to boosters



May 9. COVID-19 vaccine makers are shifting gears and planning for a smaller, more competitive booster shot market after delivering as many doses as fast as they could over the last 18 months.

Executives at the biggest COVID vaccine makers including Pfizer Inc (PFE.N) and Moderna Inc (MRNA.O) said they believe most people who wanted to get vaccinated against COVID have already done so - more than 5 billion people worldwide.

In the coming year, most COVID vaccinations will be booster shots, or first inoculations for children, which are still gaining regulatory approvals around the world, they said.

Pfizer, which makes its shot with Germany's BioNTech SE (22UAy.DE), and Moderna still see a major role for themselves in the vaccine market even as overall demand declines.

Upstart U.S. vaccine maker Novavax Inc (NVAX.O) and Germany's CureVac NV (5CV.DE), which is

working with GlaxoSmithKline (GSK.L), are developing vaccines they hope to target at the booster market.

The roles of AstraZeneca Plc (AZN.L) and Johnson & Johnson (JNJ.N), whose shots have been less popular or effective, are expected to decline in this market.

"It becomes a very competitive game with companies battling it out with pricing and for market share, even for vaccines that are considered to be the best, like Pfizer and Moderna," said Hartaj Singh, an analyst at Oppenheimer & Co.

It is not known yet how many booster doses will be needed. Second booster shots are currently recommended in some countries for only a subset of the population.

It is also unclear if vaccine makers will sell a redesigned shot this fall and each fall afterward, as flu vaccine makers do to match circulating strains, and what impact that might have on waning demand.

Pfizer Chief Executive Albert Bourla said in an interview that adults who are still unvaccinated are unlikely to seek out shots now, more than two years into the pandemic.

It will be the “already vaccinated” who account for demand, Bourla said.

Moderna executives recently said those who would benefit from annual boosting include people over 50 and adults with other health risk factors or high-risk occupations, including healthcare workers.

Moderna CEO Stephane Bancel estimated this population to be around 1.7 billion people, or some 21% of the global population.

Moderna and Pfizer/BioNTech, which make messenger RNA vaccines that can be updated somewhat quicker than those from competitors, said they are developing vaccines targeting the Omicron variant of the virus.

The United States and Western Europe - where about 600 million people are vaccinated - will remain important markets, but sales may be a fraction of what they have been, Cowen analyst Tyler Van Buren said.

"The low hanging fruit is that 20%-25% of people who are so-called high risk for various reasons, and I think that is the population that is most likely to get it every year," he said.

That would be significantly less than the roughly 49% of adults in the United States and 62% of adults in Europe who have received at least one booster so far, or about 335 million people.

Analysts have forecast revenue of over $17 billion for the Pfizer/BioNTech shot and $10 billion for Moderna's in 2023, about half of the $34 billion and $23 billion they expect this year, respectively. Sales are expected to drop further from there.

THE OTHER PLAYERS

Johnson & Johnson, whose vaccine has been limited by a side effect that causes rare but sometimes fatal blood clots, declined to comment on whether it plans to push its shot as a booster in the fall. In April, the company rescinded its 2022 COVID-19 vaccine sales forecast, citing uncertainty. read more

South Africa's Aspen Pharmacare (APNJ.J), which makes J&J's shot in Africa, warned of weak demand. read more

Aspen CEO Stephen Saad in an interview said, "there is going to be a place for boosters ... but it is not at

the volumes you had before."

AstraZeneca CEO Pascal Soriot said in late April that its shot will still have a role in fighting the pandemic. read more

"We believe this vaccine still has a potential, it's very easy to administer and distribute," he said. "The volume in the future will be less because people probably will only need one booster per year and not everybody will take it."

Fuente: Prensa Latina. Disponible en https://reut.rs/3N4hgQG

Novavax revela una fuerte caída en el envío de vacunas Covid previsto para este año

La compañía farmacéutica Novavax ha revelado una fuerte caída en la financiación de la investigación Covid-19 en el primer trimestre del año y ha señalado que ha enviado menos de una cuarta parte de las entregas totales de vacunas programadas para este año 2022. Esto ha tenido un impacto negativo en sus acciones que han caído casi un 16%.

Concretamente, la compañía ha vendido 31 millones de dosis de la vacuna en el primer trimestre, una pequeña fracción de los 2.000 millones de inyecciones que planea enviar a todo el mundo a lo largo del año.

Aún así, Novavax ha reiterado su pronóstico de ingresos totales de 4.000 millones de dólares (3.792,9 millones de euros) a 5.000 millones de dólares (4.742,9 millones de euros) para este 2022, y espera que los envíos a mercados clave y las ventas aumenten en el segundo trimestre.

Novavax planea iniciar un estudio de última etapa para probar su vacuna en niños de 5 a 11 años para el tercer trimestre

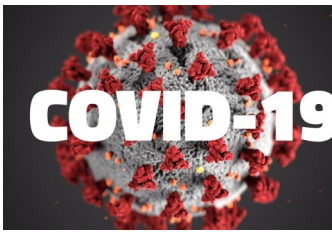
Se esperaba que la vacuna de proteína recombinante de Novavax, basada en una tecnología más convencional, convenciera a algunos escépticos de la tecnología de ARNm utilizada por compañías como Pfizer y Moderna

Sin embargo, ha estado plagado de retrasos regulatorios y de fabricación, así como una adopción lenta en mercados clave como la Unión Europea.

La compañía también ha anunciado que planea iniciar un estudio de última etapa para probar su vacuna en niños de 5 a 11 años para el tercer trimestre.

Fuente: Con Salud. Disponible en https://bit.ly/3l6LTcn

Por qué los refuerzos de la vacuna contra la COVID-19 pueden ser más importantes que nunca



10 may. Ante un coronavirus que parece volverse más infeccioso con cada nueva variante y la disminución de la inmunidad con el paso de los meses, el gobierno de Biden pronosticó que hasta 100 millones de personas más podrían contagiarse de COVID-19 en el otoño e invierno. Ese cálculo hace que sea crucial que la mayor cantidad posible de personas cuenten con su dosis de refuerzo contra el covid-19, advierten los expertos. Y si eres elegible, es un buen momento para obtener el segundo refuerzo.

Menos de la mitad de los estadounidenses elegibles —apenas un tercio de toda población del país— recibieron el primer refuerzo, según los Centros para el Control y la Prevención de Enfermedades de EE.UU. (CDC, por sus siglas en inglés). Y solo unos 10 millones de personas se han aplicado la segunda dosis adicional, que se autorizó para quienes tienen 50 años o más, así como para los mayores de 12 años que estén inmunosuprimidos de moderada a gravemente.

Los CDC alientan a las personas a estar "al día" con las vacunas contra la COVID-19, lo que incluye recibir refuerzos en el momento adecuado. Sin embargo, la agencia sigue definiendo que alguien está "totalmente vacunado" cuando ha recibido al menos el esquema inicial de dos dosis.

Ahora bien, esta semana, un alto funcionario del gobierno de Biden envió un mensaje más directo: todos los adultos necesitan una tercera vacuna.

La vacunación es la mejor manera de protegerse contra la COVID-19, y la defensa resulta más eficaz con al menos tres vacunas, insistió el funcionario.

Lograr que más estadounidenses reciban su dosis de refuerzo contra el covid-19 podría hacer una gran diferencia con respecto al número de casos, según el Dr. Peter Marks, director del Centro de Evaluación e Investigación Biológica de la Administración de Alimentos y Medicamentos de EE.UU. (FDA, por sus siglas en inglés). Marks le dijo a la Asociación Médica Estadounidense este lunes que se encuentra "un poco preocupado" por el rumbo de la pandemia de COVID-19.

