



## EN ESTE NÚMERO

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.

- Análisis bibliométrico sobre vacunas derivadas del análisis de los genomas: vacunología inversa.
- Noticias en la Web sobre vacunas.
- Artículos científicos más recientes de Medline sobre vacunas.
- Patentes más recientes en PatentScope sobre vacunas.
- Patentes más recientes en USPTO sobre vacunas.

## Análisis bibliométrico sobre vacunas derivadas del análisis de los genomas: vacunología inversa

### Estrategia de búsqueda:

TITLE: ("reverse vaccinology") 144 records

### Periodo de estudio 2000-2020

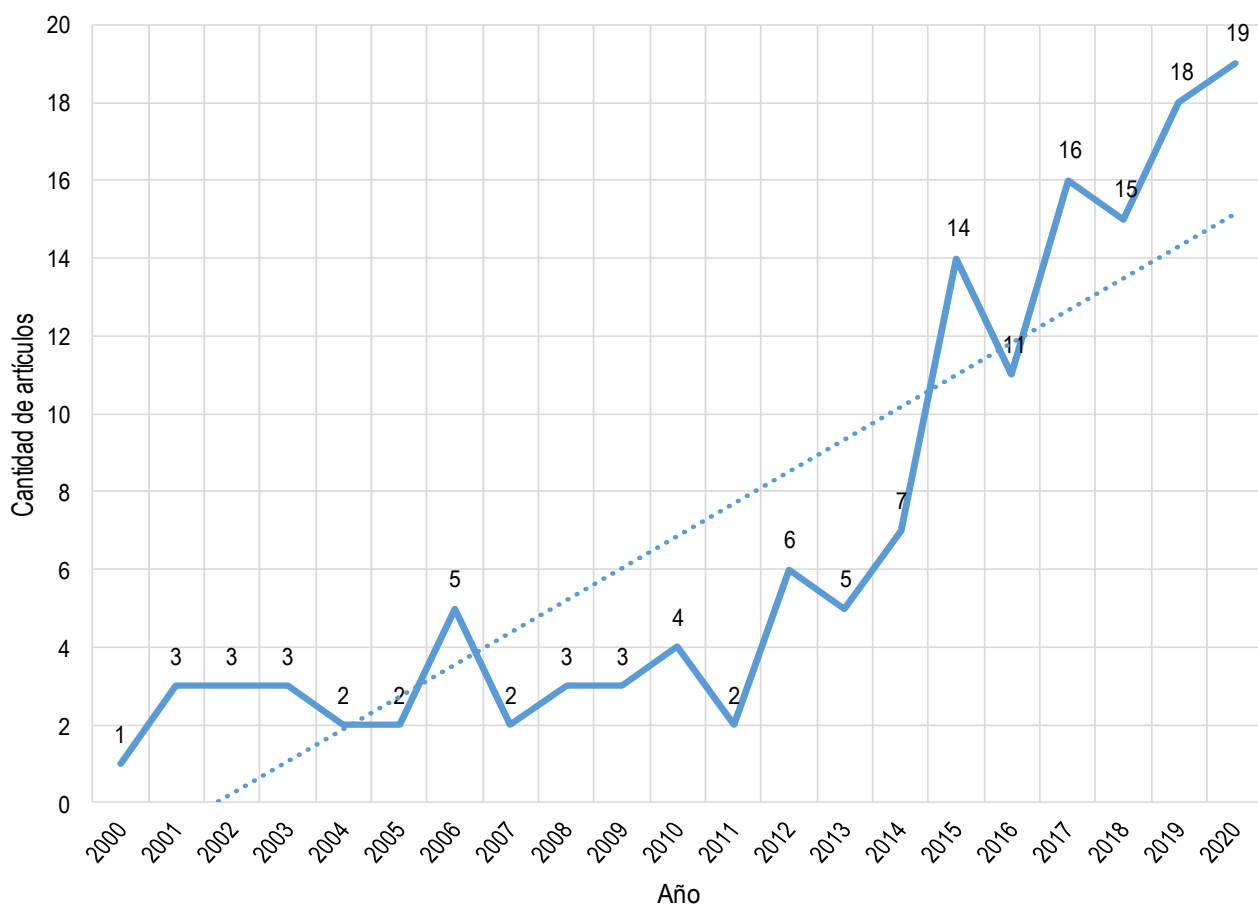
Las variables utilizadas en el análisis fueron:

- ⇒ Productividad científica por año.
- ⇒ Autores con mayor productividad científica.
- ⇒ Revistas con mayor número de publicaciones sobre el tema.
- ⇒ Instituciones que han trabajado el tema de estudio.
- ⇒ Países a la vanguardia sobre el tema.

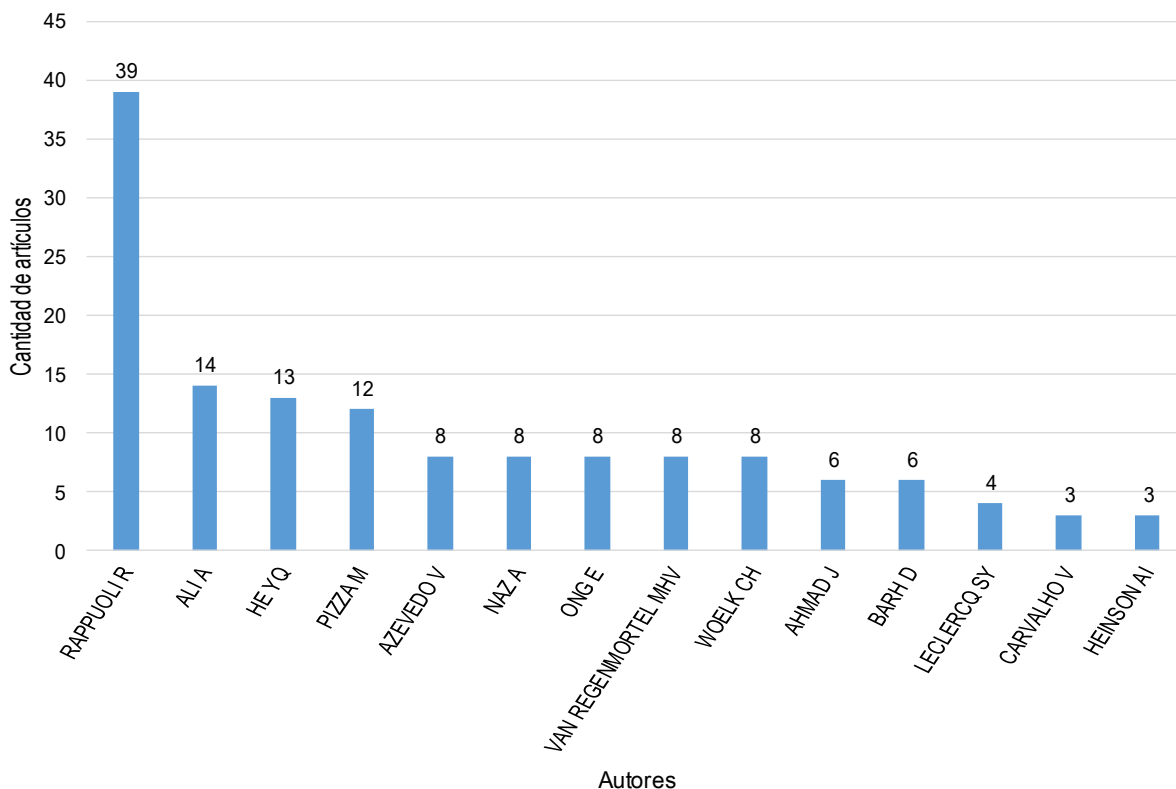
### Fuente de información utilizada:



