



NIPO 116-20-001-5

La pandemia de COVID-19 que ha originado el nuevo Coronavirus SARS-CoV-2, detectado por primera vez en diciembre de 2019 en Wuhan (China), ha generado una gran actividad en sectores sociales diversos con el objetivo común de combatir y paliar los efectos que estamos padeciendo. Dicha actividad ha sido capitalizada, como es evidente, por el sector sanitario, que busca la mejor manera de tratar y diagnosticar a los enfermos, pero también se está manifestando en las grandes empresas y PYMEs que, en algunos casos, han cambiado sus líneas de fabricación para adaptarlas a la apremiante necesidad de equipos de protección, respiradores, etc.; sin olvidar a los centros de investigación y universidades que están poniendo a disposición de la comunidad sus equipos y capacidades.

Desde la [Oficina Española de Patentes y Marcas](#), y en cumplimiento de nuestro doble objetivo de proteger y fomentar la innovación tecnológica en nuestro país, así como de divulgar la información técnica que contienen las patentes a través de sus servicios de Información Tecnológica, hemos realizado este nuevo Boletín de Vigilancia Tecnológica, que se suma a los quince [Boletines VT](#) que venimos publicando desde el año 2000 con periodicidad trimestral. Nuestro objetivo es dar a conocer las nuevas solicitudes de patentes que se publican a nivel mundial relacionadas con la prevención, diagnóstico y tratamiento de las enfermedades causadas por coronavirus en humanos.

## Contenido



[ANTIVIRALES Y OTROS AGENTES PARA TRATAR PATOLOGÍAS ASOCIADAS A LA ENFERMEDAD VIRAL](#)



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Si bien es cierto que aún no han sido publicadas las primeras patentes referidas a la enfermedad ocasionada por el coronavirus SARS-CoV-2, ya que desde que se realizan las solicitudes de patente hasta su publicación han de transcurrir los 18 meses que recogen todas las legislaciones nacionales e internacionales, el conocimiento actual sobre otros beta-coronavirus que han causado epidemias en un pasado reciente (SARS-CoV y MERS-CoV) está sirviendo como punto de partida para emprender nuevas actividades de investigación y desarrollo para el tratamiento de la COVID-19. Un reciente estudio publicado por ACS, accesible en [ACS Cent. Sci. 2020, 6, 315–331](#), recoge una revisión de patentes y literatura científica que tienen por objeto la investigación y desarrollo de agentes antivirales y vacunas para el tratamiento de enfermedades causadas por coronavirus. Otros editores de publicaciones científicas también han hecho accesible toda la documentación de que disponen, como [The New England Journal of Medicine](#).

En este número cero del Boletín, se incluyen todas las patentes publicadas desde 2018 hasta marzo de 2020, distribuidas en cuatro apartados: Antivirales y otros agentes para tratar patologías asociadas a la enfermedad viral, Vacunas, Diagnóstico y Dispositivos para el tratamiento o control de la infección vírica. El primer apartado, relativo a invenciones sobre antivirales, es el que tiene una mayor cobertura. Incluye documentos que tienen por objeto agentes químicos, sean éstos no biológicos o biomoléculas, con función antiviral específica, así como vehículos para la administración al paciente de dichos agentes. Además, este primer bloque se refiere a compuestos químicos o composiciones con efecto antimicrobiano inespecífico útiles para la inactivación de las partículas virales. La cobertura del grupo se extiende asimismo a herramientas moleculares y/o métodos útiles para el *screening* de nuevos agentes antivirales; y a productos que, sin tener una

acción antiviral, son aplicables al tratamiento de las patologías asociadas a la infección vírica.

Debe tenerse en cuenta que algunos de los documentos son encuadrables en más de uno de los apartados considerados. Tal es el caso, por ejemplo, de aquellos que tienen por objeto compuestos biológicos, como proteínas o ácidos nucleicos, con actividad antiviral que también tienen aplicación en el desarrollo de métodos de ensayo de identificación de otros agentes antivirales, y/o a la fabricación de vacunas. Por ello, se ha adoptado el criterio de incluir el documento en todos los grupos pertinentes para facilitar la lectura. Para cada patente se incluye su número de publicación, con un enlace al documento completo publicado, su título, el país de origen y el solicitante.

Como preámbulo de este primer número, también se presenta un breve [análisis estadístico](#) que, con una cobertura temporal más amplia que el boletín, recoge los datos de familias de patentes publicadas en el periodo 2004-2020, y que permite identificar la evolución temporal de la tecnología y los países de origen de la misma, así como los solicitantes más activos en el sector.

Esperamos que la información aportada en este Boletín de Vigilancia Tecnológica, sirva para identificar tendencias tecnológicas y sus actores, así como para contribuir a la utilización del conocimiento contenido en los documentos de patente como punto de partida para emprender nuevas actividades de investigación y desarrollo. Para suscribirse a este Boletín basta con cumplimentar este [formulario de suscripción](#).

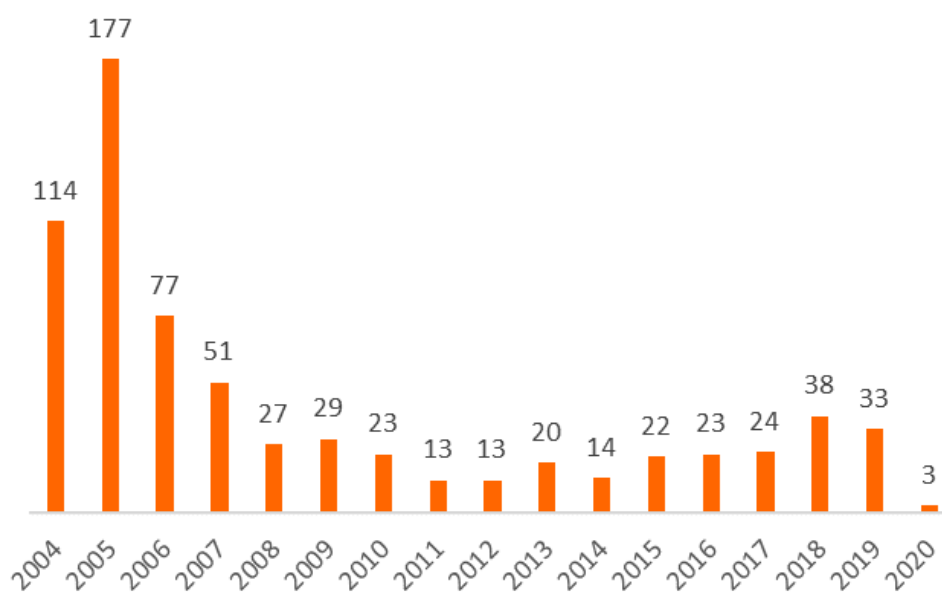
La publicación trimestral del Boletín se complementa con una [Alerta Tecnológica](#), de publicación diaria que permitirá un seguimiento actualizado de las publicaciones a nivel mundial de nuevas solicitudes de patente relacionadas con Coronavirus en humanos.

# ANÁLISIS ESTADÍSTICO DE LAS SOLICITUDES DE PATENTE PUBLICADAS EN EL PERIODO 2004-2020

El estudio se ha realizado empleando la herramienta [GPI \(Global Patent Index\)](#) de la [Oficina Europea de Patentes](#) y ha consistido en un análisis de las familias de patentes publicadas desde 2004. Dicha fecha se ha tomado como punto de partida para analizar la evolución de las solicitudes de patente que se ha producido desde el primer brote de SARS ocurrido en 2002.

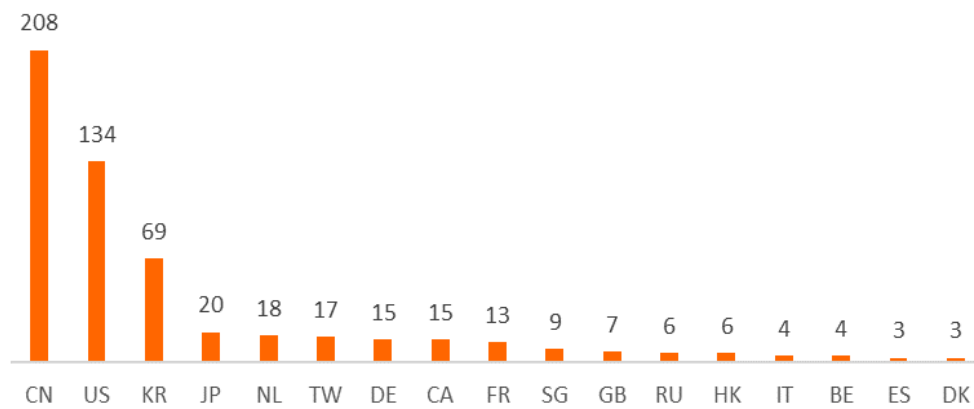
Como resultado del análisis, se han recuperado un total de 701 familias de patentes (correspondientes a 2070 solicitudes), cuya distribución por año de publicación de la solicitud representante de cada familia se muestra en la figura 1.