"Es muy importante que intentemos que la mitad, o un poco más de la mitad, de los estadounidenses que solo han recibido dos dosis obtengan esa tercera dosis", dijo Marks. "Eso puede marcar la diferencia de cara al futuro, y en especial puede hacer la diferencia ahora que estamos entrando en otra oleada de COVID-19", continuó.

Ahora bien, el aumento actual de casos de COVID-19 no está para nada cerca de lo que registró EE.UU. con la oleada inicial de la variante Ómicron. Pero, el país tenía un promedio de 71.577 contagios nuevos al día para este lunes, según la Universidad Johns Hopkins.

Las tasas de casos son más elevadas en la región del noreste de EE.UU., donde hay una mayor aceptación a los refuerzos de la vacuna contra la COVID-19. Casi la mitad de la población de Vermont está totalmente vacunada y ha recibido su dosis de refuerzo, junto con más del 40% de la población de Maine, Rhode Island, Connecticut y Massachusetts, según datos de los CDC.

Pero los casos también han empezado a incrementarse en el sur, donde menos de una cuarta parte de la población está totalmente vacunada y con la dosis de refuerzo. En Carolina del Norte, Alabama y Mississippi, menos de 1 entre cada 5 personas ha recibido una dosis de refuerzo.

Quién puede recibir una vacuna de refuerzo (y quién no)

Todas las personas mayores de 12 años en EE.UU. pueden recibir una dosis de refuerzo. Pero, únicamente la vacuna de Pfizer/BioNTech contra la COVID-19 está disponible como refuerzo para los adolescentes de 12 a 17 años.

Los adultos que inicialmente recibieron una vacuna de tipo ARNm pueden obtener su dosis de refuerzo cinco meses después de completar el esquema inicial. Las personas que se vacunaron con Johnson & Johnson pueden recibir una dosis de refuerzo dos meses después de la primera inyección.

Los datos de los CDC muestran que la dosis de refuerzo tiene una aceptación más alta en los grupos de mayor edad en EE.UU., en consonancia con las tendencias de vacunación más amplias. Sin embargo, casi 2 de cada 5 personas mayores de 65 años, y más de 3 de cada 5 adultos en general, no tienen ninguna dosis de refuerzo.

Las investigaciones han demostrado que las personas que reciben tres dosis de una vacuna contra la COVID-19 de tipo ARNm registran una tasa relativamente baja de acudir a urgencias y necesitar hospitalizaciones relacionadas con la COVID-19. Esto en comparación con quienes solo recibieron dos dosis, de acuerdo a los estudios. Incluso con la variante Ómicron, más infecciosa, un refuerzo parece proteger contra la enfermedad más grave.

Los científicos siguen tratando de determinar si las personas más jóvenes se beneficiarían de una dosis adicional de la vacuna. Pfizer y BioNTech solicitaron una autorización de uso de emergencia para menores de 5 a 11 años.

"Esperamos que esto se resuelva en un futuro no muy lejano", dijo Marks.

Nuevas investigaciones sobre las cuartas dosis

Una cuarta dosis de las vacunas de Moderna o de Pfizer/BioNTech —que tiene la autorización para personas de 50 años o más en Estados Unidos— parece segura y proporciona un refuerzo "sustancial" de inmunidad a niveles similares o incluso mejores que una tercera dosis, según un estudio publicado este lunes.

Los investigadores administraron a los participantes en el estudio, cuya edad media era de 70,1 años, la mitad de una dosis de la vacuna de Moderna o una dosis completa de la vacuna de Pfizer en una selección aleatoria realizada en enero, unos siete meses después de haber recibido el primer refuerzo. El segundo refuerzo no pareció tener efectos secundarios importantes. Las mayores quejas fueron dolor de brazo y fatiga.

El refuerzo también generó una respuesta inmune el día 14 que fue mayor a la registrada en el día 28 después de la tercera dosis de las vacunas de Pfizer o Moderna contra la COVID-19.

Cuando los investigadores compararon las vacunas de ARNm, la cuarta dosis de Moderna pareció ser ligeramente mejor que la de Pfizer, pero no está claro el motivo. Ambas generaron lo que los científicos consideraron un "cambio significativo" en los anticuerpos protectores. La respuesta de las células T también incrementó tras la cuarta dosis.

Los anticuerpos son una primera línea de la protección inmunológica que puede impedir que un virus

infecte las células. Las células T intervienen después y destruyen las células infectadas. Las células T no pueden proteger contra las infecciones leves, pero sí pueden evitar que estas progresen hasta convertirse en una enfermedad grave.

"Una cuarta dosis de las vacunas de refuerzo contra la COVID-19, de tipo ARNm, se tolera bien y potencia la inmunidad celular y humoral", dice el estudio. "Las respuestas máximas tras la cuarta dosis fueron similares, y posiblemente mejores, que las respuestas máximas tras la tercera dosis".

El estudio también demostró que algunas personas que tenían niveles más altos de anticuerpos antes de la cuarta dosis de la vacuna solo registraron un refuerzo "limitado". Las personas con antecedentes de infección por covid-19 tuvieron una respuesta limitada similar. Los autores dicen que esto sugiere que puede existir un techo o una respuesta máxima que puede darse con una cuarta dosis de la vacuna.

El estudio no analizó específicamente la neutralización de la variante Ómicron.

Dos estudios anteriores que se realizaron en Israel, mostraron que las tasas de hospitalización y muerte por COVID-19 podían reducirse con una cuarta dosis de la vacuna administrada al menos cuatro meses después de la tercera. La reducción de las hospitalizaciones y las muertes persistió en el tiempo con esta cuarta dosis.

Nueva generación de vacunas y refuerzos

Marks espera que la próxima generación de vacunas contra la COVID-19 —que, según predice, llegará en uno o dos años— resulte aún mejor a la hora de proteger a las personas contra toda la "gama" de variantes del coronavirus y proporcione una respuesta inmunológica más robusta.

El comité asesor sobre vacunas de la FDA se reunirá a finales de junio para revisar los datos sobre las vacunas, incluidas las monovalentes (que se dirigirían a una sola variante) y las bivalentes (que podrían dirigirse a la cepa original del virus más otra).

"Es un poco difícil porque no sabemos cuánto más evolucionará el virus en los próximos meses", dijo Marks. "Pero no tenemos otra opción, porque si queremos producir los cientos de millones de dosis que deben estar disponibles para una campaña de refuerzo, tenemos que empezar a principios de julio o incluso antes para conseguir ese tipo de cifras".

El comité de la FDA también podría debatir si se debe recomendar un refuerzo adicional en otoño para la población general o para grupos específicos, dijo Marks.

Médicos dicen que han escuchado a algunos pacientes que quieren esperar por su dosis de refuerzo para conseguir una mejor protección de cara el invierno. Marks dijo que esperar para obtener un refuerzo es una mala idea, especialmente si esas personas no han tenido COVID-19 recientemente.

"¿Por qué? Porque van a pasar cuatro, cinco o seis meses antes de que llegue el siguiente refuerzo", dijo. "Estás hablando de tener varios meses ahí en riesgo".

Incluso con la previsión de una oleada de otoño e invierno, los casos están aumentando ahora, y los que solo han recibido dos vacunas de ARNm son vulnerables.

"En lugar de ser casuales al respecto", dijo Marks, "los invitaría a que trataran de recibir esa tercera dosis para aumentar la inmunidad, porque tenemos mucho COVID-19 circulando".