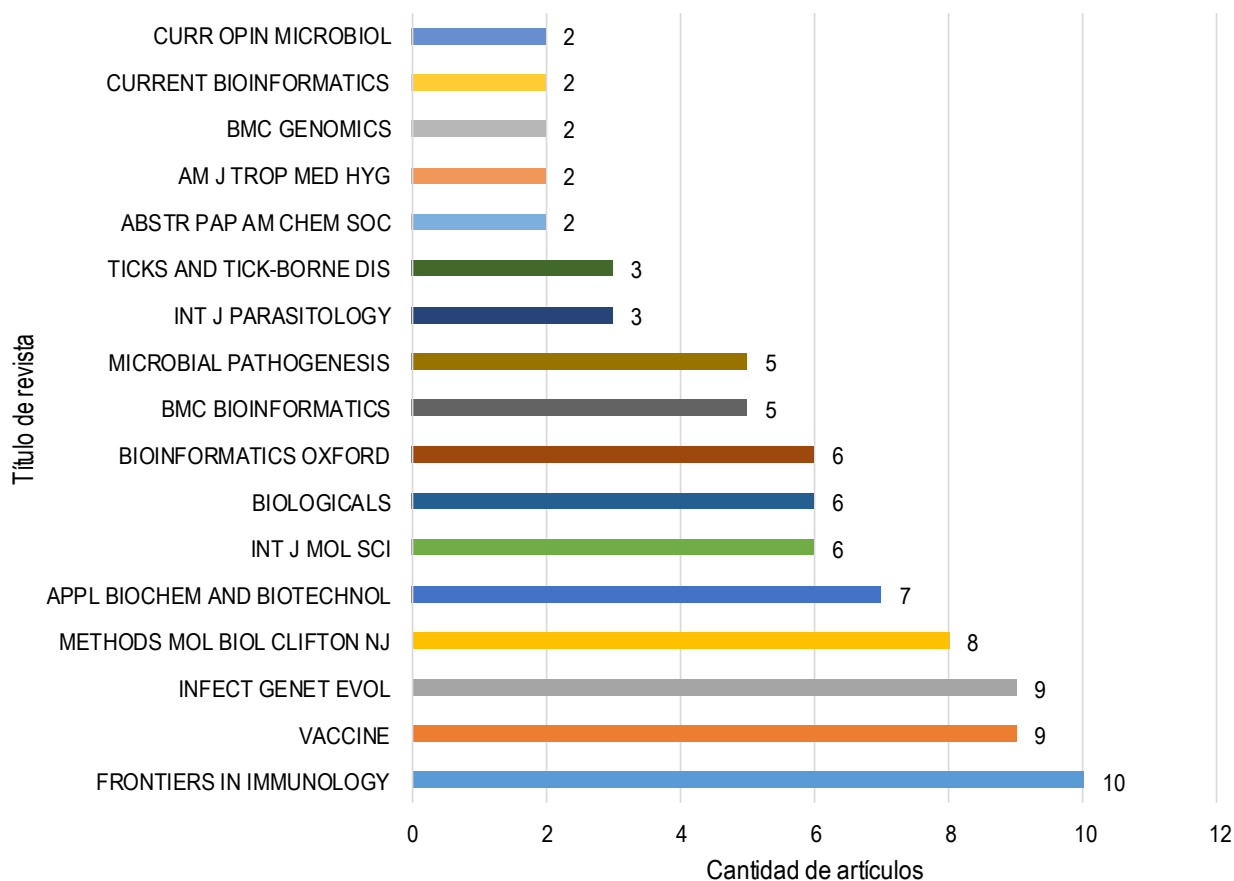
### Productividad científica por año



## Autores con mayor productividad científica



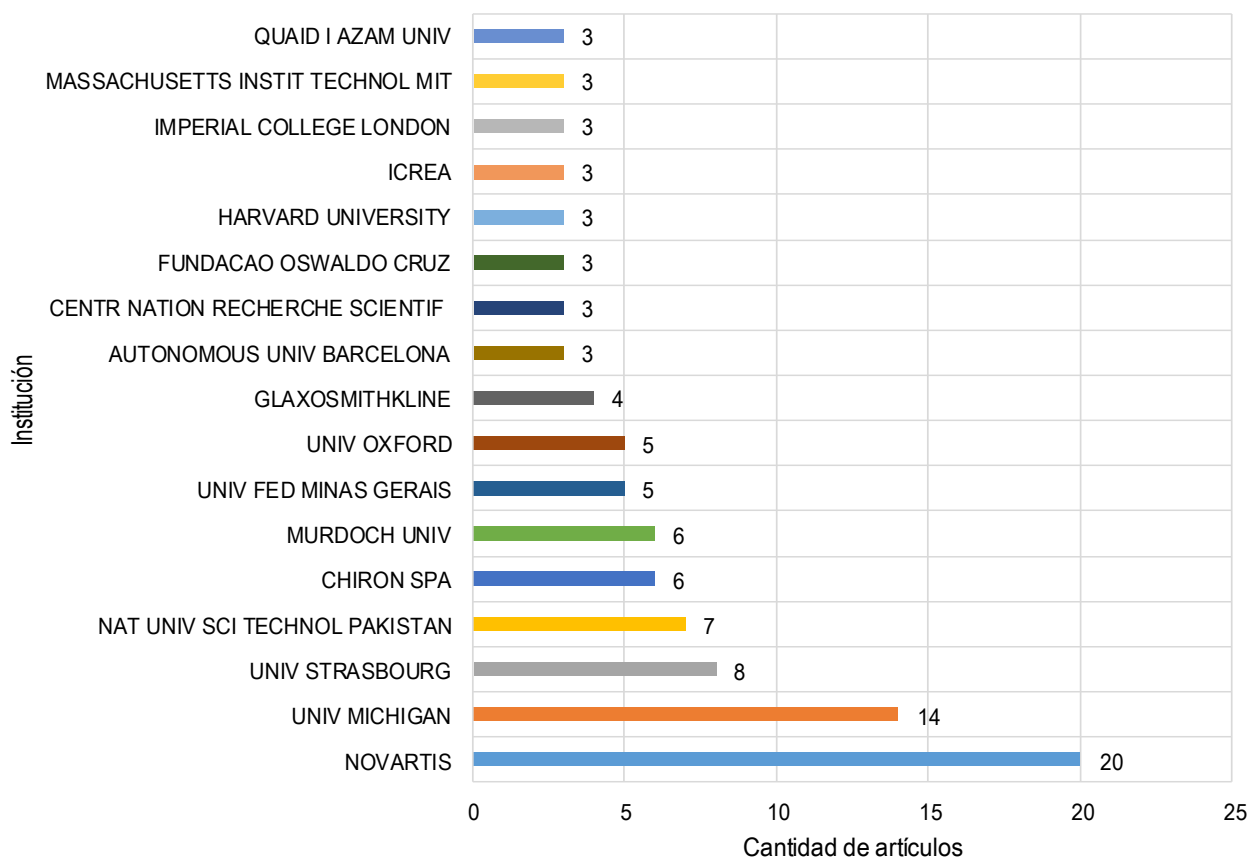
## Revistas científicas que más han publicado sobre el tema



## Países de mayor producción científica en el tema



## Instituciones que más han trabajado el tema de estudio



## Noticias en la Web

### A vaccine helped end racial disparities in pneumococcal disease. There's hope a vaccine will do the same for Covid-19

**24 oct.** The world is focused on a Covid-19 vaccine to get everyone back to some version of normal, but the vaccine could also have another beneficial effect: It could reduce the disparities that have made the disease so deadly for some racial groups.

A recent study showed that a vaccine against pneumococcal disease erased racial differences in the rates of those infections. Pneumococcal bacteria cause potentially deadly types of pneumonia and meningitis, as well as heart and bloodstream infections.

"These results are amazing because they demonstrate that with the use of an effective vaccine, we in the US can reach out and literally eliminate disparities," said Dr. William Schaffner, an infectious disease expert at Vanderbilt University Medical Center and co-author of the study, which was published in the *Journal of Infectious Diseases*.

There's hope a vaccine against the coronavirus could do the same for Covid-19 disparities, he said, but two concerns would need to be addressed.

First, the vaccine would need to

be widely distributed to minority communities. Second, there would need to be education about the vaccine aimed specifically at minorities, who are especially hesitant to take it.

"We're going to have to look these hard truths in the face," Schaffner said.

#### **Vaccine made racial disparities disappear**

Before the introduction of a pneumococcal vaccine in 2010, Black people were approximately 1.5 times more likely than White people to get sick from pneumococcal infections, according to the Vanderbilt study.

There are many reasons for those differences, including genetic factors, comorbidities, overcrowding, hygiene conditions, nutrition and poverty, according to a 2014 editorial in *Clinical Infectious Diseases*.

The recent study looked at 20 Tennessee counties that represent 55% of the state's population. After the introduction of the vaccine, the incidence of pneumococcal disease declined overall, and differences between Blacks and Whites disappeared. White people actually had slightly higher rates of illness.

Schaffner said other parts of the country have likely seen similar

results.

He attributed the success to vaccination of children, who receive pneumococcal vaccines at ages 2 months, 4 months, 6 months, and 12 to 15 months.

For more than 25 years, the Vaccines for Children program at the US Centers for Disease Control and Prevention has helped provide vaccines to children of all backgrounds, even if their parents can't afford them.

"We have the capacity to eliminate disparities in our current system when it's applied comprehensively and intelligently," said Schaffner, a member of the CDC's Advisory Committee on Immunization Practices.