Fig. 1



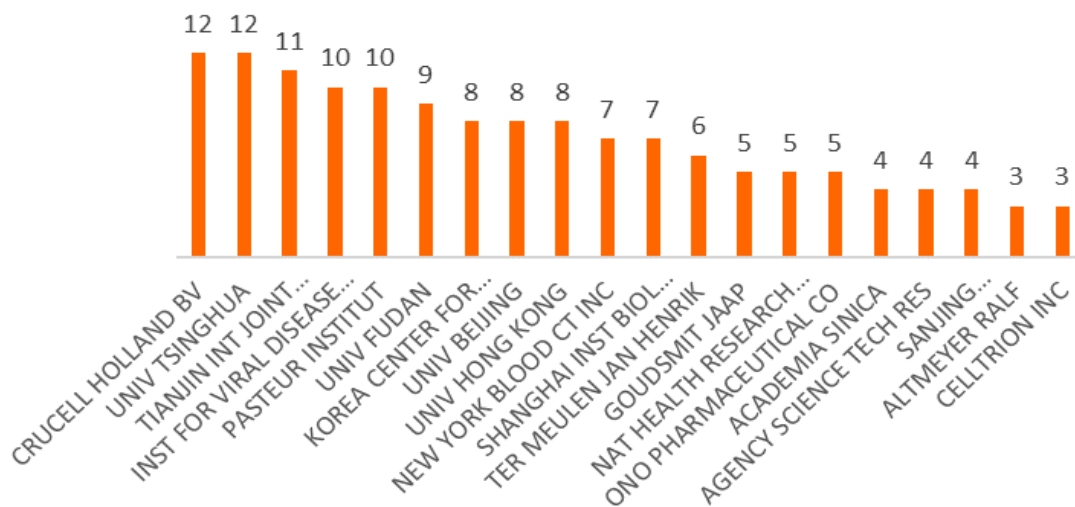
La figura 2 recoge la distribución de las familias de patentes por país. Puede apreciarse que el 60% de las patentes en el periodo considerado han tenido su origen en China (29,7 %), EEUU (19,1%) y Corea del Sur (9,8%). A éstos han seguido, con un volumen considerablemente más bajo de solicitudes, países como Japón, Países Bajos, Taiwan, Alemania, Canadá o Francia.

Fig. 2



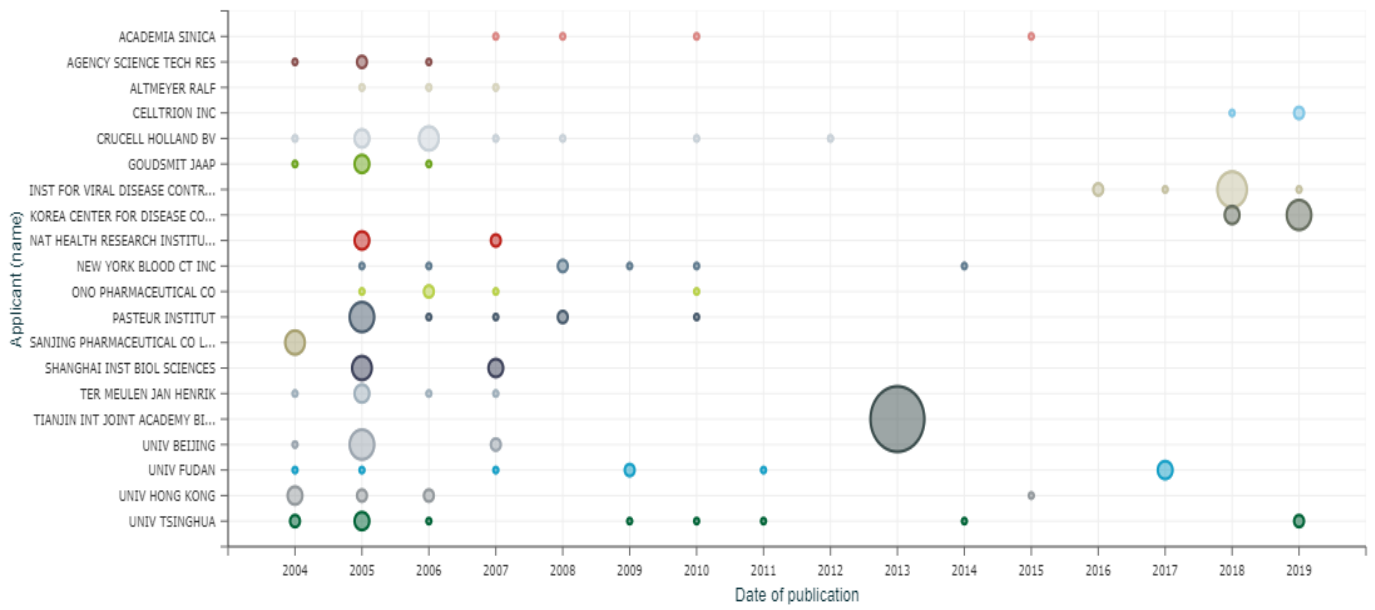
La figura 3 muestra cómo se distribuyen las solicitudes entre los 20 principales solicitantes identificados en el estudio:

Fig. 3



Por último, en la figura 4 se ofrece una gráfica más detallada de la distribución del número de patentes de esos 20 solicitantes por año de publicación de la solicitud.

Fig. 4



# ANTIVIRALES Y OTROS AGENTES PARA TRATAR PATOLOGÍAS ASOCIADAS A LA ENFERMEDAD

Nº PUBLICACIÓN	SOLICITANTE	PAÍS	CONTENIDO TÉCNICO
<a href="#">WO2020040343</a>	IL YANG PHARM CO LTD	KR	ISOXAZOLE DERIVATIVES AND PREPARATION PROCESS THEREOF
<a href="#">WO2020036403</a>	INDUSTRY ACADEMIC COOPERATION FOUNDATION HALLYM UNIV	KR	MONOCLONAL ANTIBODY AGAINST S PROTEIN OF MERS-CORONAVIRUS, AND USE OF SAME
<a href="#">WO2019240504</a>	AM SCIENCES CO LTD	KR	MODIFIED OLIGONUCLEOTIDES FOR INHIBITION OF TARGET GENE EXPRESSION
<a href="#">CN110616198</a>	UNIV TSINGHUA INST PASTEUR SHANGHAI CAS	CN CN	NEW CORONAVIRUS VACCINE BASED ON CHIMPANZEE ADENOVIRUS TYPE 68 AND MERS-COV FULL LENGTH MEMBRANE PROTEIN
<a href="#">WO2020006494</a>	HUTCHINSON FRED CANCER RES UNIV WASHINGTON	US US	CELL-STORED BARCODED DEEP MUTATIONAL SCANNING LIBRARIES AND USES OF THE SAME
<a href="#">KR20190134578</a>	NAT UNIV CHONBUK IND COOP FOUND	KR	HBD2HUMAN BETA-DEFENSIN 2 A COMPOSITION FOR PREVENTING OR TREATING MERS-COV VIRUS COMPRISING HBD2 HUMAN BETA-DEFENSIN 2 OR AN FUSION PROTEIN COMPRISING EPITOPE PROTEIN OF MERS-COV VIRUS AND THE HBD2
<a href="#">US2019359629</a>	FORMA THERAPEUTICS INC	US	THIENOPYRIMIDINONES AS UBIQUITIN-SPECIFIC PROTEASE 7 INHIBITORS
<a href="#">WO2019222349</a>	DANA FARBER CANCER INST INC HARVARD COLLEGE	US US	COMPOUNDS FOR TREATING DENGUE VIRUS INFECTIONS AND OTHER INFECTIONS