Fuente: CNN en español. Disponible en https://cnn.it/3yDapJY

More people in Cuba have received COVID-19 booster shot

May 12. The Cuban Ministry of Public Health (MINSAP) reported Thursday that 7,084,113 people have been administered the booster dose against Covid-19. According to MINSAP, 9,954,132 Cubans, who make up 89.8 percent of the population, have already been fully vaccinated.

So far, 10,661,749 citizens have received a dose of homegrown vaccines; 9,404,594 have already been administered the second shot; and 9,103,724 have received the third dose.

Therefore, Cuba has administered 36,269,980 doses of Cuban vaccines Soberana 02, Soberana Plus and Abdala.

According to Cuba's National Office of Statistics and Information, the island had a population of about 11,180,000 inhabitants by the end of 2020.

Fuente: Prensa Latina. https://bit.ly/3wpXY1h

EEUU compartirá tecnología de la vacuna COVID-19, dice Biden en la cumbre mundial

12 may. Estados Unidos compartirá tecnologías utilizadas para fabricar vacunas contra la COVID-19 a través de la Organización Mundial de la Salud y está trabajando para expandir las pruebas rápidas y los tratamientos antivirales para poblaciones de difícil acceso, dijo el jueves el presidente Joe Biden.

Estados Unidos contribuirá con 200 millones de dólares más a un fondo de salud global para la preparación para futuras pandemias en el Banco Mundial, dijo, lo que eleva su contribución total a 450 millones de dólares.

"Estamos poniendo a disposición tecnologías de salud que son propiedad del Gobierno de los Estados Unidos, incluida la proteína de punta estabilizada que se usa en muchas vacunas COVID-19", dijo Biden en su discurso de apertura de la segunda cumbre mundial COVID-19.

La cumbre, organizada conjuntamente por Estados Unidos, Belice, Alemania, Indonesia y Senegal, se llevará a cabo virtualmente el jueves para que los países discutan los esfuerzos para poner fin a la pandemia y prepararse para futuras amenazas a la salud.

Está configurado para aprovechar los esfuerzos y compromisos realizados en la primera cumbre mundial en septiembre, incluida la vacunación de más personas, el envío de pruebas y tratamientos a las poblaciones de mayor riesgo, la ampliación de las protecciones para los trabajadores de la salud y la generación de financiamiento para la preparación ante una pandemia.

Al menos otros 14 países Canadá, Colombia, India, Italia, Japón, Nueva Zelanda, Nigeria, Noruega, Palau, Ruanda, Sudáfrica, Corea del Sur, España y Tanzania así como la Organización Mundial de la Salud, la

Comisión Europea, compañías del sector privados, empresas del sector como Google, y organizaciones no gubernamentales como la Fundación Bill y Melinda Gates, asisten a la cumbre.

"Esta cumbre es una oportunidad para renovar nuestros esfuerzos, para mantener el pie en el acelerador cuando se trata de controlar esta pandemia y prevenir futuras crisis de salud", dijo Biden.

Hizo un llamado a los dirigentes mundiales para que consideren cómo sus países podrían contribuir aún más a la respuesta global a la pandemia.

"Es por eso que sigo pidiendo al Congreso aquí en casa que tome medidas urgentes para proporcionar fondos de emergencia para el COVID-19 que son vitales para asegurarnos de que mantenemos nuestros suministros de pruebas, tratamientos y vacunas para el COVID-19, incluida la próxima generación de vacunas que se están desarrollando", dijo.

"La solicitud también incluye 5 millones de dólares para mantener nuestra asociación global en la lucha contra el COVID-19, para mantener nuestros esfuerzos para vacunar a las personas en todo el mundo".

Biden ha pedido al Congreso más de 22.500 millones de dólares en fondos más de respuesta al COVID-19, incluidos 5.000 millones de dólares para ayuda internacional. Sin embargo, los parlamentarios no han logrado aprobar ningún proyecto de ley de financiamiento y quienes negocian el paquete no han podido ponerse de acuerdo sobre cómo pagar la respuesta global.

Estados Unidos ha entregado más de 500 millones de dosis de vacunas a más de 100 países como parte de los 1.200 millones de dosis que prometió en la primera cumbre de septiembre y ya ha comprometido más de 19.000 millones de dólares en fondos para vacunas, pruebas, tratamientos y otras formas de asistencia, dijo Biden.

También ayudó a recaudar más de 3.100 millones de dólares en compromisos para la respuesta internacional a la pandemia antes de la cumbre, dijo un alto responsable de la administración de Biden.

"Todavía queda mucho por hacer. Esta pandemia no ha terminado", dijo Biden. "Hoy, marcamos un hito trágico aquí en los Estados Unidos, 1 millón de muertes por COVID, 1 millón de sillas vacías alrededor de una mesa familiar. Cada uno irremplazable".

Fuente: Euronews. Disponible en https://bit.ly/3yBwecY

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Patentes registradas en Patentscope

Estrategia de búqueda: *Vaccine in the title or abstract AND 20220503:20220513 as the publication date 49 records.*

1.20220137051IN-VITRO POTENCY ASSAY FOR PROTEIN-BASED MENINGOCOCCAL VACCINES
US - 05.05.2022
Clasificación Internacional G01N 33/577 Nº de solicitud 17531314 Solicitante GLAXOSMITHKLINE BIOLOGICALS SA Inventor/a Marzia Monica GIULIANI
The invention uses ELISA or similar assays for analysing a meningococcal vaccine. The assay uses antibodies which bind to meningococcal proteins within the vaccine, and in particular monoclonal antibodies which are bactericidal for meningococcus and/or which recognise conformational epitopes within the meningococcal proteins. By performing the assay on a series of dilutions of a test vaccine, and by comparing the results with those obtained using a reference vaccine of known potency, it is possible to determine the relative potency of the test vaccine. This value can be used as a parameter for determining whether a manufactured batch of a vaccine is suitable for release to the public, or whether it has experienced a production failure and so should not be used.

2.WO/2022/087855NOVEL CORONAVIRUS VACCINE BASED ON CONTROLLABLE SECRETORY EXPRESSION OF ATTENUATED SALMONELLA, PREPARATION METHOD THEREFOR, AND APPLICATION THEREOF
WO - 05.05.2022
Clasificación Internacional A61K 39/215 Nº de solicitud PCT/CN2020/124172 Solicitante JIANGSU TARGET BIOMEDICAL RESEARCH INSTITUTE CO., LTD. Inventor/a HUA, Zichun
A novel coronavirus vaccine based on controllable secretory expression of attenuated Salmonella, a preparation method therefor, and an application thereof. The method comprises: respectively constructing controllable and stable expression plasmids for secretory expression of different antigen domain proteins of coronavirus and attenuated Salmonella expression strains therefor; and mixing a plurality of attenuated Salmonella antigen presenting strains which are subjected to controllable secretory expression respectively within antigen presenting cells. By way of an oral route, efficient secretory expression can be performed on a plurality of different antigen proteins within the antigen presenting cells by virtue of a specific secretion system after administration. The secretory expressed-antigen proteins can be effectively treated and presented by the antigen presenting cells, ultimately enabling activation/regulation of an immune system, producing an antibody having a higher potency, and functioning as a vaccine.

3.20220135655IMMUNOGENETIC RESTRICTION ON ELICITATION OF ANTIBODIES
US - 05.05.2022
Clasificación Internacional C07K 16/10 Nº de solicitud 17385465 Solicitante Dana-Farber Cancer Institute, Inc. Inventor/a Wayne A. Marasco
The present invention provides structural determinants important for binding to the stem domain of the HA protein of influenza virus, and methods of use thereof for production of high affinity neutralizing influenza virus antibodies based upon these determinants. The present invention further provides tools for determining the efficacy of an influenza virus vaccine. The present invention further provides a molecular signature useful for determining the efficacy of an influenza virus vaccine in a subject, or for predicting prior immunologic exposure or antigen responsiveness to vaccine or influenza virus infection.