#### **Unclear plans for getting Covid-19 vaccine to minority communities**

With no coronavirus vaccine available yet, there remain stark racial differences in who is impacted by Covid-19. Black people are 2.6 times more likely to get coronavirus than White people, and Latinos are 2.8 times more likely to catch the virus than White people, according to the US Centers for Disease Control and Prevention.

"Our goal is to ensure every American has easy access to a vaccine once available, and ensuring access to minority communities and medically underserved populations is a top priority," according to a

statement sent to CNN by a spokesperson for the Department of Health and Human Services.

It's unclear how the government intends to meet that goal.

Unlike the pneumococcal vaccine, the Covid-19 vaccine campaign will focus on adults at first, not children, and there's no program to ensure adults of all backgrounds have access to vaccines.

Last month, the CDC announced \$200 million in funding to states for Covid-19 vaccine preparedness, but the agency's playbook for states to develop vaccine programs hardly mentions minority communities.

This week, an official with the Association of State and Territorial Health Officials said they still didn't have the federal money necessary to implement vaccine implementation plans.

Minorities have less access to health care, which could

compromise their ability to get the vaccine once it's available.

"There are big time cost and distribution issues that need to be addressed," said Gary Puckrein, president of the National Minority Quality Forum.

It's also not completely clear that the vaccine will be free.

"We feel comfortable that our aspiration and the President's aspiration to provide vaccines to every American at zero out of pocket cost, that we're going to achieve that," Paul Mango, deputy chief of staff for policy at the US Department of Health and Human Services said at a telebriefing with reporters October 9.

### 'A real need to build up confidence'

Even if there's easy access to a free vaccine, there are questions about whether people of color will choose to take it.

Decades of discrimination and abuse by the health care system

has left minorities, particularly Black people, mistrustful of doctors and scientific authorities.

Trust in the US Food and Drug Administration, which will authorize a vaccine, has been further eroded by a sense that the government is rushing the vaccine and forsaking safety, Puckrein said.

A recent poll shows Black people distrust a Covid-19 vaccine more than White people do.

A third of White people said they would shun a Covid-19 vaccine even if it were free and deemed safe and effective, but nearly half of Black people -- 49% -- said they would say no, according to the poll of 1,769 people conducted from August 20 through September 14 by the Kaiser Family Foundation and The Undeclared.

"The FDA's voice has been weakened quite frankly in terms of trust, so there will be a real need to build up confidence in minority populations," Puckrein said.

Fuente: CNN Health. Disponible en <https://cutt.ly/WgDbF4g>

## Ensayan una vacuna para prevenir cáncer de pulmón, intestino y páncreas

**25 oct.** Investigadores del Instituto Francis Crick de Londres han diseñado una vacuna para tratar y prevenir el cáncer de pulmón, intestino y páncreas, cuyos primeros ensayos en laboratorio con ratones han resultado prometedores.

Los investigadores tienen previsto presentar los resultados de este ensayo el próximo domingo en el 32º Simposio EORTC-NCI-AACR sobre dianas moleculares y terapéutica del cáncer, que se tenía que celebrar en Barcelona y que debido a la pandemia se llevará a

cabo de manera virtual este fin de semana.

La vacuna ha sido creada para apuntar a un gen denominado KRAS, que está relacionado con el desarrollo de muchos tipos de cáncer, incluidos los de pulmón, intestino y páncreas.



El estudio de la vacuna ha sido llevado a cabo por la doctora Rachel Ambler, una investigadora posdoctoral, y otros investigadores en el Instituto Francis Crick de Londres.

“Sabemos que, si el gen KRAS falla, eso permite a las células que empiecen a multiplicarse y a convertirse en cancerígenas. Más recientemente, hemos aprendido que, con la ayuda adecuada, el sistema inmunitario puede ser capaz de ralentizar ese proceso”, ha avanzado Ambler en un comunicado difundido por la organización del congreso.

“Queríamos ver si podíamos usar este conocimiento para crear una vacuna del cáncer que pudiera usarse no solo para tratarlo, sino para proporcionar una protección duradera contra la enfermedad y con efectos secundarios mínimos”, ha añadido Ambler.

Los investigadores han creado un conjunto de vacunas que son capaces de suscitar una respuesta inmune contra la mayoría de las mutaciones KRAS más comunes. Las vacunas están compuestas

de dos elementos unidos, un fragmento de la proteína producida por las células del cáncer que tienen el gen KRAS mutado y un anticuerpo que ayuda a que la vacuna llegue a un tipo de célula del sistema inmune denominada dendrítica, que ayuda al sistema inmune a identificar y destruir células cancerígenas, una habilidad que las vacunas pueden reforzar.

Los investigadores han probado la vacuna en ratones que ya tenían tumores de pulmón y en otros a los que se les indujo el crecimiento de tumores.

Estudiaron los ratones para ver si sus sistemas inmunes respondían a la vacuna y también miraron si los tumores se reducían o no llegaban siquiera a formarse.

En los ratones con tumores, el 65% de los tratados con la vacuna seguían vivos 75 días después, en comparación con el 15% de aquellos que no la habían recibido.

En los ratones tratados para inducirles tumores, el 40% de los vacunados seguían libres de

tumores 150 días después, en comparación con solo el 5% de los no vacunados (un ratón).

Al vacunar a los ratones, los investigadores hallaron que la aparición de tumores se veía retrasada de media 40 días.

“Cuando usamos la vacuna como tratamiento, vimos que ralentizaba el crecimiento de tumores en ratones. Y cuando la usamos como una medida de prevención, vimos que no aparecían tumores durante un tiempo bastante largo y que, en muchos casos, no llegaban a aparecer nunca”, ha resumido Ambler.

Algunos ensayos previos de vacunas contra el cáncer han fallado, según cuenta, porque no fueron capaces de crear una respuesta lo suficientemente fuerte del sistema inmune que lograra hallar y destruir células cancerígenas.

“Esta investigación todavía tiene mucho trecho por recorrer antes de que pueda ayudar a prevenir y a tratar el cáncer en personas, pero nuestros resultados sugieren que el diseño de la vacuna ha creado una respuesta fuerte en los ratones, con muy pocos efectos secundarios”, ha concluido.

Fuente: EFE. Disponible en <https://cutt.ly/YgDnc4v>

## Un instituto brasileño es autorizado a importar una vacuna china contra la COVID-19 rechazada por Bolsonaro

**24 oct.** El regulador brasileño Anvisa autorizó el viernes a un centro biomédico a importar 6 millones de dosis de la vacuna contra el coronavirus Sinovac, un día después de que el presidente Jair Bolsonaro dijera que Brasil no compraría la vacuna china.

El Instituto Butantan de São Paulo planea importar inicialmente la vacuna de Sinovac, que se encuentra en

ensayos de fase 3 realizados con la ayuda de una universidad local y aún no está aprobada para un uso más amplio en Brasil. Butantan finalmente fabricaría la vacuna si se demuestra su eficacia.

El gobernador de São Paulo, João Doria, dijo el viernes que Anvisa le dijo que no cederá ante la presión política sobre la aprobación de posibles vacunas contra el coronavirus.

A principios de esta semana, Bolsonaro dijo en las redes sociales que Brasil no compraría la vacuna contra el coronavirus de Sinovac por aparentes preocupaciones políticas, luego de que sus partidarios lo cuestionaran sobre el tema.

Brasil tiene el segundo brote más mortal de COVID-19 después de Estados Unidos, con 156.471 muertos.

Fuente: Reuters. Disponible en <https://cutt.ly/LgDPswJ>

## Pfizer prueba una vacuna experimental de coronavirus en niños de 12 años

**26 oct.** La vacuna experimental contra el coronavirus de Pfizer se está probando ahora en el grupo de edad más joven: niños de hasta 12 años.

El cambio a probar la vacuna de coronavirus en niños más pequeños fue aprobado por la Administración de Medicinas y Alimentos de EE.UU. y las juntas de revisión institucional a principios de este mes, pero Pfizer dividió los grupos de niños en adolescentes mayores de 16 y 17 años y niños pequeños de 12 a 15 años.

Un equipo del Hospital de Niños de Cincinnati terminó de vacunar a 100 niños en el grupo de menores edad la semana pasada, dijo el Dr. Robert

de la vacuna contra el covid-19 de Pfizer en el hospital. La mitad de los voluntarios en esta tercera y última fase de la vacuna de Pfizer están recibiendo un placebo o inyección ficticia.