Nº PUBLICACIÓN	SOLICITANTE	PAÍS	CONTENIDO TÉCNICO
<a href="#">US2019351049</a>	REGENERON PHARMA	US	HUMAN ANTIBODIES TO MIDDLE EAST RESPIRATORY SYNDROME - CORONAVIRUS SPIKE PROTEIN
<a href="#">CN110302192</a>	UNIV EAST CHINA NORMAL	CN	NEW ANTIMICROBIAL COMPOSITION AND PREPARATION METHOD AND APPLICATION THEREOF
<a href="#">KR20190119391</a>	KOREA RES INST BIOSCIENCE & BIOTECHNOLOGY	KR	WHOLE PROTEIN GENE OF MERS-COV NUCLEOPROTEIN AND VACCINE COMPOSITION FOR PREVENTING INFECTION OF MERS-COV COMPRISING THE SAME
<a href="#">CN110257357</a>	INST OF MILITARY MEDICINE ACADEMY OF MILITARY SCIENCES OF PLA	CN	APPLICATION OF MERS-COV 3CLPRO (MIDDLE EAST RESPIRATORY SYNDROME CORONAVIRUS 3C-LIKE PROTEASE) AS DEUBIQUITINATING ENZYME AND INTERFERON INHIBITOR
<a href="#">WO2019189827</a>	NAT UNIV CORPORATION OKAYAMA UNIV	JP	NUCLEIC ACID CONSTRUCT, MEDICINAL COMPOSITION, ANTICANCER AGENT, ANTIVIRAL AGENT AND ANTIBACTERIAL AGENT
<a href="#">US2019298752</a>	INVIRSA INC	US	METHODS FOR THE USE OF 5'-ADENOSINE DIPHOSPHATE RIBOSE (ADPR)
<a href="#">WO2019182947</a>	PURDUE RESEARCH FOUNDATION	US	ARYLNAPHTHALENE COMPOUNDS AS VACUOLAR-ATPASE INHIBITORS AND THE USE THEREOF
<a href="#">WO2019175605</a>	LIVERPOOL SCHOOL OF TROPICAL MEDICINE	GB	CHIMERIC FC RECEPTOR BINDING PROTEINS AND USES THEREOF
<a href="#">WO2019175436</a>	UNIV DEGLI STUDI DI SIENA	IT	ANTIVIRAL COMPOUNDS AND USE THEREOF

Nº PUBLICACIÓN	SOLICITANTE	PAÍS	CONTENIDO TÉCNICO
<a href="#">WO2019173602</a>	UNIV EMORY	US	4'-HALOGEN CONTAINING NUCLEOTIDE AND NUCLEOSIDE THERAPEUTIC COMPOSITIONS AND USES RELATED THERETO
<a href="#">CN110105348</a>	UNIV NANKAI	CN	PREPARATION AND USES OF NOVEL MICHAEL RECEPTOR-BASED ENTEROVIRUS 71 TYPE INHIBITOR
<a href="#">CN110128510</a>	INST OF MILITARY MEDICINE ACADEMY OF MILITARY SCIENCES OF PLA	CN	MERS-COV FUSION INHIBITOR
<a href="#">US2019255085</a>	GILEAD SCIENCES INC	US	METHODS FOR TREATING ARENAVIRIDAE AND CORONAVIRIDAE VIRUS INFECTIONS
<a href="#">KR20190092776</a>	UNIV KOOKMIN IND ACAD COOP FOUND	KR	NSP13 COMPOUNDS THAT INHIBIT MERS CORONAVIRUS HELICASE NSP13 AND USES THEREOF
<a href="#">CN109771432</a>	INST OF MILITARY MEDICINE ACADEMY OF MILITARY SCIENCES OF PLA	CN	GLUCOSAMINE AND APPLICATION OF DERIVATIVE OF GLUCOSAMINE AS ANTIVIRAL DRUG
<a href="#">KR102007161</a>	KOREA CENTER FOR DISEASE CONTROL AND PREVENTION	KR	S1 MONOCLONAL ANTIBODIES OF SPECIFICALLY BINDING TO SPIKE S1 PROTEIN OF MERS-COV
<a href="#">WO2019151632</a>	CELLTRION INC	KR	BINDING MOLECULE HAVING NEUTRALIZING ACTIVITY AGAINST MIDDLE EAST RESPIRATORY SYNDROME-CORONAVIRUS
<a href="#">CN109988865</a>	UNIV XIAMEN	CN	METHOD FOR DETECTING RESPIRATORY VIRUSES
<a href="#">WO2019136824</a>	ACAD OF MILITARY MEDICAL SCIENCES	CN	MERS-COV INFECTION INHIBITING POLYPEPTIDE



Nº PUBLICACIÓN	SOLICITANTE	PAÍS	CONTENIDO TÉCNICO
<a href="#">KR102005685</a>	KOREA CENTER FOR DISEASE CONTROL AND PREVENTION UNIV YONSEI IACF	KR KR	RECOMBINANT VECTOR OF MERS-COV EXPRESSING FLUORESCENCE PROTEIN DERIVED FROM KOREAN MERS-COV AND METHOD OF PREPARING THE SAME
<a href="#">WO2019135003</a>	ENZYMATICA AB	SE	PEPTIDES HAVING PROTEASE ACTIVITY FOR USE IN THE TREATMENT OR PREVENTION OF CORONAVIRUS INFECTION
<a href="#">KR20190070629</a>	NAT UNIV CHONBUK IND COOP FOUND	KR	HBD2HUMAN BETA-DEFENSIN 2 A COMPOSITION FOR PREVENTING OR TREATING MERS-COV VIRUS COMPRISING HBD2 HUMAN BETA-DEFENSIN 2 OR AN FUSION PROTEIN COMPRISING EPITOPE PROTEIN OF MERS-COV VIRUS AND THE HBD2L
<a href="#">CN109666070</a>	UNIV TSINGHUA	CN	MONOCLONAL ANTIBODY MERS-4V2 AND ENCODING GENE AND APPLICATION THEREOF
<a href="#">WO2019113462</a>	UNIV EMORY	US	N4-HYDROXYCYTIDINE AND DERIVATIVES AND ANTI-VIRAL USES RELATED THERETO
<a href="#">WO2019108877</a>	UNIV HAWAII	US	GSK-3B INHIBITORS AND USE THEREOF IN METHODS OF TREATMENT
<a href="#">JP2019077681</a>	NBC MESHTEC INC	JP	ANTIVIRUS-STERILIZING DISINFECTANT
<a href="#">WO2019087092</a>	AURIGENE DISCOVERY TECH LIMITED CURIS INC	IN US	CONJOINT THERAPIES FOR IMMUNOMODULATION
<a href="#">WO2019079339</a>	AVALON FLAVIVIRAL THERAPEUTICS HK LTD VERSITECH LTD LAU JOHNSON YIU NAM	CN CN US	COMPOSITIONS AND METHODS FOR BROAD-SPECTRUM ANTIVIRAL THERAPY

Nº PUBLICACIÓN	SOLICITANTE	PAÍS	CONTENIDO TÉCNICO
<a href="#">WO2019079671</a>	ACAD SINICA YANG AN SUEI	US	METHOD FOR HIGH-THROUGHPUT SCREENING OF NEUTRALIZING ANTIBODIES, NEUTRALIZING ANTIBODIES PRODUCED THEREFROM, AND USES THEREOF
<a href="#">US2019117702</a>	UNIV INDIANA RES & TECH CORP US VETERANS AFFAIRS	US US	USE OF ASC AND ASC-CM TO TREAT ARDS, SARS, AND MERS
<a href="#">WO2019067805</a>	UNIV SOUTHERN CALIFORNIA	US	NOVEL PLATFORMS FOR CO-STIMULATION, NOVEL CAR DESIGNS AND OTHER ENHANCEMENTS FOR ADOPTIVE CELLULAR THERAPY
<a href="#">WO2019067671</a>	WEINER DAVID SMITH TREVOR RF	US US	DNA ANTIBODY CONSTRUCTS FOR USE AGAINST MIDDLE EAST RESPIRATORY SYNDROME CORONAVIRUS
<a href="#">US2019085024</a>	PHELIX THERAPEUTICS	US	ALPHA-KETOAMIDE INHIBITORS OF CYSTEINE PROTEASES
<a href="#">US2019083569</a>	UNIV LOUISVILLE RES FOUND INC	US	MICROBICIDAL COMPOSITIONS AND METHODS FOR TREATMENT OF VIRAL INFECTIONS
<a href="#">CN109111405</a>	UNIV NANKAI	CN	AROMATIC THIOETHER COMPOUNDS AS WELL AS PESTICIDES CONTAINING SAME AND MEDICAL APPLICATION THEREOF
<a href="#">CN109055427</a>	NAT INSTITUTES FOR FOOD AND DRUG CONTROL	CN	PSEUDO MERS-COV VIRUS OF INFECTED ANIMAL, AND PREPARATION METHOD AND APPLICATION THEREOF
<a href="#">WO2019027501</a>	UNIV MARYLAND	US	FLEX-NUCLEOSIDE ANALOGUES, NOVEL THERAPEUTICS AGAINST FILOVIRUSES AND FLAVIVIRUSES