4.WO/2022/092462VACCINE MANAGEMENT DEVICE AND VACCINE MANAGEMENT SYSTEM COMPRISING SAME
WO - 05.05.2022
Clasificación Internacional G16H 40/20 Nº de solicitud PCT/KR2021/006181 Solicitante REAL TIME MEDI CHECK CORP. Inventor/a KIM, Hee
A vaccine management device according to some embodiments of the present invention comprises: a body frame which includes an upper frame, a lower frame, and a vertical frame for coupling and supporting the upper frame and the lower frame, and defines an examination subject accommodation part for accommodating an examination subject; an identification code recognition part disposed on a partial area of a lower lateral surface of the upper frame to recognize an identification code included in the examination subject; an identification information notification part for notifying a user whether the identification code is recognized; and a communication part for transmitting, to a management server, information of the examination subject having been identified by means of the identification code.

5.WO/2022/087854SARS-COV-2 VACCINE ANTIGEN PRESENTING SYSTEM OF NTD DOMAIN PROTEIN SECRETED AND EXPRESSED BY ATTENUATED SALMONELLA TYPHIMURIUM, AND USE THEREOF
WO - 05.05.2022
Clasificación Internacional C12N 15/74 Nº de solicitud PCT/CN2020/124171 Solicitante NANJING JIRUIKANG BIOTECHNOLOGY RESEARCH INSTITUTE CO., LTD. Inventor/a HUA, Zichun
A SARS-CoV-2 vaccine antigen presenting system of an NTD domain protein secreted and expressed by attenuated salmonella typhimurium, and the use thereof, which are used for preventing SARS-CoV-2. By means of constructing a controllable and stable expression plasmid secreting and expressing an NTD domain protein and engineering attenuated salmonella typhimurium, the antigenic protein can be, after administration, efficiently delivered to antigen presenting cells orally and by means of the unique secretion system of the plasmid and the attenuated salmonella typhimurium. The delivered antigenic protein can be efficiently treated and presented by the antigen presenting cells, thereby finally activating/regulating the immune system, producing antibodies, and exerting the effect of a vaccine.

6.20220133872A MONOPHOSPHORYL LIPID-A LIPOSOME BASED CANCER VACCINE
US - 05.05.2022
Clasificación Internacional A61K 39/00 Nº de solicitud 17429196 Solicitante University of Florida Research Foundation, Inc. Inventor/a Rowan Milner
A vaccine composition for enhancing in a subject to whom the composition is administered, a production of antibodies against a disialoganglioside GD3 and/or GD2 is provided in one embodiment. The composition includes, in an embodiment, a liposome including an effective amount of disialoganglioside GD3 and/or GD2 to stimulate or enhance antibody production in the subject; and an effective amount of an adjuvant comprising monophosphory 1 lipid A (MPL). In one example, the vaccine composition may be administered to the subject in conjunction with a chemotherapy.

7.WO/2022/090131RECOMBINANT AFRICAN SWINE FEVER VIRUS AS LIVE ATTENUATED VACCINE AGAINST AFRICAN SWINE FEVER
WO - 05.05.2022
Clasificación Internacional C12N 15/85 Nº de solicitud PCT/EP2021/079492 Solicitante CONSEJO SUPERIOR DE INVESTIGACIONES CIENTÍFICAS Inventor/a REVILLA NOVELLA, Yolanda
Use of recombinant African swine fever virus as a live attenuated vaccine against African swine fever. The present invention refers to a recombinant African Swine Fever Virus (ASFV) characterized by comprising a nucleic acid which consist of the SEQ ID NO: 1. Moreover, the present invention refers to a pharmaceutical composition, preferably a vaccine, comprising said recombinant ASF.

8.WO/2022/087856ANTIGEN PRESENTING SYSTEM OF NOVEL CORONAVIRUS VACCINE USING ATTENUATED SALMONELLA FOR SECRETING AND EXPRESSING RBD DOMAIN PROTEIN, AND USE THEREOF
WO - 05.05.2022
Clasificación Internacional C12N 15/74 Nº de solicitud PCT/CN2020/124173 Solicitante NANJING JIRUIKANG BIOTECHNOLOGY RESEARCH INSTITUTE CO., LTD. Inventor/a HUA, Zichun
An antigen presenting system of a novel coronavirus vaccine using attenuated salmonella for secreting and expressing an RBD domain protein, and the use thereof. The antigen presentation system is used for preventing novel coronavirus (SARS-CoV-2). By means of constructing a controllable and stable expression plasmid that secretes and expresses the RBD domain protein and engineering attenuated salmonella, an antigenic protein can be efficiently delivered to an antigen-presenting cell via an oral route and by means of the specific secretion system thereof after administration. The delivered antigenic protein can be effectively processed and presented by antigen-presenting cells, thereby ultimately realizing the activation/regulation of the immune system, producing antibodies, and exhibiting the function of a vaccine.

9.3992296IDNA-IMPFSTOFFE UND VERFAHREN ZUR VERWENDUNG DAVON
EP - 04.05.2022
Clasificación Internacional C12N 15/65 Nº de solicitud 21192928 Solicitante MEDIGEN INC Inventor/a PUSHKO PETER
Described herein are iDNA vectors and vaccines and methods for using the same. The iDNA generates live attenuated vaccines in eukaryotic cells in vitro or in vivo for pathogenic RNA viruses, particularly yellow fever virus and Venezuelan equine encephalitis virus. When iDNA is injected into the vaccine recipient, RNA of live attenuated virus is generated by in vivo transcription in the recipient's tissues. This initiates production of progeny attenuated viruses in the tissues of the vaccine recipient, as well as elicitation of an effective immune response protecting against wild-type, non-attenuated virus.

10.WO/2022/092769FUSION PROTEIN COMPRISING BP26 AND ANTIGENIC POLYPEPTIDE
WO - 05.05.2022
Clasificación Internacional C07K 14/23 Nº de solicitud PCT/KR2021/015113 Solicitante KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY Inventor/a JON, Sangyong
The present invention relates to a fusion protein comprising BP26 and an antigenic polypeptide, and to a nanostructure comprising same. A vaccine composition comprising the fusion protein, nanostructure, or combination thereof of the present invention can be used to effectively prevent or treat pathogens or cancer, and thus can be used as a multi-purpose vaccine platform.

11.3989930VERBESSERTE IMPFSTOFFFORMULIERUNGEN
EP - 04.05.2022
Clasificación Internacional A61K 9/00 Nº de solicitud 20734561 Solicitante EQUALY S A Inventor/a SAINT-REMY JEAN-MARIE
A pharmaceutically compatible antioxidant for use in the treatment or the prevention of an unwanted immune response, the corresponding pharmaceutical and vaccine compositions, and the corresponding clinical and *ex-vivo* applications.

12.WO/2022/090752VACCINE PLATFORM
WO - 05.05.2022
Clasificación Internacional A61K 39/12 Nº de solicitud PCT/HU2021/050057 Solicitante PÉCSI TUDOMÁNYEGYETEM Inventor/a TAPODI, Antal
The invention relates to a vaccine platform, comprising a lipid binding amino acid sequence and an oligomerization sequence. In particular, the lipid binding amino acid sequence and an oligomerization sequence are derived from filensin, a protein with no or minimal immunogenicity. Filensin has an extremely

strong membrane binding capacity and oligomerization property, making it an ideal carrier for an antigenic moiety. An immunization platform comprising a nucleic acid sequence(s) coding for a lipid binding amino acid sequence and an oligomerization sequence is also provided.