“Ahora estamos haciendo una pausa para observar las reacciones a la vacuna. En este momento estamos en una pausa planificada para asegurarnos de que todo sea lo más seguro posible”, dijo Frenck a CNN.

Entre los efectos secundarios que los médicos están observando se encuentran bultos, enrojecimiento o dolor en el lugar de la inyección, así como fiebre o dolor.

«Les pediría a otros niños que tomen la vacuna»

Abhinav, de 12 años, es uno de los niños voluntarios en las

pruebas clínicas de la vacuna contra el coronavirus. El estudiante de séptimo grado, cuyos padres pidieron que solo se usara su nombre de pila para proteger su privacidad, espera que la vacunación generalizada ayude a que sus abuelos reanuden las visitas desde la India y que las clases vuelvan a la normalidad en la escuela.

«Creo que a todos en mi escuela les gustaría volver a la normalidad», dijo Abhinav a CNN. “Realmente creo que una vacuna podría prevenir la propagación de la infección. A partir de ahora, probablemente pediría a otros niños que la tomen».

La vacuna experimental es segura para los niños, dice Pfizer

Frenck dijo que la gente puede



estar nerviosa por darles a los niños una vacuna experimental contra el coronavirus, pero señaló que Pfizer ya se ha probado en decenas de miles de adultos.

“La razón por la que podemos usar esta vacuna en niños es que Pfizer tiene 30.000 adultos inscritos y tiene datos de seguridad de todas esas personas”, dijo.

Además, dijo, será importante vacunar a los niños contra el coronavirus si hay alguna esperanza de controlar la pandemia. Es casi seguro que estén contribuyendo a la propagación silenciosa del virus.

«Creo que lo importante que la gente debe recordar es que, si bien los adolescentes no se enferman tanto como los adultos

mayores, no significa que algunos niños no se enfermen y otros no se estén muriendo», dijo Frenck.

“Hasta ahora, 120 niños en Estados Unidos han muerto causa del covid”.

Fuente: CNN en Español. Disponible en <https://cutt.ly/8gDDnkj>

## Estudio demuestra que la vacuna de AstraZeneca y Oxford causa fuerte respuesta inmune

**26 oct.** la vacuna contra la COVID-19 de la Universidad de Oxford y AstraZeneca, ChAdOx1 nCoV-19 (también conocida como AZD1222), arrojó resultados satisfactorios acerca de seguir “con precisión” las instrucciones genéticas programadas por el equipo de científicos de la Universidad, así como la inducción de una “fuerte respuesta inmune.”

El estudio evaluó la frecuencia y precisión con las que la

potencial vacuna copia y lleva a cabo las instrucciones genéticas especificadas en ésta, las cuales incluyen cómo producir la proteína Spike del SARS-CoV-2.

La ChAdOx1 nCoV-19 se elaboró a partir de un virus del resfriado común (adenovirus) de chimpancés, eliminando el 20% de las instrucciones genéticas contenidas en el virus, proceso que impide su replicación o infección en seres humanos, pero permite su producción en laboratorios.

A partir de esta supresión, el virus cuenta con espacio para recibir nuevas instrucciones relacionadas con la proteína Spike y, una vez se encuentra en el organismo humano, se lleva a cabo un proceso conocido como transcripción, en que las instrucciones genéticas de la proteína Spike se “fotocopian” muchas veces.

De esta forma, el sistema inmunológico detecta la proteína del virus y reacciona en consecuencia, pre-entrenándose para una infección real de la COVID-19.

“Este es un estudio importante, ya que podemos confirmar que las instrucciones genéticas que sustentan esta vacuna, que se está desarrollando tan rápido como sea posible de forma segura, se siguen correctamente cuando entran en una célula humana”, dijo el doctor David Matthews, lector de virología de la Escuela de Medicina Celular y Molecular de la Universidad de Bristol.



Fuente: Entrepreneur en Español. Disponible en <https://cutt.ly/GgDFFO3>

## Cuba approves clinical trial for Soberana 02 vaccine against Covid-19

**27 oct.** Cuba's Center for State Control of Medicines, Equipment and Medical Devices (CECMED) certified the phase I clinical trial for the vaccine candidate against Covid-19, Soberana 02, the Finlay Institute released on Tuesday.

'We are pleased to inform that CECMED approved the phase I clinical trial of the vaccine candidate Soberana 02, a mixed vaccine platform with backgrounds at the Finlay Institute, tweeted the institution specialized in the creation of vaccines.

'A know-how distinguishes us in the field of #preventive vaccines,' the message adds.



Recently, the director of the Finlay Institute, Vicente Verez, affirmed in an interview with the Granma newspaper that Soberana 02 is an innovative drug, as it has no precedents among all those developed to fight against the SARS-CoV-2 coronavirus, which causes Covid-19. As explained by the expert on that occasion, the novelty of this new candidate consists of being a mixed vaccine, in which the virus

antigen, the receptor-binding domain (RBD), is chemically linked to the tetanus toxoid.

'We hope that the immunity of Soberana 02 reaches the mucous membrane of the respiratory tract to prevent the entry of the virus, and it will be the vaccine candidate that we will propose to apply in the pediatric population,' Verez stressed.

Fuente: Prensa Latina. Disponible en <https://cutt.ly/3gDGLuY>

## Sanofi y GSK apoyarán a COVAX con 200 millones de dosis de vacuna anticovid

**28 oct.** Sanofi y GSK firmaron una Declaración de Intenciones con Gavi, el administrador jurídico del Mecanismo COVAX, un mecanismo mundial de distribución de riesgos para la adquisición conjunta y la distribución equitativa de las eventuales vacunas contra COVID-19.

Sanofi y GSK tienen la intención de poner a disposición del Mecanismo COVAX 200 millones de dosis de su vacuna contra la COVID-19 a base de

proteína recombinante y adyuvante, si las autoridades reguladoras lo aprueban y sujeto a contrato. Ambas empresas tienen la intención de contribuir a la ambición de COVAX de garantizar que las vacunas contra la COVID-19 que tengan éxito lleguen a quienes las necesitan, sean quienes sean y vivan donde vivan, una vez que obtengan las aprobaciones adecuadas.

"Para hacer frente a una crisis sanitaria mundial de esta magnitud, se necesitan asociaciones únicas.

El compromiso que anunciamos hoy para el Mecanismo COVAX puede ayudarnos a tener juntos una mejor oportunidad de controlar la pandemia", afirmó Thomas Triomphe, vicepresidente ejecutivo y director global de Sanofi Pasteur. "Este momento también refleja nuestro compromiso a largo plazo con la salud mundial y garantiza que nuestras vacunas COVID-19 sean asequibles y accesibles para las personas con mayor riesgo, en cualquier parte del mundo".



Roger Connor, presidente de vacunas de GSK añadió: "Desde que empezamos a trabajar en el desarrollo de las vacunas contra la COVID-19, GSK se ha comprometido a ponerlas a disposición de personas en todo el mundo. Nos enorgullece trabajar con Sanofi para que esta vacuna basada en proteína recombinante con adyuvante esté disponible para los países firmantes del Mecanismo COVAX tan pronto como sea posible; esto tiene el potencial de ser una contribución significativa a la lucha mundial contra la COVID-19".

El Mecanismo COVAX forma parte de COVAX, una colaboración mundial de gobiernos, organizaciones sanitarias mundiales, empresas y organizaciones filantrópicas que trabajan para acelerar el desarrollo, la producción y el acceso equitativo a las vacunas contra COVID-19. COVAX está codirigido por Gavi, la Coalición para Innovaciones en la Preparación ante Epidemias (CEPI) y la OMS y constituye el pilar de las vacunas del

Acceptor del Acceso a las herramientas contra la COVID-19 (Acceptor ACT). Recientemente, más de 180 países y economías se han adherido al Mecanismo COVAX para obtener un acceso oportuno y económico a las vacunas para hacer frente a la escala mundial de la pandemia de la COVID-19.

Gracias a los esfuerzos del Mecanismo COVAX, las vacunas se distribuirán en los países participantes a través del Marco de Asignación de la OMS, recientemente publicado, y del Marco de Valores del Grupo de Expertos en Asesoramiento Estratégico sobre Inmunización (SAGE) de la OMS, que ha comenzado a enmarcar la futura orientación sobre el uso de las vacunas. Estos principios de asignación tienen por objeto garantizar que las personas de todas partes del mundo tengan acceso a las vacunas contra la COVID-19 una vez que estén disponibles.