Nº PUBLICACIÓN	SOLICITANTE	PAÍS	CONTENIDO TÉCNICO
<a href="#">CN109022489</a>	NAT INSTITUTES FOR FOOD AND DRUG CONTROL	CN	HUMAN DPP4 GENE KNOCK-IN MOUSE MODEL AND PRODUCTION METHOD AND USE THEREOF
<a href="#">WO2019022357</a>	UNIV ULSAN FOUND IND COOP ASAN FOUND	KR KR	PHARMACEUTICAL COMPOSITION FOR PREVENTING OR TREATING MIDDLE EAST RESPIRATORY SYNDROME
<a href="#">US2019040370</a>	UNIV CALIFORNIA	US	TRACKING AND MANIPULATING CELLULAR RNA VIA NUCLEAR DELIVERY OF CRISPR/CAS9
<a href="#">CN108938589</a>	YANG LIYING YANG YUN SHI YUYUAN	CN	SODIUM SULFIDE ENTERIC-COATED TABLET AND PREPARATION METHOD AND INDICATIONS THEREOF
<a href="#">US2019023769</a>	UNIV NORTH CAROLINA CHAPEL HILL UNIV JOHNS HOPKINS	US US	COMPOSITIONS AND METHODS FOR INHIBITING PATHOGEN INFECTION
<a href="#">WO2019010422</a>	BROAD INST INC MASSACHUSETTS INST TECHNOLOGY HARVARD COLLEGE	US US US	CRISPR SYSTEM BASED ANTIVIRAL THERAPY
<a href="#">JP2018203632</a>	JAPAN HEALTH SCIENCES FOUND	JP	MONOCLONAL ANTIBODIES AND ASSAY KITS
<a href="#">CN108721271</a>	INST FOR VIRAL DISEASE CONTROL AND PREVENTION CHINESE CENTER FOR DISEASE CONTROL AND PREVENTION	CN	APPLICATION OF MONENSIN IN PREPARATION OF BROAD-SPECTRUM ANTI-CORONAVIRUS DRUGS
<a href="#">WO2018217075</a>	VIRAMATIX SDN BHD	MY	PEPTIDES AND USES THEREFOR AS ANTIVIRAL AGENTS
<a href="#">CN108721292</a>	INST FOR VIRAL DISEASE CONTROL AND PREVENTION CHINESE CENTER FOR DISEASE CONTROL AND PREVENTION	CN	APPLICATION OF PP (PYRVINIUM PAMOATE) IN PREPARATION OF BROAD-SPECTRUM ANTI-COV (CORONAVIRUS) DRUG

Nº PUBLICACIÓN	SOLICITANTE	PAÍS	CONTENIDO TÉCNICO
<a href="#">CN108659105</a>	MILITARY MEDICAL RES INSTITUTE OF THE CHINESE ACADEMY OF MILITARY SCIENCES	CN	ANTI-VIRUS POLYPEPTIDE AS WELL AS PHARMACEUTICAL COMPOSITION AND APPLICATION THEREOF
<a href="#">WO2018207165</a>	UNIV DE COIMBRA FACULDADE DE FARMACIA DA UNIV DE LISBOA EGAS MONIZ COOP DE ENSINO SUPERIOR CRL INST DE MEDICINA MOLECULAR	PT PT PT PT	NOVEL SPIRO-LACTAM COMPOUNDS, PROCESS AND USES THEREOF
<a href="#">WO2018204198</a>	GILEAD SCIENCES INC	US	CRYSTALLINE FORMS OF (S) 2 ETHYLBUTYL 2 (((S) (((2R,3S,4R,5R) 5 (4 AMINOPYRROLO[2,1-F] [1,2,4]TRIAZIN-7-YL)-5- CYANO-3,4- DIHYDROXYTETRAHYDROFU RAN-2 YL)METHOXY)(PHENOXY) PHOSPHORYL)AMINO)PROP ANOATE
<a href="#">CN108721293</a>	INST FOR VIRAL DISEASE CONTROL AND PREVENTION CHINESE CENTER FOR DISEASE CONTROL AND PREVENTION	CN	APPLICATION OF EMETINE IN PREPARATION OF BROAD SPECTRUM ANTI- CORONAVIRUS DRUG
<a href="#">KR101895228</a>	KOREA CENTER FOR DISEASE CONTROL AND PREVENTION	KR	MONOCLONAL ANTIBODY AGAINST SPIKE PROTEIN OF MIDDLE EAST RESPIRATORY SYNDROME CORONAVIRUS AND USES THEROF
<a href="#">CN108478571</a>	INST FOR VIRAL DISEASE CONTROL AND PREVENTION CHINESE CENTER FOR DISEASE CONTROL AND PREVENTION	CN	APPLICATION OF LYCORINE IN PREPARATION OF BROAD-SPECTRUM ANTI- CORONAVIRUS DRUGS

Nº PUBLICACIÓN	SOLICITANTE	PAÍS	CONTENIDO TÉCNICO
<a href="#">WO2018185709</a>	CENTRO DE NEUROCIENCIAS E BIOLOGIA CELULAR	PT	COMPOSITIONS FOR REPROGRAMMING CELLS INTO DENDRITIC CELLS OR ANTIGEN PRESENTING CELLS, METHODS AND USES THEREOF
<a href="#">WO2018181892</a>	UNIV NAGASAKI	JP	QUINOLINONE COMPOUND AND ANTI-RNA VIRUS DRUG
<a href="#">WO2018174442</a>	KOREA RES INST CHEMICAL TECH	KR	COMPOUND FOR TREATING DISEASES CAUSED BY CORONAVIRUS INFECTION
<a href="#">CN108478562</a>	INST FOR VIRAL DISEASE CONTROL AND PREVENTION CHINESE CENTER FOR DISEASE CONTROL AND PREVENTION	CN	APPLICATION OF MYCOPHENOLIC ACID AND ITS DERIVATIVE MYCOPHENOLATE MOFETIL IN PREPARATION OF BROAD-SPECTRUM ANTI-CORONAVIRUS DRUGS
<a href="#">CN108395471</a>	ACAD OF MILITARY SCIENCES PLA CHINA ACAD OF MILITARY MEDICAL SCIENCES	CN	MERS-COV INFECTION INHIBITION POLYPEPTIDE
<a href="#">WO2018170099</a>	AMGEN INC	US	CONTROL OF TOTAL AFUCOSYLATED GLYCOFORMS OF ANTIBODIES PRODUCED IN CELL CULTURE
<a href="#">WO2018164573</a>	ACADEMISCH ZIEKENHUIS LEIDEN GOVERNING COUNCIL UNIV TORONTO UNIV OF MANITOBA	NL CA CA	VIRAL POLYPEPTIDE INHIBITORS
<a href="#">WO2018112648</a>	NEOMED INST	CA	MATRIPTASE INHIBITORS AND USES THEREOF
<a href="#">WO2018134265</a>	FORREST MICHAEL DAVID	GB	THERAPEUTIC INHIBITORS OF THE REVERSE MODE OF ATP SYNTHASE
<a href="#">KR20180079136</a>	GREEN T IND CO LTD	KR	SARSMERS COMPOSITIONS FOR ANTI-AVIAN INFLUENZA VIRUS SARS MERS CORONAVIRUS BY MICRO ENCAPSULIZED NATURAL HERBS

Nº PUBLICACIÓN	SOLICITANTE	PAÍS	CONTENIDO TÉCNICO
<a href="#">WO2018116198</a>	SERUM INSTITUTE OF INDIA PRIVATE LTD	IN	IMPROVED METHODS FOR ENHANCING ANTIBODY PRODUCTIVITY IN MAMMALIAN CELL CULTURE AND MINIMIZING AGGREGATION DURING DOWNSTREAM, FORMULATION PROCESSES AND STABLE ANTIBODY FORMULATIONS OBTAINED THEREOF
<a href="#">WO2018073549</a>	UNIV CLAUDE BERNARD LYON INST NAT SANTE RECH MED CENTRE NAT RECH SCIENT	FR FR FR	ANTIVIRAL COMPOSITIONS FOR THE TREATMENT OF INFECTIONS LINKED TO CORONAVIRUSES
<a href="#">AU2018202168</a>	3M INNOVATIVE PROPERTIES CO	AU	LIPIDATED IMMUNE RESPONSE MODIFIER COMPOUND COMPOSITIONS, FORMULATIONS, AND METHODS
<a href="#">EP3308786</a>	ETH ZUERICH	CH	FGFR REGULATON FOR THE TREATMENT OF VIRAL INFECTIONS
<a href="#">WO2018042343</a>	GLAXOSMITHKLINE IP NO 2 LTD	GB	COMPOUNDS THAT INHIBIT 3C AND 3CL PROTEASES AND METHODS OF USE THEREOF
<a href="#">WO2018035509</a>	GRL INC KISELEV OLEG I RUSINOV VLADIMIR ULOMSKY EVGENY MEDVEDEVA NATALIA SAPOZHNIKOVA IRINA CHARUSHIN VALERY CHUPAKHIN OLEG DANILENKO DARIA DEEVA ELLA	US RU RU RU RU RU RU RU RU RU	SMALL MOLECULES HAVING ANTIVIRAL PROPERTIES