13.WO/2022/088953SARS-COV-2 RBD CONJUGATED NANOPARTICLE VACCINE
WO - 05.05.2022
Clasificación Internacional A61K 39/215 Nº de solicitud PCT/CN2021/115957 Solicitante SUN YAT-SEN UNIVERSITY Inventor/a ZENG, Musheng
The present invention provides a SARS-CoV-2 RBD conjugated nanoparticle vaccine, comprising: a) a nanoparticle carrier obtained by self-assembly of a carrier protein expressed in fusion with SpyCatcher; b) RBD antigen of SARS-CoV-2 virus expressed in fusion with SpyTag, the carrier protein being selected from mi3 and I53-50, and the carrier protein and the antigen being covalently linked by SpyCatcher-SpyTag.

14.20220133879PORCINE EPIDEMIC DIARRHEA (PED) VIRUS VACCINE COMPOSITION AND PREPARATION METHOD THEREOF
US - 05.05.2022
Clasificación Internacional A61K 39/215 Nº de solicitud 17435145 Solicitante BIOAPPLICATIONS INC. Inventor/a Eun-Ju Sohn
The present invention relates to: a porcine epidemic diarrhea (PED) virus protein comprising an amino acid sequence represented by SEQ ID NO:5; a vaccine composition comprising same; and the like.

15.20220133877Multivalent Live-attenuated Influenza Vaccine for Prevention and Control of Equine Influenza Virus (EIV) in Horses
US - 05.05.2022
Clasificación Internacional A61K 39/145 Nº de solicitud 17434489 Solicitante University of Rochester Inventor/a Luis Martinez-Sobrido
The present invention provides compositions and methods related to equine live-attenuated influenza vaccines. In one aspect, the invention relates to a composition comprising a multivalent equine live-attenuated influenza vaccine comprising a first live-attenuated influenza virus expressing one or more antigens of a clade 1 H3N8 equine influenza virus; and a second live-attenuated influenza virus expressing one or more antigens of a clade 2 H3N8 equine influenza virus, wherein the second live-attenuated influenza virus expresses HA, NA, or a combination thereof of A/equine/Lancashire/1/2016 H3N8.

16.WO/2022/094388COLORECTAL CANCER TUMOR CELL VACCINES
WO - 05.05.2022
Clasificación Internacional A61K 39/00 Nº de solicitud PCT/US2021/057539 Solicitante NEUVOGEN, INC. Inventor/a FERRARO, Bernadette
The present disclosure provides an allogeneic whole cell cancer vaccine platform that includes compositions and methods for treating and preventing colorectal cancer. Provided herein are compositions containing a therapeutically effective amount of cells from one or more cancer cell lines, some or all of which are modified to (I) inhibit or reduce expression of one or more immunosuppressive factors by the cells, and/or (II) express or increase expression of one or more immunostimulatory factors by the cells, and/or (ill) express or increase expression of one or more tumor-associated antigens (TAAs), including TAAs that have been mutated, and which comprise cancer cell lines that natively express a heterogeneity of tumor associated antigens and/or neoantigens, and/or (iv) express one or more tumor fitness advantage mutations, including but not limited to driver mutations. Also provided herein are methods of making and preparing the colorectal cancer vaccine compositions and methods of use thereof.

17.WO/2022/092828VACCINE COMPOSITION FOR PREVENTION OR TREATMENT OF SARS-CORONAVIRUS-2 INFECTION
WO - 05.05.2022

Clasificación Internacional C07K 14/005 Nº de solicitud PCT/KR2021/015262 Solicitante SK BIOSCIENCE CO., LTD. Inventor/a SEO, Ki-weon

The present invention provides a recombinant antigen protein for prevention of SARS-coronavirus-2 infection and a vaccine composition comprising same, the recombinant antigen protein comprising a polypeptide derived from the S1 subunit of a spike protein of SARS-coronavirus-2, and a polypeptide forming the Tetanus toxin (TT) epitope P2 domain.

18.3990012IMPFSTOFF GEGEN DAS AFRIKANISCHE SCHWEINEFIEBER

EP - 04.05.2022

Clasificación Internacional A61K 39/12 Nº de solicitud 20743434 Solicitante PHIBRO ANIMAL HEALTH CORPORATION Inventor/a FINGER AVNER

Peptides predicted to be immunogenic against African swine fever virus (ASFV) and vaccine compositions that include the peptides are disclosed herein. In some embodiments, these compositions comprise or consist of one or more peptides comprising the amino acid sequence set forth in SEQ ID NOs: 2–2273. In other embodiments, the compositions comprise viral vectors or host cells, or combinations thereof, that comprise one or more of the peptides. In other embodiments, the compositions comprise nucleic acid molecules comprising one or more of the peptides. The compositions disclosed can include one or more additional components, such as, but not limited to, a carrier, an adjuvant, an additional therapeutic, or combinations thereof. Containers and kits that comprise the compositions are described. Uses of the compositions can include administration to an animal to induce an immune response in the animal, or to immunize the animal against ASFV. Administration can be accomplished using one or more of various methods as described herein, such as intramuscular or intranasal administration.

19.WO/2022/093065RECOMBINANT POLYPEPTIDE BASED ON BIRCH POLLEN ALLERGEN AND APPLE ALLERGEN

WO - 05.05.2022

Clasificación Internacional A61K 39/35 Nº de solicitud PCT/RU2021/000437 Solicitante NATIONAL RESEARCH CENTER INSTITUTE OF IMMUNOLOGY FEDERAL MEDICAL-BIOLOGICAL AGENCY OF RUSSIA Inventor/a KHAITOV, Musa Rakhimovich

The invention relates to medicine, specifically to biotechnology, immunology and allergology, and concerns the production of a recombinant polypeptide for allergen-specific immunotherapy, said peptide being capable of inducing blocking IgG-antibodies to birch pollen allergen and cross-reactive food allergens. A recombinant polypeptide for treating or preventing allergies to birch pollen and apple allergen contains peptide fragments of wild-type allergen of birch pollen and apple joined with the surface polypeptide PreS of the hepatitis B virus, and has the amino acid sequence SEQ ID NO 2. A recombinant peptide is produced that contains epitopes necessary to activate protective antibodies against Bet v 1 and Mal d 1 in a single protein, which makes it possible to produce a single-component vaccine instead of using a vaccine containing two or more allergen derivatives.

20.20220133868TUMOR CELL VACCINES

US - 05.05.2022

Clasificación Internacional A61K 39/00 Nº de solicitud 17516149 Solicitante NEUVOGEN, INC. Inventor/a Bernadette Ferraro

The present disclosure provides an allogeneic whole cell cancer vaccine platform that includes compositions and methods for treating and preventing cancer. Provided herein are compositions containing a therapeutically effective amount of cells from one or more cancer cell lines, some or all of which are modified to (i) inhibit or reduce expression of one or more immunosuppressive factors by the cells, and/or (ii) express or increase expression of one or more immunostimulatory factors by the cells, and/or (iii) express or increase expression of one or more tumor-associated antigens (TAAs), including TAAs that have

been mutated, and which comprise cancer cell lines that natively express a heterogeneity of tumor associated antigens and/or neoantigens, and/or (iv) express one or more tumor fitness advantage mutations, including but not limited to acquired tyrosine kinase inhibitor (TKI) resistance mutations, EGFR activating mutations, and/or (v) express modified ALK intracellular domain(s), and/or express one or more driver mutations. Also provided herein are methods of making and preparing the vaccine compositions and methods of use thereof.