### **Estado del desarrollo de la vacuna recombinante basada en proteínas adyuvantes**

Sanofi y GSK iniciaron un estudio de fase 1/2 el 3 de septiembre con un total de 440 individuos inscritos, y anticipan los primeros resultados a principios de diciembre del 2020, para apoyar el inicio de un estudio fundamental

de fase 3 antes de que finalice el año. Si estos datos son suficientes para la solicitud de licencia, se prevé solicitar la aprobación regulatoria a partir del primer semestre del 2021. Paralelamente, las empresas están aumentando la fabricación del antígeno y el adyuvante respectivamente.

### **En las primeras líneas de la lucha contra la COVID-19**

Además de la vacuna basada en proteína recombinante en colaboración con GSK, Sanofi está desarrollando una vacuna de ARN mensajero con la compañía Translate Bio. Con varias plataformas de vacunas innovadoras que se están investigando en toda la industria, el ARNm es considerado entre los más prometedores. Los datos preclínicos muestran que dos inmunizaciones de la vacuna de ARNm indujeron altos niveles de anticuerpos neutralizantes que son comparables al rango superior de los observados en humanos infectados. Sanofi espera que el estudio de fase 1/2 inicie en el cuarto trimestre del 2020, con la posible aprobación más temprana en la segunda mitad del 2021. Translate Bio ha establecido la capacidad de fabricación de ARNm y Sanofi espera poder suministrar una capacidad anual de 90 a 360 millones de dosis.

Fuente: MundodeHoy.com . Disponible en <https://cutt.ly/xgDHJUI>

## El Reino Unido advirtió que las primeras vacunas contra el COVID-19 podrían ser imperfectas

**29 oct.** Luego de advertir que las primeras vacunas contra el coronavirus podrían ser imperfectas, la jefa del proyecto de Reino Unido para desarrollar una cura hizo un llamado el miércoles a la cooperación internacional inmediata para prevenir la “mayor recesión mundial de la historia”.

Kate Bingham, quien dirige el grupo de trabajo que desarrolla la vacuna en Gran Bretaña, también pidió no caer en un exceso de optimismo debido a que, señaló, no hay una garantía de que se logre desarrollar una vacuna exitosa contra la COVID-19.

“Es probable que la primera generación de vacunas sea imperfecta y debemos estar preparados para que no prevengan la infección, sino que reduzcan los síntomas, e incluso entonces es posible que no funcionen para todos o por mucho tiempo”, escribió Bingham en un ensayo publicado en la

revista médica The Lancet.

Nunca se ha desarrollado una vacuna contra ningún coronavirus y numerosos intentos para diseñar tratamientos contra el SARS y el MERS, dos enfermedades relacionadas con el virus que causa la COVID-19, han fracasado. Los científicos también han advertido que la inmunidad contra los coronavirus parece desvanecerse con el paso del tiempo y que lograr cualquier inmunidad inducida por una vacuna para protegerse contra infecciones o enfermedades graves podría ser un desafío.

Sin embargo, diversos países, entre ellos Gran Bretaña, están basando sus estrategias para combatir a la COVID-19 en las expectativas de que una vacuna esté disponible a principios del próximo año.

El primer ministro británico, Boris Johnson, por ejemplo, ha implementado una estrategia regional de tres niveles que tiene como objetivo frenar la propagación de la enfermedad hasta que haya una vacuna y, al mismo tiempo, minimizar el daño

económico que provocaría otro confinamiento generalizado.

Mientras tanto, los casos de coronavirus, las hospitalizaciones y las muertes en Reino Unido y en otras partes de Europa están aumentando en medio de una segunda ola de infecciones.

Gran Bretaña creó el grupo de trabajo hace unos meses para acelerar el desarrollo de una vacuna contra el coronavirus. Dos candidatas se encuentran en las últimas etapas de las pruebas y se prevé que los resultados estén listos para finales del año o principios de 2021. Decenas de otras posibles vacunas se encuentran en fases más tempranas de desarrollo.



Fuente: infobae. Disponible en <https://cutt.ly/WgDV89S>

## Lo que se sabe de la nueva variante del SARS-CoV-2 surgida en España

**31 oct.** Un análisis de la Universidad de Basilea, la Escuela Politécnica Federal de Zúrich y el consorcio español SeqCOVID-Spain, liderado por el

Centro Superior de Investigaciones Científicas (CSIC), reveló este jueves que una nueva variante del coronavirus SARS-CoV-2 se expandió por Europa y otras regiones en los

últimos meses desde España.

Los investigadores bautizaron esta mutación como "20A.EU1" y se logró confirmar su presencia en un 80 por ciento de las muestras

analizadas desde España, un 90 por ciento de las del Reino Unido y un 30-40 por ciento de las suizas.

Y aunque en su trabajo los científicos matizaron que esta variante del coronavirus no es más peligrosa que otras, puede no tener un comportamiento distinto o ser la única prevalente en la segunda oleada europea, donde otras mutaciones han sido identificadas, vale la pena profundizar en este hallazgo.

Por lo general, se asume que la mutación de los virus los torna más peligrosos y lo cierto es que estos cambios genéticos son muy frecuentes, según explica Carlos Álvarez, infectólogo y coordinador

nacional de estudios covid-19 para la Organización Panamericana de la Salud (OPS).

De hecho, afirma que las alteraciones no suelen tener un efecto en su comportamiento, por lo que es muy poco probable que una mutación los vuelva más agresivos.

Lo mismo sucede con el SARS-CoV-2, al que diversas investigaciones ya le han encontrado cambios en su huella genética, como la hallada en España. "Estos pueden sonar alarmantes por la mala reputación de las mutaciones, pero no lo son", afirma el experto.

Álvarez insiste en que estos fenómenos son "comunes, normales y

esperables de encontrar", y más en virus del tipo ARN (como los de influenza, el VIH y el SARS-CoV-2). En ese sentido afirma que los investigadores entienden que eso puede ocurrir y han estado alerta, tanto que al ser el virus más estudiado hasta ahora se ha demostrado que el coronavirus incluso muta menos que otros virus.

Y aclara que estas modificaciones naturales del virus no afectan el desarrollo de vacunas y tampoco la manera de enfrentar la pandemia de forma general. O en otras palabras, "no significa que para cada mutación tenga que existir una vacuna o un tratamiento para cada uno", remata Álvarez.

Fuente: EL TIEMPO. Disponible en <https://cutt.ly/1gDBYbd>

## Los tres principales modos de transmisión del SARS-COV-2

**31 oct.** Las gotículas, el contacto con las manos y las nubes de partículas virales (aerosoles) en espacios cerrados o mal ventilados son los principales modos de transmisión del nuevo coronavirus, que también puede sobrevivir nueve horas en la piel y hasta 28 días en las pantallas de los teléfonos.

El primer modo de transmisión de la COVID-19 identificado es el de las gotículas de saliva expulsadas por una persona infectada cuando tose o estornuda, pero también cuando canta o habla.

Los científicos creen que este tipo de contaminación requiere un contacto cercano, de entre un metro y un metro y medio. Por otro lado, estas gotas son relativamente «pesadas», caen rápidamente y no permanecen suspendidas en el aire.

El virus también puede adherirse a una superficie sucia por las gotículas, como manos, pañuelos, vasos, grifos, manijas de puertas, botones de ascensores o pasamanos. El riesgo de contaminación se produce al tocarse la cara después de tocar esas superficies.

El virus sobrevive nueve horas en la piel, en comparación con las 1,8 horas del virus de la gripe, según un estudio japonés publicado en la revista *Clinical Infectious Diseases*.

En las zonas cerradas y mal ventiladas, los aerosoles, esas nubes de gotitas microscópicas con partículas virales que se liberan con solo respirar, pueden recorrer mayores distancias y aterrizar directamente en las caras de otras personas en un perímetro de hasta casi dos metros.

Se desconoce la dosis de

partículas de virus necesaria para causar una infección, pero cuanto mayor sea la dosis, «mayor será la probabilidad de infección», dijo Steve Nigelle, un genetista especialista en Virología de la Universidad de Harvard.

«Hay tres modos de transmisión: gotitas, aerosoles y manuportaciones, sin saber la parte relativa de cada uno.

Así que tenemos que mantener todos los gestos barrera y abrir las ventanas», expresó el profe-

Fuente: Granma. Disponible en <https://cutt.ly/ugDNrTK>

**“Las gotículas, el contacto con las manos y las nubes de partículas virales (aerosoles) en espacios cerrados o mal ventilados son los principales modos de transmisión del nuevo coronavirus, que también puede sobrevivir nueve horas en la piel y hasta 28 días en las pantallas de los teléfonos .”**

## J&J comenzará a probar vacuna Covid-19 en adolescentes

**30 oct.** Johnson & Johnson planea comenzar a probar su vacuna experimental para el Covid-19 en jóvenes de 12 a 18 años lo antes posible, dijo un ejecutivo de la compañía en una reunión celebrada el viernes por los Centros para el Control y la Prevención de Enfermedades (CDC) de Estados Unidos.