Nº PUBLICACIÓN	SOLICITANTE	PAÍS	CONTENIDO TÉCNICO
<a href="#">KR101828794</a>	CELLTRION INC	KR	A ANTIBODY ABLE TO NEUTRALIZE MIDDLE EAST RESPIRATORY SYNDROME CORONAVIRUS
<a href="#">JP2018020989</a>	UBE INDUSTRIES	JP	UREA COMPOUND
<a href="#">WO2018023054</a>	KANSAS STATE UNIV RESEARCH FOUNDATION WICHITA STATE UNIV	US US	PROTEASE TRANSITION STATE INHIBITOR PRODRUGS
<a href="#">WO2018013830</a>	SEO DONG-KYUN HAYDEL SHELLEY	US US	ANTIMICROBIAL GEOPOLYMER COMPOSITIONS
<a href="#">US2018015072</a>	ZHU ZHIFANG ZHANG JUN LI JINMING	US CN CN	TRYPTOPHAN IS A PRO-DRUG FOR INFECTIOUS DISEASES AND CANCERS
<a href="#">KR20170136731</a>	AN SANG JUN	KR	
<a href="#">CN107459511</a>	UNIV NANKAI	CN	ANTI-ENTEROVIRAL 71(EV71) 4-IMINOOXAZOLIDINE-2-KETONE COMPOUND AS WELL AS PREPARATION METHOD AND APPLICATION OF ANTI-ENTEROVIRAL 71(EV71) 4-IMINOOXAZOLIDINE-2-KETONE COMPOUND
<a href="#">WO2017222935</a>	KANSAS STATE UNIV RESEARCH FOUNDATION WICHITA STATE UNIV	US US	SMALL MOLECULE THERAPEUTIC INHIBITORS AGAINST PICORNAVIRUSES, CALICIVIRUSES, AND CORONAVIRUSES
<a href="#">WO2020024060</a>	UNIV MCMASTER	CA	METHODS FOR INHIBITING MICROBE GROWTH
<a href="#">CN110526917</a>	JIANGSU HENGRUI MEDICINE CO SHANGHAI HENGRUI PHARMACEUTICAL CO LTD	CN CN	MEDICINAL SALT FOR PYRAZOLO-HETEROARYL DERIVATIVE AND CRYSTAL FORM AND PREPARATION METHOD OF MEDICINAL SALT
<a href="#">US2020038387</a>	INTERMUNE INC	US	METHODS OF ADMINISTERING PIRFENIDONE THERAPY

Nº PUBLICACIÓN	SOLICITANTE	PAÍS	CONTENIDO TÉCNICO
<a href="#">CN110464737</a>	ZHU JIANG	CN	WET WIPE FOR DISINFECTING AND STERILIZING AS WELL AS PREPARATION METHOD OF WET WIPE
<a href="#">WO2019223773</a>	JIANGSU HENGRUI MEDICINE CO SHANGHAI HENGRUI PHARMACEUTICAL CO LTD	CN CN	CRYSTAL FORM OF HYDROCHLORIDE OF PYRAZOLOHETEROARYL DERIVATIVE AND PREPARATION METHOD
<a href="#">WO2019203697</a>	ROZIEV RAKHIMDZHAN AKHMETDZHANOVICH	RU	COMPOSITION FOR TREATING VIRAL DISEASES (VARIANTS)
<a href="#">CN110317202</a>	JIANGSU HENGRUI MEDICINE CO SHANGHAI HENGRUI PHARMACEUTICAL CO LTD	CN CN	CYANO-PYRROLO-HETEROARYL DERIVATIVE, PREPARATION METHOD THEREOF AND APPLICATION OF DERIVATIVE TO MEDICINE
<a href="#">WO2019195179</a>	CAPIENDA BIOTECH LLC	US	COMPOSITIONS AND METHODS FOR TREATING INFLAMMATORY DISEASES
<a href="#">CN109956903</a>	JIANGSU HENGRUI MEDICINE CO SHANGHAI HENGRUI PHARMACEUTICAL CO LTD	CN CN	BENZOAZA * DERIVATIVE, PREPARATION METHOD AND APPLICATION THEREOF TO MEDICINE
<a href="#">CN110089523</a>	AI MINGNAN	CN	APPLICATIONS OF MONOMER SILVER ATOM AS ANTIBACTERIAL MATERIAL IN PREPARATION OF ANTIBACTERIAL PRODUCTS
<a href="#">CN109694351</a>	JIANGSU HENGRUI MEDICINE CO SHANGHAI HENGRUI PHARMACEUTICAL CO LTD	CN CN	BENZOAZEPINE DERIVATIVE AS WELL AS PREPARATION METHOD AND MEDICAL APPLICATION THEREOF
<a href="#">CN109678982</a>	WANG QIUHONG	CN	EPHEDRA HOMO POLYSACCHARIDE ESP-B4 AS WELL AS PREPARATION METHOD AND APPLICATION THEREOF



Nº PUBLICACIÓN	SOLICITANTE	PAÍS	CONTENIDO TÉCNICO
<a href="#">WO2019080898</a>	SHANGHAI YAO YUAN BIOTECHNOLOGY CO LTD	CN	COMPOSITIONS AND METHODS OF MODULATING THE IMMUNE RESPONSE BY ACTIVATING ALPHA PROTEIN KINASE 1
<a href="#">WO2019094969</a>	SYNTHETIC GENOMICS INC	US	COMPOSITIONS, SYSTEMS, KITS, AND METHODS FOR MODIFYING RNA
<a href="#">CN109266731</a>	DOU SHUAIJIE	CN	APPLICATION OF TIM-3 INTERACTION WITH NF90 IN PRODUCTS FOR THE PREVENTION OR TREATMENT OF VIRAL INFECTION
<a href="#">WO2019057158</a>	JIANGSU HENGRUI MEDICINE CO SHANGHAI HENGRUI PHARMACEUTICAL CO LTD	CN CN	CONDENSED HETEROARYL DERIVATIVES, PREPARATION METHOD THEREFOR, AND APPLICATION THEREOF IN MEDICINES
<a href="#">CN109134419</a>	GUOKE WEISI BEIJING MEDICAMENT RES CO LTD	CN	2,2-DIMETHYL-1,2-DIOXOLAME DERIVATIVE, PREPARATION METHOD AND APPLICATION THEREOF
<a href="#">WO2019046316</a>	ACURASTEM INC	US	PIKFYVE KINASE INHIBITORS
<a href="#">CN108948016</a>	SHANGHAI HENGRUI PHARMACEUTICAL CO LTD JIANGSU HENGRUI MEDICINE CO	CN CN	PURINONE DERIVATIVE AND PREPARATION METHOD THEREOF AND APPLICATION THEREOF IN MEDICINES
<a href="#">KR20190000009</a>	UNIV INDUSTRY COOPERATION GROUP KYUNG HEE UNIV BOREDA BIOTECH	KR KR	S2 A METHOD FOR PRODUCING MERS ANTIGEN USING DROSOPHILA MELANOGASTOR S2
<a href="#">CN108794486</a>	JIANGSU HENGRUI MEDICINE CO SHANGHAI HENGRUI PHARMACEUTICAL CO LTD	CN CN	CONDENSED RING BASED KETONE DERIVATIVES, PREPARATION METHOD THEREOF AND APPLICATION OF DERIVATIVES IN MEDICINE