21.WO/2022/093658IN SITU VACCINE FOR CANCER CELL AND TUMOR TREATMENT
WO - 05.05.2022
Clasificación Internacional A61K 9/06 Nº de solicitud PCT/US2021/056391 Solicitante WANG, Tianxin Inventor/a WANG, Tianxin
This disclosure provides agents, compositions and methods for treating cancer by treating tumor in a subject. The composition comprises cancer cell inactivating agent and immune activity enhancing agent in a sustained release formulation, which can be used as intratumoral injection to convert the treated tumor into an in situ vaccine for cancer. Suitable immune activity enhancing agents include TLR agonist and STING agonist.

22.20220133869BREAST CANCER TUMOR CELL VACCINES
US - 05.05.2022
Clasificación Internacional A61K 39/00 Nº de solicitud 17516259 Solicitante NEUVOGEN, INC. Inventor/a Bernadette Ferraro
The present disclosure provides an allogeneic whole cell cancer vaccine platform that includes compositions and methods for treating and preventing breast cancer. Provided herein are compositions containing a therapeutically effective amount of cells from one or more cancer cell lines, some or all of which are modified to (i) inhibit or reduce expression of one or more immunosuppressive factors by the cells, and/or (ii) express or increase expression of one or more immunostimulatory factors by the cells, and/or (iii) express or increase expression of one or more tumor-associated antigens (TAAs), including TAAs that have been mutated, and which comprise cancer cell lines that natively express a heterogeneity of tumor associated antigens and/or neoantigens, and/or (iv) express one or more tumor fitness advantage mutations, including but not limited to driver mutations. Also provided herein are methods of making and preparing the breast cancer vaccine compositions and methods of use thereof.

23.WO/2022/090357COMBINATION VACCINE FOR PROTECTING SWINE AGAINST VARIOUS DISORDERS
WO - 05.05.2022
Clasificación Internacional A61K 39/12 Nº de solicitud PCT/EP2021/079912 Solicitante INTERVET INTERNATIONAL B.V. Inventor/a KOOIJMAN, Sietske
The present invention pertains to a vaccine comprising in combination non-replicating immunogen of porcine circo virus type 2 (PCV2), non-replicating immunogen of Mycoplasma hyopneumoniae and conjugated deoxynivalenol (DON) for protecting swine against an infection with porcine circo virus type 2, an infection with Mycoplasma hyopneumoniae and DON induced mycotoxicosis.

24.WO/2022/092921VIRAL VECTOR COMPRISING SARS-COV-2 ANTIGEN, AND USE THEREOF
WO - 05.05.2022
Clasificación Internacional C12N 15/86 Nº de solicitud PCT/KR2021/015484 Solicitante SK BIOSCIENCE CO., LTD. Inventor/a SEO, Ki-weon
The present invention relates to: a nucleic acid construct in which a heterogenous polynucleotide encoding at least one structural protein of SARS-CoV-2 or a variant thereof is inserted into a cDNA molecule encoding a full-length measles virus (MV) antigenomic (+) RNA strand, the at least one structural protein being selected from the group consisting of spike (S), nucleocapsid (N), and membrane (M) proteins; a viral vector

comprising the construct; and a composition, preferably, a vaccine, for preventing SARS-CoV-2 infection, comprising the construct. A vaccine of the present invention is safe and has the excellent effect of inducing cell-mediated immune responses.

25.WO/2022/094391BREAST CANCER TUMOR CELL VACCINES
WO - 05.05.2022
Clasificación Internacional A61K 39/00 Nº de solicitud PCT/US2021/057543 Solicitante NEUVOGEN, INC. Inventor/a FERRARO, Bernadette
The present disclosure provides an allogeneic whole cell cancer vaccine platform that includes compositions and methods for treating and preventing breast cancer. Provided herein are compositions containing a therapeutically effective amount of cells from one or more cancer cell lines, some or all of which are modified to (i) inhibit or reduce expression of one or more immunosuppressive factors by the cells, and/or (ii) express or increase expression of one or more immunostimulatory factors by the cells, and/or (iii) express or increase expression of one or more tumor-associated antigens (TAAs), including TAAs that have been mutated, and which comprise cancer cell lines that natively express a heterogeneity of tumor associated antigens and/or neoantigens, and/or (iv) express one or more tumor fitness advantage mutations, including but not limited to driver mutations. Also provided herein are methods of making and preparing the breast cancer vaccine compositions and methods of use thereof.

26.WO/2022/094386TUMOR CELL VACCINES
WO - 05.05.2022
Clasificación Internacional A61K 39/00 Nº de solicitud PCT/US2021/057536 Solicitante NEUVOGEN, INC. Inventor/a FERRARO, Bernadette
The present disclosure provides an allogeneic whole cell cancer vaccine platform that includes compositions and methods for treating and preventing cancer. Provided herein are compositions containing a therapeutically effective amount of cells from one or more cancer cell lines, some or all of which are modified to (I) inhibit or reduce expression of one or more immunosuppressive factors by the cells, and/or (II) express or increase expression of one or more immunostimulatory factors by the cells, and/or (III) express or increase expression of one or more tumor-associated antigens (TAAs), including TAAs that have been mutated, and which comprise cancer cell lines that natively express a heterogeneity of tumor associated antigens and/or neoantigens, and/or (iv) express one or more tumor fitness advantage mutations, including but not limited to acquired tyrosine kinase inhibitor (TKI) resistance mutations, EGFR activating mutations, and/or (v) express modified ALK intracellular domain(s), and/or express one or more driver mutations. Also provided herein are methods of making and preparing the vaccine compositions and methods of use thereof.

27.3990117SUBSTITUIERTE BENZYL-TRIAZOLVERBINDUNGEN ZUR HEMMUNG VON CBL-B UND DEREN WEITERE VERWENDUNGEN
EP - 04.05.2022
Clasificación Internacional A61P 35/00 Nº de solicitud 20742593 Solicitante NURIX THERAPEUTICS INC Inventor/a SANDS ARTHUR T
Compounds of formula (I), compositions, and methods for use in inhibiting the E3 enzyme Cbl-b in the ubiquitin proteasome pathway are disclosed. The compounds, compositions, and methods can be used to modulate the immune system, to treat diseases amenable to immune system modulation, and for treatment of cells *in vivo, in vitro,* or *ex vivo*. Also disclosed are pharmaceutical compositions comprising a Cbl-b inhibitor and a cancer vaccine, as well as methods for treating cancer using a Cbl-b inhibitor and a cancer vaccine; and pharmaceutical compositions comprising a Cbl-b inhibitor and an oncolytic virus, as well as methods for treating cancer using a Cbl-b inhibitor and an oncolytic virus.

28.3990092FESTE DOSIERFORMULIERUNGEN ZUR NADELFREIEN ABGABE

EP - 04.05.2022
Clasificación Internacional A61M 37/00 Nº de solicitud 20735673 Solicitante ENESI PHARMA LTD Inventor/a GRANT DAVID ANDREW
The present disclosure relates to solid dose formulations for needle-free delivery comprising 0.01 to 60 (w/w) of one or more therapeutic agent and/or prophylactic agent; and 40.0% to 99.99 % (w/w) of dextran. The invention further concerns methods of producing a solid dose formulation tablet and application its particular medical uses, in particular as a vaccine.