“Planeamos comenzar con los niños tan pronto como podamos, pero con mucho cuidado en

términos de seguridad”, dijo el doctor Jerry Sadoff de J&J en una reunión virtual del Comité Asesor de Prácticas de Inmunización de los CDC.

Dependiendo de la seguridad y otros factores, la compañía planea hacer pruebas en niños aún más pequeños después, dijo Sadoff, un científico investigador de vacunas de la unidad Janssen de J&J.

J&J comenzó a probar la vacuna en adultos en un estudio de fase

III de 60,000 voluntarios a finales de septiembre. Tuvo que detener las pruebas a principios de este mes debido a un grave evento médico ocurrido a uno de los participantes. El estudio se reanudó la semana pasada.

El fabricante rival Pfizer Inc. ya ha comenzado a probar la vacuna Covid-19 que está desarrollando con la alemana BioNTech en niños de tan sólo 12 años.

Fuente: Forbes México. Disponible en <https://cutt.ly/FgDNvh7>



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## Patentes registradas en PatentScope

Estrategia de búsqueda: *Vaccine in the title or abstract AND 20201024:20201031 as the publication date*

36 records

1. [WO/2020/215350](#) AVIAN INFLUENZA AND FOWL ADENOVIRUS SEROTYPE-4 COMBINED GENETIC ENGINEERING SUBUNIT VACCINE AND PREPARATION METHOD THEREFOR

WO - 29.10.2020

Int.Class [A61K 39/235](#) Appl.No PCT/CN2019/085075 Applicant ZHAOQING DAHUANONG BIOLOGY MEDICINE CO., LTD Inventor CHEN, Rui'ai

The present invention relates to the technical field of veterinary biological products, and provides an avian influenza and fowl adenovirus serotype-4 combined genetic engineering subunit vaccine. The antigen in the vaccine is a fusion antigen. The fusion antigen contains: a) avian influenza virus HA protein; b) fowl adenovirus fiber2 protein; and c) a specific linker peptide between the avian influenza virus HA protein and the fowl adenovirus fiber2 protein. The amino acid sequence of the specific linker peptide is as shown in SEQ ID NO: 2 in the sequence list. The vaccine contains a fusion antigen, which can induce fowls to produce high-level specific antibodies to protect the fowls from infection with avian influenza and fowl adenovirus. Moreover, the present invention also provides a preparation method for the vaccine.

2. [20200338127](#) Th1 vaccination priming for active immunotherapy

US - 29.10.2020

Int.Class [A61K 35/17](#) Appl.No 16928884 Applicant Mirror Biologics, Inc. Inventor Michael Har-Noy

The present invention includes vaccine compositions and methods for using these vaccine compositions in active immunotherapy. The vaccine compositions include allogeneic activated Th1 memory cells. The compositions can also include one or more disease-related antigens. The methods include administering the vaccine compositions to provide a Th1 footprint in normal individuals or patients susceptible to disease or having minimal residual disease.

3. [WO/2020/215351](#) IMMUNOPOTENTIATOR, PREPARATION METHOD THEREFOR, AVIAN INFLUENZA VACCINE AND USE THEREOF

WO - 29.10.2020

Int.Class [A61K 39/39](#) Appl.No PCT/CN2019/085076 Applicant ZHAOQING DAHUANONG BIOLOGY MEDICINE CO., LTD Inventor CHEN, Rui'ai

Disclosed is an immunopotentiator comprising a bursin pentapeptide and an astragalus polysaccharide, wherein the weight ratio of the bursin pentapeptide to the astragalus polysaccharide is 1:5 to 1:20. The immunopotentiator is simple to prepare and can improve the expression level of antibody titer for vaccine immunity. Also disclosed are a method for preparing the immunopotentiator, an avian influenza vaccine using the immunopotentiator and the application of the immunopotentiator in the avian influenza vaccine.

4. [20200338182](#) Intranasal delivery of a cyclic-di-nucleotide adjuvanted vaccine for tuberculosis

US - 29.10.2020

Int.Class [A61K 39/04](#) Appl.No 16921959 Applicant The Regents of the University of California Inventor Sarah Stanley

A vaccine against *Mycobacterium tuberculosis* (*M. tuberculosis*) formulated for intranasal administration, comprises a first vaccine component comprising one or more *M. tuberculosis*, *Mycobacterium vaccae* (*M. vaccae*) or *Mycobacterium bovis* (*M. bovis*) antigens, and a second vaccine component comprising a Stimulator of Interferon Genes (STING) activator.

5. [3727439](#) A VACCINE TO PROTECT A PIG AGAINST ACTINOBACILLUS PLEUROPNEUMONIAE

EP - 28.10.2020

Int.Class [A61K 39/102](#) Appl.No 18829815 Applicant INTERVET INT BV Inventor WITVLIET MAARTEN HENDRIK

The present invention pertains to a vaccine to protect a pig against an infection with *Actinobacillus pleuropneumoniae*, the vaccine comprising an RTX toxin of *Actinobacillus pleuropneumoniae* recombinantly expressed by a baculovirus, and a pharmaceutically acceptable carrier.

6. [3727443](#) VACCINES AGAINST HENDRA AND NIPAH VIRUS INFECTION

EP - 28.10.2020

Int.Class [A61K 39/155](#) Appl.No 18836314 Applicant ZOETIS SERVICES LLC Inventor DOMINOWSKI PAUL JOSEPH

Disclosed is a method of protecting an animal in need thereof from Hendra or Nipah virus infection comprising administering to said animal a single dose of a vaccine, the vaccine comprising: an antigen component comprising a Hendra antigen or a Nipah antigen; and an adjuvant comprising oil, polycationic carrier and a CpG containing immunostimulatory oligonucleotide, wherein the vaccine is a W/O emulsion.

7. [WO/2020/215301](#) ATTENUATED AFRICAN SWINE FEVER VIRUS WITH DELETED GENE AND USE OF SAME AS VACCINE

WO - 29.10.2020

Int.Class [C12N 7/01](#) Appl.No PCT/CN2019/084469 Applicant HARBIN VETERINARY RESEARCH INSTITUTE, CHINESE ACADEMY OF AGRICULTURAL SCIENCES Inventor BU, Zhigao

Provided is an attenuated African swine fever virus, a gene of which has been deleted, which can be used as a vaccine, a vaccine thereof, and a construction method therefor. The construction method comprises using Chinese epidemic strain Pig/CN/HLJ/2018 of African swine fever, and deleting a virulence gene of the African swine fever virus by means of gene engineering technology, thereby obtaining viruses, which have undergone gene deletion, from which MGF360-505R has been deleted and both CD2V and MGF360-505R have been deleted.

8. [WO/2020/218949](#) METHOD FOR PREPARING A CONJUGATE HAEMOPHILUS B-TYPE VACCINE

WO - 29.10.2020

Int.Class [A61K 39/102](#) Appl.No PCT/RU2020/050077 Applicant THE FEDERAL STATE UNITARY ENTERPRISE "THE SAINT-PETERSBURG SCIENTIFIC RESEARCH INSTITUTE OF VACCINES AND SERUMS AND THE ENTERPRISE FOR THE PRODUCTION OF BACTERIAL PREPARATIONS" OF FEDERAL MEDICAL AND BIOLOGIC AGENCY Inventor TRUKHIN, Viktor Pavlovich

The invention relates to medical microbiology and can be used for producing vaccine preparations. A method for preparing a conjugate Haemophilus B-type vaccine is proposed. The method comprises culturing Haemophilus influenzae B-type "GKPM-Obolensk" B-7884 strain in a liquid nutrient medium supplemented with ribose, inactivating the culture by heating to  $55\pm 5^{\circ}\text{C}$  and maintaining at this temperature for  $15\pm 3$  minutes, separating the biomass using a centrifuge and isolating polyribosylribitol phosphate (PRP) by precipitation with a 10% solution of cetyltrimethylammonium bromide (CTAB). The method further comprises the steps of concentration, purification, clarification, activation of PRP and mixing thereof with tetanus toxoid. The substance produced is then purified and sterilised, pharmaceutically acceptable excipients are added thereto, and it is dispensed and freeze-dried. The method provides for an increased yield of the target product.