Nº PUBLICACIÓN	SOLICITANTE	PAÍS	CONTENIDO TÉCNICO
<a href="#">CN108785293</a>	TIANJIN INT JOINT ACADEMY OF BIOMEDICINE	CN	APPLICATION OF ACAMPROSATE CALCIUM IN RESISTANCE TO SARS (SEVERE ACUTE RESPIRATORY SYNDROME) CORONAVIRUS INFECTION
<a href="#">CN108690024</a>	OCEAN UNIV CHINA	CN	PANICINOTAM ANALOG AND PREPARATION METHOD AND USE THEREOF
<a href="#">CN108658855</a>	OCEAN UNIV CHINA	CN	NITROGEN-CONTAINING BICYCLIC COMPOUND, PREPARATION METHOD AND USES THEREOF
<a href="#">CN108670970</a>	OCEAN UNIV CHINA	CN	APPLICATIONS OF LACTAM-BASED COMPOUND IN DRUGS
<a href="#">WO2018213365</a>	DANA FARBER CANCER INST INC HARVARD COLLEGE	US US	COMPOUNDS FOR TREATING DENGUE VIRUS INFECTION AND OTHER VIRAL INFECTIONS
<a href="#">US2018338948</a>	COLLEGE OF MEDICINE POCHON CHA UNIV INDUSTRY ACADEMIC COOPERATION FOUNDATION UNIV EWHA IND COLLABORATION UNIV YONSEI IACF	KR KR KR	METHODS FOR TREATING PULMONARY FIBROSIS USING CHROMENONE DERIVATIVES
<a href="#">CN108623587</a>	OCEAN UNIV CHINA	CN	CARBONYL-CONTAINING AMINE COMPOUND AS WELL AS PREPARATION METHOD AND APPLICATION THEREOF
<a href="#">CN108623589</a>	OCEAN UNIV CHINA	CN	TETRACYCLIC LACTAM COMPOUND, PREPARATION METHOD AND APPLICATION THEREOF

Nº PUBLICACIÓN	SOLICITANTE	PAÍS	CONTENIDO TÉCNICO
<a href="#">WO2018202818</a>	NANOLOGICA AB	SE	A PROCESS FOR MANUFACTURING POROUS SILICA PARTICLES LOADED WITH AT LEAST ONE BIOACTIVE COMPOUND ADAPTED FOR LUNG, NASAL, SUBLINGUAL AND/OR PHARYNGEAL DELIVERY
<a href="#">WO2018177296</a>	OCEAN UNIV CHINA	CN	LACTAM COMPOUND, AND PREPARATION METHOD THEREFOR AND USE THEREOF
<a href="#">WO2018177297</a>	OCEAN UNIV CHINA	CN	SUBSTITUTED LACTAM COMPOUND, AND PREPARATION METHOD THEREFOR AND USE THEREOF
<a href="#">US2018280461</a>	PHARMA GREEN LLC	US	METHODS AND COMPOSITIONS FOR PRODUCTION OF RECOMBINANT PHARMACEUTICAL PROTEINS IN MEDICINAL PLANTS
<a href="#">WO2018145075</a>	DANA FARBER CANCER INST INC	US	COMPOSITIONS AND METHODS FOR AUGMENTING ANTIBODY MEDIATED RECEPTOR SIGNALING
<a href="#">WO2018137614</a>	JIANGSU HENGRUI MEDICINE CO SHANGHAI HENGRUI PHARMACEUTICAL CO LTD	CN CN	HETEROAROTHIADIAZIDE-2,2-DIOXIDE DERIVATIVE, AND PREPARATION METHOD THEREFOR AND APPLICATION THEREOF IN MEDICAMENT
<a href="#">WO2018131950</a>	FUTURE MEDICINE CO LTD SEOUL NAT UNIV R&DB FOUNDATION	KR KR	CARBOCYCLIC NUCLEOSIDE DERIVATIVE AND ANTIVIRAL AGENT COMPRISING SAME
<a href="#">CN107875984</a>	WUHAN INST TECHNOLOGY	CN	FREEZING PREPARATION METHOD AND APPLICATION OF BIOACTIVE SUBSTANCE/WATER-SOLUBLE DRUG MICROCAPSULE

Nº PUBLICACIÓN	SOLICITANTE	PAÍS	CONTENIDO TÉCNICO
<a href="#">WO2018102722</a>	HOWARD UNIV CHANDRAN PREETHI	US US	PREVENTATIVE MANNANOSE THERAPY AND TREATMENT OF VIRAL INFECTIONS USING MANNANOSE-CONTAINING COMPOSITIONS
<a href="#">WO2018086593</a>	LIVO SHANGHAI PHARMACEUTICAL CO LTD	CN	NITROGEN-CONTAINING HETEROCYCLIC COMPOUND, PREPARATION METHOD, INTERMEDIATE, PHARMACEUTICAL COMPOSITION AND USE
<a href="#">WO2018053029</a>	PROTHERA BIOLOGICS INC	US	METHODS FOR TREATING PULMONARY DISEASE USING INTER-ALPHA INHIBITOR PROTEINS
<a href="#">WO2018053111</a>	UNIV UTAH RES FOUND GHANDAHARI HAMID OOTTAMASATHIEN SIAM JESEN MARK MARTIN CAPPELLO JOSEPH JAI WANJIAN PRESTWICH GLENN D	US US US US US US US	IN SITU GELLING COMPOSITIONS FOR THE TREATMENT OR PREVENTION OF INFLAMMATION AND TISSUE DAMAGE
<a href="#">US2018065938</a>	GILEAD SCIENCES INC	US	TOLL LIKE RECEPTOR MODULATOR COMPOUNDS
<a href="#">US2018064695</a>	INTERMUNE INC	US	METHODS OF ADMINISTERING PIRFENIDONE THERAPY
<a href="#">WO2018034885</a>	REGENERON PHARMA	US	METHODS FOR QUANTITATING INDIVIDUAL ANTIBODIES FROM A MIXTURE
<a href="#">WO2018011421</a>	GENMAB AS BIONTECH AG	DK DE	MULTISPECIFIC ANTIBODIES AGAINST CD40 AND CD137
<a href="#">CN109912613</a>	UNIV FUDAN	CN	PHENYL DILACTONE COMPOUNDS AND USES IN PREPARATION OF ANTI-COMPLEMENT DRUGS

# VACUNAS

Nº PUBLICACIÓN	SOLICITANTE	PAÍS	CONTENIDO TÉCNICO
<a href="#">KR102076917</a>	UNIV YONSEI IACF	KR	EXPRESSION VECTOR SYSTEM FOR PREPARING RECOMBINANT SELF-ASSEMBLED NANOPARTICLES AND METHOD OF USING THE SAME
<a href="#">KR20200008288</a>	NAT UNIV CHONBUK IND COOP FOUND ST GEORGES UNIV OF LONDON	KR GB	FC- POLYPEPIDE FOR DELIVERY OF ANTIGEN FC-FUSION PROTEIN COMPRISING THEREOF AND USE THEREOF
<a href="#">RU2709659</a>	FEDERALNOE GOSUDARSTVENNOE BYUDZHETNOE UCHREZHDENIE NATSIONALNYJ ISSLEDOVATELSKIY TSENTR EPIDEMIOLOG	RU	IMMUNOBIOLOGICAL AGENT AND A METHOD FOR USE THEREOF FOR INDUCING SPECIFIC IMMUNITY TO THE MIDDLE EASTERN RESPIRATORY SYNDROME VIRUS (VERSIONS)
<a href="#">CN110616198</a>	UNIV TSINGHUA INST PASTEUR SHANGHAI CAS	CN CN	NEW CORONAVIRUS VACCINE BASED ON CHIMPANZEE ADENOVIRUS TYPE 68 AND MERS-COV FULL LENGTH MEMBRANE PROTEIN
<a href="#">KR20190134578</a>	NAT UNIV CHONBUK IND COOP FOUND	KR	HBD2HUMAN BETA-DEFENSIN 2 A COMPOSITION FOR PREVENTING OR TREATING MERS-COV VIRUS COMPRISING HBD2 HUMAN BETA-DEFENSIN 2 OR AN FUSION PROTEIN COMPRISING EPI TOPE PROTEIN OF MERS-COV VIRUS AND THE HBD2