29.20220133876NOVEL RECOMBINANT INFLUENZA VIRUS HAVING IMMUNE AND THERAPEUTIC RESPONSES TO HETEROLOGOUS INFLUENZA A VIRUS, AND GENETIC VECTOR AND THERAPEUTIC VACCINE COMPRISING SAME
US - 05.05.2022
Clasificación Internacional A61K 39/145 Nº de solicitud 17431070 Solicitante I.D.BIO Inventor/a Young-Jae SI
The present disclosure relates to a novel recombinant influenza virus, in which an interferon-beta gene, which is a foreign gene associated with an antiviral action, is introduced to an NS1 gene which is an influenza virus gene that is expressed first in the host to suppress the host immune system when infected with the influenza virus, and, in contrast to existing research, the interferon-beta is separated from the NS1 protein to carry out an intrinsic function of interferon-beta of inducing an antiviral action.

30.20220133870NOVEL PEPTIDES AND COMBINATION OF PEPTIDES FOR USE IN IMMUNOTHERAPY AGAINST PROSTATE CANCER AND OTHER CANCERS
US - 05.05.2022
Clasificación Internacional A61K 39/00 Nº de solicitud 17576067 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.

31.20220137046CHIMERIC PROTEIN, METHOD OF PRODUCTION AND USE THEREOF, AND ALSO A NUCLEIC ACID MOLECULE, EXPRESSION CASSETTE, EXPRESSION VECTOR, HOST CELL, COMPOSITION FOR THE DIAGNOSIS OF LEISHMANIASIS, KIT FOR THE DIAGNOSIS OF LEISHMANIASIS AND METHOD OF DIAGNOSIS OF LEISHMANIASIS IN VITRO
US - 05.05.2022
Clasificación Internacional G01N 33/569 Nº de solicitud 17433206 Solicitante FUNDÃÇAO OSWALDO CRUZ Inventor/a Osvaldo Pompílio de Melo NETO
The present invention relates to chimeric proteins, their uses and production method comprising native protein fractions from *Leishmania infantum* for the Visceral Leishmaniasis diagnosis. The invention also relates to nucleic acid, expression cassette, expression vector, host cell, visceral leishmaniasis diagnostic kit, visceral leishmaniasis diagnostic kit, visceral leishmaniasis diagnostic method, and vaccine composition.

32.WO/2022/091083VACCINE
WO - 05.05.2022
Clasificación Internacional A61K 39/02 Nº de solicitud PCT/IL2021/051264 Solicitante YAHALOMI, Erez Inventor/a YAHALOMI, Erez

Methods and systems and architecture for producing cells, virus and bacteria of different sizes and structures by parameters control of temperature or humidity. While these parameters can be constant or time dependent. Said systems may comprising heating elements such as electric heaters and steam generated in boilers, incubating chambers and cooling elements such as cooling towers or ammonia refrigerants.

33.20220133432VACCINATION VERIFICATION BRACELET
US - 05.05.2022
Clasificación Internacional A61B 90/96 Nº de solicitud 17500492 Solicitante Marian Elizabeth Guirguis Inventor/a Marian Elizabeth Guirguis
Vaccine status verification devices and systems for third parties to determine and verify the vaccination status of a user. In one embodiment, information relating to the vaccination status, vaccination date(s), and optionally other information related to a user is stored on and displayable from a bracelet worn by the user.

34.WO/2022/092779VIRAL VECTOR COMPRISING SARS-CORONAVIRUS-2 ANTIGEN MATERIAL AND USE OF SAME
WO - 05.05.2022
Clasificación Internacional C12N 15/86 Nº de solicitud PCT/KR2021/015139 Solicitante SK BIOSCIENCE CO., LTD. Inventor/a SEO, Ki-weon
The present invention provides a composition for preventing SARS-coronavirus-2 infection, comprising a nucleic acid construct having at least one structural protein of SARS-coronavirus-2, or a heterologous polynucleotide encoding a variant thereof, inserted into a cDNA molecule encoding an antigenomic (+) RNA strand of vesicular stomatitis virus. The vaccine of the present invention is safe and highly effective at inducing cell-mediated immune responses.

35.WO/2022/093979PEPTIDE-BASED VACCINE GENERATION
WO - 05.05.2022
Clasificación Internacional G16B 30/20 Nº de solicitud PCT/US2021/056879 Solicitante NEC LABORATORIES AMERICA, INC. Inventor/a MIN, Renqiang
Methods and systems for generating (208) a peptide sequence include transforming an input peptide sequence into disentangled representations, including a structural representation and an attribute representation, using an autoencoder model. One of the disentangled representations is modified (210). The disentangled representations, including the modified disentangled representation, are transformed (212) to generate a new peptide sequence using the autoencoder model.

36.WO/2022/090679CORONAVIRUS POLYPEPTIDE
WO - 05.05.2022
Clasificación Internacional A61K 39/12 Nº de solicitud PCT/GB2021/051129 Solicitante OXFORD VACMEDIX UK LIMITED Inventor/a JIANG, Shisong
The present invention relates to polypeptides and compositions of said polypeptides and/or their encoding polynucleotides for the prophylactic vaccination and/or therapeutic treatment of coronavirus infections, as well as methods for the manufacture of a polypeptide vaccine and the use of polypeptides and/or their encoding polynucleotides in treating, preventing, and/or diagnosing coronavirus infection.

37.3990014ATTENUIERTE DENGUE-VIREN
EP - 04.05.2022
Clasificación Internacional A61K 39/12 Nº de solicitud 20833206 Solicitante CODAGENIX INC Inventor/a MUELLER STEFFEN
The present invention provides for modified Flavivirus such as a modified dengue virus type 1, 2, 3, 4, a combination of these, or a tetravalent combination of these. The modification according to various aspects of the invention results in reduced viral protein expression compared to a parent virus, wherein the reduction

in expression is the result of recoding one or more regions of the virus. For example, the prM, or envelope (E) region can be recoded. In various embodiments one or more regions are recoded by reducing the codon pair bias or codon usage bias of the protein-encoding sequence. These modified Flaviviruses are used as vaccine compositions to provide a protective immune response.

38.3990008KOMBINATIONSTHERAPIE
EP - 04.05.2022
Clasificación Internacional A61K 39/00 Nº de solicitud 20737377 Solicitante ETHERNA IMMUNOTHERAPIES NV Inventor/a COOLS MARINA
The present invention in general relates to combinations of mRNA molecules encoding CD40, caTLR4 and CD70 with mRNA molecules encoding tumor-associated antigens for use as therapeutic vaccine in the treatment of metastatic cancer patients primarily with stable malignant melanoma disease, but also extending into other cancer types and to patient whose disease has shown partial response on prior therapy. Said uses may further encompass the administration of checkpoint inhibitors. The present invention further provides administration schemes for such therapies focusing on administration of the therapeutic into lymph nodes, so called intra-nodal therapy.

39.3990840TEMPERATURGEREGELTER LAGERBEHÄLTER
EP - 04.05.2022
Clasificación Internacional F25D 3/08 Nº de solicitud 20735557 Solicitante B MEDICAL SYSTEMS SARL Inventor/a GANSEN RENE
A passive cold storage container, notably a vaccine transport container, comprises: • - a product storage compartment (11); • - one or more ice-pack compartment(s) (14-17) arranged adjacent to the product storage compartment, the ice-pack compartment(s) being spaced from the product storage compartment by a thermal barrier (26-30); and • - a thermally insulated envelope (18) surrounding the product storage compartment and the ice-pack compartment(s). The thermal barrier comprises a phase change material having a solid/liquid transition temperature which is ≥ 1.0 °C and ≤ 10°C. The configuration provides user-independent freeze-free protection.