9. [3727440](#) LIQUID VACCINES OF LIVE ENVELOPED VIRUSES

EP - 28.10.2020

Int.Class [A61K 39/12](#) Appl.No 18829858 Applicant INTERVET INT BV Inventor VERMEIJ PAUL

The present invention describes a liquid vaccine composition of a live enveloped virus and a pharmaceutically acceptable carrier, whereby the carrier is a natural deep-eutectic solvent (NADES), and the vaccine has a water activity of less than about 0.8. The NADES provides a stabilisation of the sensitive virus for prolonged time and at ambient temperature. In general, the liquid vaccine compositions according to the invention, in different compositions for the various enveloped viruses, show remarkable capabilities of stabilisation. This overcomes the need for lyophilisation, a great economic benefit. Also the liquid nature of the vaccines facilitates administration to human or animal targets.

10. [3727432](#) INTRADERMAL COMBINATION VACCINE AGAINST MYCOPLASMA AND PORCINE CIRCOVIRUS

EP - 28.10.2020

Int.Class [A61K 39/00](#) Appl.No 18833856 Applicant HIPRA SCIENT S L U Inventor MONTANE GIRALT JORDI

The present invention provides a combination vaccine comprising one or more antigens of *Mycoplasma hyopneumoniae*, one or more antigens of Porcine circovirus, and pharmaceutically acceptable excipients and/or carriers, for use in the prevention and/or treatment of porcine enzootic pneumonia and/or Porcine Circovirus-Associated Diseases (PCVAD) by administration of the vaccine into the dermis of livestock, wherein

the one or more antigens of porcine circovirus comprises the PCV2 ORF2 protein in an amount from 0.1 µg/dose to 10 µg/dose.

11. [3727411](#)LASSA VACCINE

EP - 28.10.2020

Int.Class [A61K 35/76](#) Appl.No 18857393 Applicant PASTEUR INSTITUT Inventor MATEO MATHIEU

The invention relates to recombinant measles virus expressing Lassa virus polypeptides, and concerns in particular immunogenic LASV particles expressed by a measles virus and/or virus like particles (VLPs) that contain proteins of a Lassa virus. These particles are recombinant infectious particles able to replicate in a host after an administration. The invention provides means, in particular nucleic acid constructs, vectors, cells and rescue systems to produce these recombinant infectious particles. The invention also relates to the use of these recombinant infectious particles, in particular under the form of a composition, more particularly in a vaccine formulation, for the treatment or prevention of an infection by Lassa virus.

12. [20200338187](#)PCV/MYCOPLASMA HYOPNEUMONIAE VACCINE

US - 29.10.2020

Int.Class [A61K 39/12](#) Appl.No 16860308 Applicant Zoetis Services LLC Inventor Gregory P. Nitzel

This invention provides a combination vaccine which includes a porcine circovirus type 2 (PCV2) antigen and a cell free *Mycoplasma hyopneumoniae* (M.hyo) culture supernatant for protecting a pig against PCV2 and M.hyo infections, wherein the M.hyo culture supernatant is substantially free of PCV2 antibodies.

13. [WO/2020/220014](#)KLEBSIELLA VACCINE AND METHODS OF USE

WO - 29.10.2020

Int.Class [C07H 2/104](#) Appl.No PCT/US2020/030038 Applicant CORNELL UNIVERSITY Inventor BICALHO, Rodrigo

Provided are compositions and methods that include a *K. pneumoniae* yidR protein or an antigenic segment of the protein, and homologous of the protein, and antigenic segments of the homologs. The compositions can be provided as vaccine formulations for use with humans and non-human animals, including but not limited to dairy cows. The compositions and methods are useful for prophylaxis and/or therapy of conditions associated with Gram negative bacteria that include *K. pneumoniae*, *E. coli*, and other pathogenic Gram negative bacteria. The conditions include such bacterial infections generally, and include specifically mastitis and metritis. The compositions and methods can also improve fertility and milk production. Administration of the compositions can improve the likelihood of a first service conception.

14. [3728647](#)DETECTION OF MODIFIED LIVE SWINE INFLUENZA VIRUS VACCINES

EP - 28.10.2020

Int.Class [C12Q 1/70](#) Appl.No 18815732 Applicant BOEHRINGER INGELHEIM VETMEDICA GMBH Inventor MOLAU-BLAZEJEWSKA PAULINA

The present invention relates i.a. to diagnostic kits and methods for detecting an animal vaccinated with a modified live Swine Influenza virus specific vaccine and diagnostic kits and methods for differentiating animals vaccinated with a modified live Swine Influenza virus specific vaccine from animals infected with Swine Influenza virus, respectively.

15. [3727444](#)SWINE INFLUENZA A VIRUS VACCINE

EP - 28.10.2020

Int.Class [A61K 39/193](#) Appl.No 18830436 Applicant INTERVET INT BV Inventor MOGLER MARK A

The present invention provides vectors and/or nucleic acid constructs that encode one or more influenza A virus neuraminidase (NA) antigens. The present invention also provides vaccine against influenza A virus comprising such vectors and/or nucleic acid constructs. The present invention further provides methods of making and using the vaccines alone, or in combination with other protective agents.

16. [3727441](#) METHODS AND APPARATUS FOR THE DELIVERY OF HEPATITIS B VIRUS (HBV) VACCINES  
EP - 28.10.2020

Int.Class [A61K 39/12](#) Appl.No 18830986 Applicant JANSSEN SCIENCES IRELAND UNLIMITED CO Inventor BODEN DANIEL

Methods and apparatus for the reproducible, consistent and efficacious delivery of an HBV vaccine to a subject. The disclosure comprises apparatus for the controlled administration of the HBV vaccine through an orifice to the subject, a plurality of penetrating electrodes arranged with a predetermined spatial relationship relative to the orifice, and an electrical signal generator operatively connected to the electrodes.

17. [3727431](#) IMPROVED DILUENT FOR CELL-ASSOCIATED ALPHAHERPESVIRUS VACCINE  
EP - 28.10.2020

Int.Class [A61K 39/00](#) Appl.No 18833414 Applicant INTERVET INT BV Inventor DE GROOF AD

The present invention relates to the use of a diluent for the in-use stabilisation of cells infected with a cell-associated alphaherpesvirus. Contrary to the long-standing practice of incorporating a considerable amount of peptone into the diluent for such virus-infected cells, it was found that a reduction of the amount of protein in the diluent improved the in-use stability of alphaherpesvirus-infected cells. Whereby the best stability was even obtained using a protein-free diluent. This effect was especially pronounced for recombinant HVT viruses expressing a heterologous insert. Being protein-free is highly advantageous for the production of the diluent, in respect of costs, safety, and consistency of production.

18. [3727446](#) METHODS AND COMPOSITIONS FOR INDUCING AN IMMUNE RESPONSE AGAINST HEPATITIS B VIRUS (HBV)  
EP - 28.10.2020

Int.Class [A61K 39/29](#) Appl.No 18839618 Applicant JANSSEN SCIENCES IRELAND UNLIMITED CO Inventor BODEN DANIEL

Provided herein are Modified Vaccinia Ankara (MVA) vectors and adenovirus vectors encoding HBV antigens. Also provided are methods of enhancing an immune response in a human subject by utilizing the MVA and adenovirus vectors encoding HBV antigens in a prime/boost regimen to the enhance the immune response in the human subject.

19. [20200339657](#) PEPTIDES AND COMBINATION THEREOF FOR USE IN THE IMMUNOTHERAPY AGAINST CANCERS  
US - 29.10.2020

Int.Class [C07K 14/74](#) Appl.No 16916217 Applicant Immatics Biotechnologies GmbH Inventor Juliane Sarah WALZ

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.

20. [3730620](#) CROSS-IMMUNIZING ANTIGEN VACCINE AND METHOD FOR PREPARATION THEREOF  
EP - 28.10.2020

Int.Class [C12N 15/62](#) Appl.No 18892222 Applicant GREEN BIOMED INC Inventor SEKIKAWA KENJI

The present invention provides a fusion polypeptide that induces a humoral immune response and a cellular immune response to a virus, containing antigens or fragments thereof of the following (a) and (b), and having an oligomerization activity:(a) an antigen of the virus or a fragment thereof containing a B cell epitope conserved among subtypes of the virus; and(b) an antigen of the virus or a fragment thereof containing a T cell epitope conserved among subtypes of the virus(wherein the antigen(s) or the fragment(s) thereof of (a) and/or (b) have an oligomerization activity, or the fusion polypeptide further contains (c) a polypeptide having an oligomerization activity in addition to the antigens or the fragments thereof (a) and (b)).

21. [20200339656](#) PEPTIDES AND COMBINATION THEREOF FOR USE IN THE IMMUNOTHERAPY AGAINST CANCERS

US - 29.10.2020

Int.Class [C07K 14/74](#) Appl.No 16915797 Applicant Immatix Biotechnologies GmbH Inventor Juliane Sarah WALZ

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.