Nº PUBLICACIÓN	SOLICITANTE	PAÍS	CONTENIDO TÉCNICO
<a href="#">KR20190119391</a>	KOREA RES INST BIOSCIENCE & BIOTECHNOLOGY	KR	WHOLE PROTEIN GENE OF MERS-COV NUCLEOPROTEIN AND VACCINE COMPOSITION FOR PREVENTING INFECTION OF MERS-COV COMPRISING THE SAME
<a href="#">WO2019202285</a>	SECR DEFENCE PROXIMA CONCEPTS LTD THE UNIV OF STRATHCLYDE	GB GB GB	PHARMACEUTICAL COMPOSITIONS AND ASSOCIATED KITS AND USES
<a href="#">WO2019199955</a>	THE ADMINISTRATORS OF THE TULANE EDUCATIONAL FUND	US	BURKHOLDERIA PSEUDOMALLEI COMPLEX OUTER MEMBRANE VESICLES AS ADJUVANTS
<a href="#">WO2019175605</a>	LIVERPOOL SCHOOL OF TROPICAL MEDICINE	GB	CHIMERIC FC RECEPTOR BINDING PROTEINS AND USES THEREOF
<a href="#">KR102005685</a>	KOREA CENTER FOR DISEASE CONTROL AND PREVENTION UNIV YONSEI IACF	KR KR	RECOMBINANT VECTOR OF MERS-COV EXPRESSING FLUORESCENCE PROTEIN DERIVED FROM KOREAN MERS-COV AND METHOD OF PREPARING THE SAME
<a href="#">WO2019143180</a>	UNIV KONKUK IND COOP CORP KR BIOTECH CO LTD	KR KR	BACULOVIRUS-BASED GENE CARRIER COMPRISING INFLUENZA-DERIVED CELL-PENETRATING PEPTIDE
<a href="#">WO2019118806</a>	SOLID BIOSCIENCES INC	US	NON-VIRAL PRODUCTION AND DELIVERY OF GENES
<a href="#">CN109055427</a>	NAT INSTITUTES FOR FOOD AND DRUG CONTROL	CN	PSEUDO MERS-COV VIRUS OF INFECTED ANIMAL, AND PREPARATION METHOD AND APPLICATION THEREOF
<a href="#">CN109022489</a>	NAT INSTITUTES FOR FOOD AND DRUG CONTROL	CN	HUMAN DPP4 GENE KNOCK-IN MOUSE MODEL AND PRODUCTION METHOD AND USE THEREOF
<a href="#">EP3431099</a>	UNIV NEW YORK STATE RES FOUND	US	ATTENUATED VIRUSES USEFUL FOR VACCINES

Nº PUBLICACIÓN	SOLICITANTE	PAÍS	CONTENIDO TÉCNICO
<a href="#">EP3431101</a>	EUROCINE VACCINES AB	SE	VACCINE COMPOSITION FOR NAIVE SUBJECTS
<a href="#">WO2019014247</a>	GILEAD SCIENCES INC	US	COMPOSITIONS COMPRISING AN RNA POLYMERASE INHIBITOR AND CYCLODEXTRIN FOR TREATING VIRAL INFECTIONS
<a href="#">WO2019010422</a>	BROAD INST INC MASSACHUSETTS INST TECHNOLOGY HARVARD COLLEGE	US US US	CRISPR SYSTEM BASED ANTIVIRAL THERAPY
<a href="#">WO2018222983</a>	SHACKELTON LAURA KERNER MATTHEW	US US	PHENOTYPICALLY WILD-TYPE AND GENETICALLY ATTENUATED VIRUSES
<a href="#">WO2018222986</a>	SHACKELTON LAURA KERNER MATTHEW	US US	GENETICALLY ATTENUATED NUCLEIC ACID VACCINE
<a href="#">WO2018215766</a>	UNIV OXFORD INNOVATION LTD	GB	COMPOSITIONS AND METHODS FOR INDUCING AN IMMUNE RESPONSE
<a href="#">US2018295820</a>	REGENERON PHARMA UNIV YALE INSTITUTE FOR RES IN BIOMEDICINE IRB	US US CH	GENETICALLY MODIFIED NON-HUMAN ANIMALS AND METHODS OF USE THEREOF
<a href="#">WO2018172447</a>	ALPHA O PEPTIDES AG	CH	SELF-ASSEMBLING PROTEIN NANOPARTICLES WITH BUILT-IN SIX-HELIX BUNDLE PROTEINS
<a href="#">WO2018170347</a>	MODERNATX INC	US	ZOONOTIC DISEASE RNA VACCINES
<a href="#">WO2018160977</a>	LOYOLA UNIV CHICAGO	US	CORONAVIRUSES, VACCINES COMPRISING THE SAME, AND METHODS FOR PREVENTING DISEASE
<a href="#">WO2018122885</a>	ENEA AGENZIA NAZ PER LE NUOVE TECNOLOGIE LENERGIA E LO SVILUPPO ECONOMICO SOSTENIBILE ST FISIOTERAPICI OSPITALIERI	IT IT	PLANT PROTEIN SIGNAL SEQUENCE AS ADJUVANT IN DNA VACCINES
<a href="#">WO2018115527</a>	CUREVAC AG	DE	MERS CORONAVIRUS VACCINE

Nº PUBLICACIÓN	SOLICITANTE	PAÍS	CONTENIDO TÉCNICO
<a href="#">WO2018097603</a>	SK CHEMICALS CO LTD	KR	MIDDLE EAST RESPIRATORY SYNDROME CORONAVIRUS S PROTEIN IMMUNOGENIC COMPOSITION AND METHOD FOR PREPARING SAME
<a href="#">WO2018096089</a>	THE UNIV OF BATH	GB	IMMUNOGENIC COMPOSITIONS COMPRISING SBI PROTEIN AND USES THEREOF
<a href="#">WO2018094241</a>	NEW YORK BLOOD CENTER INC	US	IMMUNOGENIC COMPOSITION FOR MERS CORONAVIRUS INFECTION
<a href="#">WO2018081318</a>	US HEALTH DARTMOUTH COLLEGE SCRIPPS RESEARCH INST	US US US	PREFUSION CORONAVIRUS SPIKE PROTEINS AND THEIR USE
<a href="#">WO2018080252</a>	EYEGENE INC	KR	IMMUNE RESPONSE REGULATORY SUBSTANCE AND VACCINE COMPOSITION CONTAINING SAME
<a href="#">AU2018202168</a>	3M INNOVATIVE PROPERTIES CO	AU	LIPIDATED IMMUNE RESPONSE MODIFIER COMPOUND COMPOSITIONS, FORMULATIONS, AND METHODS
<a href="#">US2018104325</a>	UNIV WASHINGTON THROUGH ITS CENTER FOR COMMERCIALIZATION	US	METHODS AND COMPOSITIONS FOR ACTIVATION OF INNATE IMMUNE RESPONSES THROUGH RIG-I LIKE RECEPTOR SIGNALING
<a href="#">WO2018017443</a>	HARVARD COLLEGE	US	IMMUNOGENIC COMPOSITIONS AND METHODS RELATING THERETO
<a href="#">WO2018005558</a>	US HEALTH	US	SELF-ASSEMBLING INSECT FERRITIN NANOPARTICLES FOR DISPLAY OF CO-ASSEMBLED TRIMERIC ANTIGENS



Nº PUBLICACIÓN	SOLICITANTE	PAÍS	CONTENIDO TÉCNICO
<a href="#">WO2018089637</a>	NANTBIO INC NANT HOLDINGS IP LLC	US US	IMMUNOMODULATORY COMPOSITIONS, PROCESSES FOR MAKING THE SAME, AND METHODS FOR INHIBITING CYTOKINE STORMS
<a href="#">WO2018095327</a>	HUANG LIMIN	CN	VACCINE COMPOSITION COMPRISING HEPATITIS B VIRUS-LIKE PARTICLES AS ADJUVANT
<a href="#">WO2019183362</a>	DANA FARBER CANCER INST INC	US	FC VARIANT COMPOSITIONS AND METHODS OF USE THEREOF
<a href="#">WO2019169120</a>	UNIV WASHINGTON	US	SELF-ASSEMBLING NANOSTRUCTURE VACCINES
<a href="#">WO2019137999</a>	BIONTECH RNA PHARMACEUTICALS GMBH TRON TRANSLATIONALE ONKOLOGIE AN DER UNIV DER JOHANNES GUTENBERG UNIV MAINZ GGMBH	DE DE	FORMULATION FOR ADMINISTRATION OF RNA
<a href="#">WO2019080898</a>	SHANGHAI YAO YUAN BIOTECHNOLOGY CO LTD	CN	COMPOSITIONS AND METHODS OF MODULATING THE IMMUNE RESPONSE BY ACTIVATING ALPHA PROTEIN KINASE 1
<a href="#">CN109266731</a>	DOU SHUAIJIE	CN	APPLICATION OF TIM-3 INTERACTION WITH NF90 IN PRODUCTS FOR THE PREVENTION OR TREATMENT OF VIRAL INFECTION
<a href="#">WO2019020493</a>	MEDI IMMUNE LTD	GB	VACCINE COMPOSITIONS
<a href="#">GB2564901</a>	MEDI IMMUNE LTD	GB	VACCINE COMPOSITION
<a href="#">KR20190000009</a>	UNIV INDUSTRY COOPERATION GROUP KYUNG HEE UNIV BOREDA BIOTECH	KR KR	S2 A METHOD FOR PRODUCING MERS ANTIGEN USING DROSOPHILA MELANOGASTOR S2