40.20220135647NOVEL PEPTIDES AND COMBINATION OF PEPTIDES FOR USE IN IMMUNOTHERAPY AGAINST ESOPHAGEAL CANCER AND OTHER CANCERS
US - 05.05.2022
Clasificación Internacional C07K 14/74 Nº de solicitud 17541537 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.

41.20220135648NOVEL PEPTIDES AND COMBINATION OF PEPTIDES FOR USE IN IMMUNOTHERAPY AGAINST ESOPHAGEAL CANCER AND OTHER CANCERS
US - 05.05.2022
Clasificación Internacional C07K 14/74 Nº de solicitud 17541555 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.

42.20220135646NOVEL PEPTIDES AND COMBINATION OF PEPTIDES FOR USE IN IMMUNOTHERAPY AGAINST ESOPHAGEAL CANCER AND OTHER CANCERS
US - 05.05.2022
Clasificación Internacional C07K 14/74 Nº de solicitud 17529322 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.

43.WO/2022/089233RECOMBINANT SPIKE PROTEIN, AND PREPARATION METHOD THEREFOR AND APPLICATION THEREOF
WO - 05.05.2022
Clasificación Internacional C07K 14/165 Nº de solicitud PCT/CN2021/124364 Solicitante SHANGHAI ZERUN BIOTECHNOLOGY CO., LTD. Inventor/a AN, Jiao
Disclosed in the present invention are a recombinant spike protein, an encoding nucleic acid therefor, a preparation method therefor, a vaccine composition comprising the recombinant spike protein, and an application thereof. The recombinant spike protein can be used to prevent SARS-CoV-2 infection or a disease caused by SARS-CoV-2 infection.

44.WO/2022/091003PRE-FILLED MULTI-FLUID MEDICAL DELIVERY ASSEMBLIES
WO - 05.05.2022
Clasificación Internacional A61M 5/19 Nº de solicitud PCT/IB2021/059993 Solicitante KOSKA FAMILY LIMITED Inventor/a KOSKA, Marc
A pre-filled medical delivery assembly can have a blow-fill-seal (BFS) module, a manifold, and a casing. The BFS module can have a pair of reservoirs, and a pair of sealed ports. Each reservoir can have a respective liquid agent therein. Each port can be in fluid communication with a respective one of the reservoirs. Part of the BFS module can be inserted into the manifold, and the casing can protect part of the BFS module exposed from the manifold. An orientation of the casing can be reversed, and the casing can be used to push the BFS module into the manifold to breach the seals and/or to compress the reservoirs to dispense the liquid agents. The disclosed assemblies can combine the liquid agents from the BFS module and deliver the combination as a single dose of a therapeutic agent (e.g., vaccine, drug, medicament, etc.) to a patient.

45.20220135636NOVEL PEPTIDES AND COMBINATION OF PEPTIDES FOR USE IN IMMUNOTHERAPY AGAINST LUNG CANCER, INCLUDING NSCLC, SCLC AND OTHER CANCERS
US - 05.05.2022
Clasificación Internacional C07K 14/47 Nº de solicitud 17576714 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.

46.WO/2022/090696VACCINE
WO - 05.05.2022
Clasificación Internacional A61K 39/12 Nº de solicitud PCT/GB2021/052769 Solicitante THE PIRBRIGHT INSTITUTE Inventor/a IQBAL, Munir
The present invention relates to a genetically engineered protein comprising: at least one binding domain which is capable of binding to a cell surface protein on an avian antigen presenting cell; and a) at least one antigenic polypeptide or b) at least one binding domain which is capable of binding to at least one antigenic polypeptide. The present invention also relates to avian vaccines comprising at least one binding domain which is capable of binding to a cell surface protein on an avian antigen presenting cell; and a) at least one antigenic polypeptide or b) at least one binding domain which is capable of binding to at least one antigenic polypeptide and to the use of such vaccines to treat and/or prevent disease in avian subjects.

47.20220135635NOVEL PEPTIDES AND COMBINATION OF PEPTIDES FOR USE IN IMMUNOTHERAPY AGAINST OVARIAN CANCER AND OTHER CANCERS
US - 05.05.2022
Clasificación Internacional C07K 14/47 Nº de solicitud 17525196 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.

48.3990482FRAGMENTE VON APOLIPOPROTEIN E
EP - 04.05.2022
Clasificación Internacional C07K 14/775 Nº de solicitud 20733854 Solicitante EISAI R&D MAN CO LTD Inventor/a HAGIWARA HIROAKI
The present invention relates to novel fragments of apolipoprotein E (ApoE). These ApoE fragments have a variety of uses including as components of vaccine compositions, particularly vaccines for the prevention or treatment of neurological disorders such as Alzheimer's disease. The ApoE fragments may also be used in screening methods and methods of detection.

49.WO/2022/090586SISTEMA DE RECIRCULACIÓN Y/O ACONDICIONADO DE AIRE PARA SU USO COMO VACUNACIÓN
WO - 05.05.2022
Clasificación Internacional F24F 3/16 Nº de solicitud PCT/ES2020/070664 Solicitante TRIM BIOTECH, S.L. Inventor/a RICO AMAT, Justo
La invención se refiere a un sistema de recirculación y/o acondicionado de aire. Este sistema de recirculación de aire posee medios de inactivación de microorganismos patógenos presentes en un espacio de pública concurrencia, tales como virus y bacterias, bloqueando su capacidad de replicación mediante el dañado de su material genético (ADN o ARN), pero preservando su capacidad inmunogénica. Este sistema va más allá del procedimiento actual que consiste en la inactivación y retirada de los microorganismos patógenos del ambiente, puestoque una vez inactivados dichos microorganismos, es

capaz de recircularlos ya inactivados al espacio de pública concurrencia del que provenían, de forma que estos sean inhalados por los sujetos presentes en dicho ambiente, por ejemplo, por personas, y les sirva como vacuna, aportándoles inmunidad frente a dichos microorganismos patógenos

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

Results Search in US Patent Collection db for: (ABST/vaccine AND ISD/20220503->20220513),13 records.

PAT. NO.		Title
1	11,001,830	Method of detecting new immunogenic T cell epitopes and isolating new antigen-specific T cell receptors by means of an MHC cell library
2	11,001,617	Immunotherapy with A*01 restricted peptides and combination of peptides against cancers and related methods
3	11,001,616	Peptides and combination of peptides for use in immunotherapy against lung cancer, including NSCLC, SCLC and other cancers
4	11,000,587	Use as immune enhancer or pharmaceutical composition for treatment of dementia, comprising phytosphingosine-1-phosphate or derivative thereof
5	11,000,580	Roadmap for controlling malaria
6	10,995,140	GM-CSF/CD40L vaccine and checkpoint inhibitor combination therapy
7	10,995,120	Vaccines and vaccine components for inhibition of microbial cells
8	10,994,003	Dimethyl fumarate and vaccination regimens
9	10,994,001	Edible vaccination against microbial pathogens
10	10,994,000	Rabbit coccidiosis vaccine and application thereof
11	10,993,964	Peptides and combination of peptides of non-canonical origin for use in immunotherapy against different types of cancers
12	10,993,963	Peptides and combination of peptides for use in immunotherapy against leukemias and other cancers
13	10,993,962	Peptides and combination of peptides of non-canonical origin for use in immunotherapy against different types of cancers

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Edición: Annia Ramos Rodríguez aramos@finlay.edu.cu
Ma. Victoria Guzmán Sánchez mguzman@finlay.edu.cu
Randelys Molina Castro rmolina@finlay.edu.cu
Irina Crespo Molina icrespo@finlay.edu.cu
Yamira Puig Fernández yamipuig@finlay.edu.cu
Rolando Ochoa Azze ochoa@finlay.edu.cu

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