22. [20200339646](#) B\*44 RESTRICTED PEPTIDES FOR USE IN IMMUNOTHERAPY AGAINST CANCERS AND RELATED METHODS

US - 29.10.2020

Int.Class [C07K 14/47](#) Appl.No 16916443 Applicant Immatix Biotechnologies GmbH Inventor 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.

23. [20200338126](#) NOVEL PEPTIDES AND COMBINATION OF PEPTIDES FOR USE IN IMMUNOTHERAPY AGAINST LUNG CANCER, INCLUDING NSCLC, SCLC AND OTHER CANCERS

US - 29.10.2020

Int.Class [A61K 35/17](#) Appl.No 16913788 Applicant Immatix Biotechnologies GmbH Inventor 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.

24. [20200338186](#)FELINE CALICIVIRUS VACCINE

US - 29.10.2020

Int.Class [A61K 39/12](#) Appl.No 16759945 Applicant Intervet Inc. Inventor Ian Tarpey

The present invention provides new feline calicivirus vaccines, including multivalent vaccines. The present invention also provides methods of making and using the vaccines.

25. [20200339652](#)TRANSFECTED T-CELLS AND T-CELL RECEPTORS FOR USE IN IMMUNOTHERAPY AGAINST CANCERS

US - 29.10.2020

Int.Class [C07K 14/725](#) Appl.No 16813248 Applicant IMMATICS BIOTECHNOLOGIES GMBH Inventor Dominik MAURER

Disclosed are T-cell receptors (TCRs) binding to tumor-associated antigens (TAAs) for targeting cancer cells, T-cells expressing same, methods for producing same, and methods for treating cancers using same. Disclosed are TCRs and their variants that bind to HLA class I or II molecules with a peptide, such as MAG-003 have the amino acid sequence of KVLEHVVRV (SEQ ID NO:1). The description further relates to peptides, proteins, nucleic acids, cells for use in immunotherapeutic methods, the immunotherapy of cancer, and 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.

26. [20200339644](#)B\*44 RESTRICTED PEPTIDES FOR USE IN IMMUNOTHERAPY AGAINST CANCERS AND RELATED METHODS

US - 29.10.2020

Int.Class [C07K 14/47](#) Appl.No 16916432 Applicant Immatics Biotechnologies GmbH Inventor 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.

27. [WO/2020/218829](#)FLAGELLIN FUSION PROTEIN AND USE THEREOF



WO - 29.10.2020

Int.Class [C07K 14/195](#) Appl.No PCT/KR2020/005327 Applicant INDUSTRY FOUNDATION OF CHONNAM NATIONAL UNIVERSITY Inventor CHO, Kyung A

The present invention relates to a flagellin fusion protein and a use thereof and, more specifically, to a fusion protein comprising: flagellin, a fragment thereof, or a variant thereof; and an immunoglobulin Fc region, and a use in which a toll-like receptor 5 (TLR5) stimulating activity thereof is used. The fusion protein provided by the present invention has remarkably excellent toll-like receptor 5 (TLR5) pathway activation ability compared to wild-type flagellin, a fragment thereof, or a variant thereof, and therefore can be greatly utilized to develop a therapeutic agent and/or a vaccine adjuvant for a disease that can be prevented, improved, or treated through activation of the TLR5 pathway.

28.[20200339661](#) TRIBLOCK PEPTIDE AMPHIPHILES, MICELLES AND METHODS OF USE

US - 29.10.2020

Int.Class [C07K 14/77](#) Appl.No 16760329 Applicant BRET ULERY Inventor BRET ULERY

One aspect of the present invention is directed to triblock peptides comprising a lipid moiety, a peptide block and a zwitterion-like block. Another aspect of the invention is directed to pharmaceutical compositions comprising the triblock peptides of the present invention arranged in micelles in a pharmaceutically acceptable carrier. In certain embodiments, the pharmaceutical compositions of the present invention are vaccine compositions, which may further comprise an adjuvant. Another aspect of the invention is directed to methods of using the triblock peptides and compositions of the invention to treat a disease or condition.

29.[20200338188](#) IMMUNIZATIONS OF AVIANS BY ADMINISTRATION OF NON-REPLICATING VECTORED VACCINES

US - 29.10.2020

Int.Class [A61K 39/12](#) Appl.No 16926428 Applicant Altimmune, Inc. Inventor De-Chu C Tang

The present invention relates generally to the fields of immunology and vaccine technology. More specifically, the invention relates to recombinant human adenovirus vectors for delivery of avian immunogens and antigens, such as avian influenza into avians. The invention also provides methods of introducing and expressing an avian immunogen in avian subjects, including avian embryos, as well as methods of eliciting an immunogenic response in avian subjects to avian immunogens.

30.[20200339658](#) PEPTIDES AND COMBINATION THEREOF FOR USE IN THE IMMUNOTHERAPY AGAINST CANCERS

US - 29.10.2020

Int.Class [C07K 14/74](#) Appl.No 16916220 Applicant Immatics Biotechnologies GmbH Inventor Juliane Sarah WALZ

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. [20200338190](#)HUMAN CYTOMEGALOVIRUS VACCINE

US - 29.10.2020

Int.Class [A61K 39/245](#) Appl.No 16864566 Applicant ModernaTX, Inc. Inventor Giuseppe Ciaramella

The disclosure relates to HCMV ribonucleic acid (RNA) vaccines, as well as methods of using the vaccines and compositions comprising the vaccines.

32. [20200339630](#)PEPTIDES, COMBINATION OF PEPTIDES, AND CELL BASED MEDICAMENTS FOR USE IN IMMUNOTHERAPY AGAINST URINARY BLADDER CANCER AND OTHER CANCERS

US - 29.10.2020

Int.Class [C07K 7/08](#) Appl.No 16915354 Applicant Immatix Biotechnologies GmbH Inventor 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.

33. [20200339650](#)Tolerogenic DNA Vaccine

US - 29.10.2020

Int.Class [C07K 14/62](#) Appl.No 16395865 Applicant Novo Nordisk A/S Inventor Jay Chaplin

The present invention relates to plasmids useful for prevention and/or delay of e.g. type 1 diabetes.

34. [20200339645](#)B\*44 RESTRICTED PEPTIDES FOR USE IN IMMUNOTHERAPY AGAINST CANCERS AND RELATED METHODS

US - 29.10.2020

Int.Class [C07K 14/47](#) Appl.No 16916438 Applicant Immatix Biotechnologies GmbH Inventor 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.

35. [20200338175](#)NOVEL PEPTIDES AND COMBINATION OF PEPTIDES FOR USE IN IMMUNOTHERAPY AGAINST PANCREATIC CANCER AND OTHER CANCERS

US - 29.10.2020

Int.Class [A61K 39/00](#) Appl.No 16915323 Applicant Immatix Biotechnologies GmbH Inventor 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.

36. [20200339555](#) THERAPEUTIC COMPOUNDS AND METHODS OF USE THEREOF

US - 29.10.2020

Int.Class [C07D 413/14](#) Appl.No 16856588 Applicant Regents of the University of Minnesota Inventor Sunil A. David

The invention provides a compound of formula I:

or a salt thereof, wherein R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, A and n have any of the values described in the specification, as well as compositions comprising a compound of formula I, and methods of preparing and use thereof. The compounds are useful as vaccine adjuvant potentiators.

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

Results of Search in US Patent Collection db for: (ABST/vaccine AND ISD/20201024->20201031), 8 records.

PAT. NO.	Title
1 <a href="#">10,815,463</a>	<a href="#">Messenger UNA molecules and uses thereof</a>
2 <a href="#">10,815,458</a>	<a href="#">Methods for inducing migration by dendritic cells and an immune response</a>
3 <a href="#">10,815,290</a>	<a href="#">NKG2D decoys</a>
4 <a href="#">10,813,993</a>	<a href="#">Display platform from bacterial spore coat proteins</a>
5 <a href="#">10,813,988</a>	<a href="#">Pathogen vaccines and methods of producing and using the same</a>
6 <a href="#">10,813,986</a>	<a href="#">Peptides and combination of peptides for use in immunotherapy against NHL and other cancers</a>
7 <a href="#">10,813,985</a>	<a href="#">Immunotherapy against several tumors of the blood, such as acute myeloid leukemia (aml)</a>
8 <a href="#">10,813,953</a>	<a href="#">Peptides and combination of peptides of non-canonical origin for use in immunotherapy against different types of cancers</a>

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