Nº PUBLICACIÓN	SOLICITANTE	PAÍS	CONTENIDO TÉCNICO
<a href="#">CN107875984</a>	WUHAN INST TECHNOLOGY	CN	FREEZING PREPARATION METHOD AND APPLICATION OF BIOACTIVE SUBSTANCE/WATER-SOLUBLE DRUG MICROCAPSULE
<a href="#">WO2018080253</a>	EYEGENE INC	KR	IMMUNITY ENHANCING COMPOSITION INCLUDING IMMUNE RESPONSE REGULATOR AND CATIONIC LIPOSOME, AND USE OF SAME
<a href="#">WO2018011406</a>	BIONTECH RNA PHARMACEUTICALS GMBH TRON TRANSLATIONALE ONKOLOGIE AN DER UNIVERSITÄTSMEDIZIN DER JOHANNES GUTENBERG-UNIVERSITÄT MAINZ	DE DE	FORMULATION FOR ADMINISTRATION OF RNA
<a href="#">WO2020006494</a>	HUTCHINSON FRED CANCER RES UNIV WASHINGTON	US US	CELL-STORED BARCODED DEEP MUTATIONAL SCANNING LIBRARIES AND USES OF THE SAME
<a href="#">WO2019067805</a>	UNIV SOUTHERN CALIFORNIA	US	NOVEL PLATFORMS FOR CO-STIMULATION, NOVEL CAR DESIGNS AND OTHER ENHANCEMENTS FOR ADOPTIVE CELLULAR THERAPY
<a href="#">WO2019067671</a>	WEINER DAVID SMITH TREVOR RF	US US	DNA ANTIBODY CONSTRUCTS FOR USE AGAINST MIDDLE EAST RESPIRATORY SYNDROME CORONAVIRUS
<a href="#">US2019023769</a>	UNIV NORTH CAROLINA CHAPEL HILL UNIV JOHNS HOPKINS	US US	COMPOSITIONS AND METHODS FOR INHIBITING PATHOGEN INFECTION

# DIAGNÓSTICO

Nº PUBLICACIÓN	SOLICITANTE	PAÍS	CONTENIDO TÉCNICO
<a href="#">WO2020036403</a>	INDUSTRY ACADEMIC COOPERATION FOUNDATION HALLYM UNIV	KR	MONOCLONAL ANTIBODY AGAINST S PROTEIN OF MERS-CORONAVIRUS, AND USE OF SAME
<a href="#">US2020048722</a>	NYAN DOUGBEH	US	METHODS FOR REAL-TIME MULTIPLEX ISOTHERMAL DETECTION AND IDENTIFICATION OF BACTERIAL, VIRAL, AND PROTOZOAN NUCLEIC ACIDS
<a href="#">CN110468237</a>	DA AN GENE CO LTD OF SUN YAT SEN UNIV	CN	PRIMER PROBE MIXED LIQUID AND KIT FOR DETECTING MIDDLE EAST RESPIRATORY SYNDROME CORONA VIRUS (MERS-COV)
<a href="#">KR20190119391</a>	KOREA RES INST BIOSCIENCE & BIOTECHNOLOGY	KR	WHOLE PROTEIN GENE OF MERS-COV NUCLEOPROTEIN AND VACCINE COMPOSITION FOR PREVENTING INFECTION OF MERS-COV COMPRISING THE SAME
<a href="#">KR20190122283</a>	INDUSTRY ACADEMIC COOPERATION FOUNDATION HALLYM UNIV	KR	AN ANTI-MERS-COV MONOCLONAL ANTIBODY AND USE OF THE SAME
<a href="#">KR102018201</a>	NATIONAL INSTITUTE OF ENVIRONMENTAL RES	KR	METHOD AND KIT FOR DETECTING BATCORONAVIRUS USING REAL-TIME PCR
<a href="#">CN110144422</a>	WUXI CUSTOMS DISTR PEOPLES REPUBLIC OF CHINA INST FOR VIRAL DISEASE CONTROL AND PREVENTION CHINESE CENTER FOR DISEASE CONTROL AND PREVENTION	CN CN	QUADRUPLE FLUORESCENCE QUANTITATIVE DETECTION KIT FOR SIMULTANEOUSLY DETECTING FOUR HUMAN CORONAVIRUSES

Nº PUBLICACIÓN	SOLICITANTE	PAÍS	CONTENIDO TÉCNICO
<a href="#">KR102019008</a>	KOREA CENTER FOR DISEASE CONTROL AND PREVENTION KOREA RES INST BIOSCIENCE & BIOTECHNOLOGY	KR KR	A METHOD FOR DETECTING MERS CORONAVIRUS USING MERS CORONAVIRUS NUCLEOCAPSID FUSION PROTEIN
<a href="#">KR102007161</a>	KOREA CENTER FOR DISEASE CONTROL AND PREVENTION	KR	S1 MONOCLONAL ANTIBODIES OF SPECIFICALLY BINDING TO SPIKE S1 PROTEIN OF MERS-COV
<a href="#">WO2019151632</a>	CELLTRION INC	KR	BINDING MOLECULE HAVING NEUTRALIZING ACTIVITY AGAINST MIDDLE EAST RESPIRATORY SYNDROME-CORONAVIRUS
<a href="#">KR20190078174</a>	KOREA CENTER FOR DISEASE CONTROL AND PREVENTION BIONOTE INC KOREA UNIV RESEARCH AND BUSINESS FOUNDATION SEJONG CAMPUS	KR KR KR	PRETREATMENT METHOD OF SPUTUM FOR DETECTING MIDDLE EAST RESPIRATORY SYNDROME CORONAVIRUS
<a href="#">WO2019126577</a>	BROAD INST INC MASSACHUSETTS INST TECHNOLOGY HARVARD COLLEGE	US US US	CRISPR EFFECTOR SYSTEM BASED MULTIPLEX DIAGNOSTICS
<a href="#">CN109371174</a>	JIANGSU UNINOVO BIOLOGICAL TECH CO LTD	CN	MIDDLE EAST RESPIRATORY SYNDROME CORONAVIRUS FLUORESCENCE PCR (POLYMERASE CHAIN REACTION) DETECTION KIT
<a href="#">WO2019078600</a>	ATGEN CO LTD UNIV YONSEI IACF	KR KR	ANTIBODY FOR MIDDLE EAST RESPIRATORY SYNDROME CORONAVIRUS, AND METHOD FOR MEASURING ANTIBODY TITER BY USING SAME
<a href="#">CN109355365</a>	LANZHOU VETERINARY RES INSTITUTE CHINESE ACADEMY OF AGRICULTURE SCIENCES UNIV NANKAI	CN CN	METHOD FOR DETECTING MICROORGANISMS THROUGH SMALL RNA HIGH-THROUGHPUT SEQUENCING
<a href="#">CN109207639</a>	NANTONG INT TRAVEL HEALTH CARE OUTPATIENT DEPARTMENT	CN	RESPIRATORY TRACT PATHOGEN RAPID FLUORESCENCE PCR DETECTION KIT AND PRIMER PROBE COMBINATION THEREOF

Nº PUBLICACIÓN	SOLICITANTE	PAÍS	CONTENIDO TÉCNICO
<a href="#">KR101969696</a>	KOREA CENTER FOR DISEASE CONTROL AND PREVENTION OSONG MEDICAL INNOVATION FOUND	KR KR	S2 MONOCLONAL ANTIBODIES OF SPECIFICALLY BINDING TO SPIKE S2 PROTEIN OF MERS-COV
<a href="#">WO2019071051</a>	BROAD INST INC MASSACHUSETTS INST TECHNOLOGY HARVARD COLLEGE	US US US	CRISPR EFFECTOR SYSTEM BASED DIAGNOSTICS
<a href="#">KR20190035542</a>	KOREA RES INST BIOSCIENCE & BIOTECHNOLOGY	KR	N- C- NC NC FUSION PROTEIN COMPRISING N-TERMINUS DOMAIN FRAGMENTS AND C-TERMINUS DOMAIN FRAGMENTS OF MERS-COV NUCLEOCAPSID PROTEIN AND KIT FOR DIAGNOSING INFECTION OF MERS-COV USING THE SAME
<a href="#">JP2018203632</a>	JAPAN HEALTH SCIENCES FOUND	JP	MONOCLONAL ANTIBODIES AND ASSAY KITS
<a href="#">KR20180125141</a>	NAT UNIV CHUNGBUK IND ACAD COOP FOUND	KR	PRIMER SET FOR DETECTION OF MERS-CORONAVIRUS AND USES THEREOF
<a href="#">KR101916899</a>	KOREA RES INST BIOSCIENCE & BIOTECHNOLOGY BIONANO HEALTH GUARD RES CENTER	KR KR	SARS MERS PRIMER FOR SIMULTANEOUS DETECTION OF SARS-RELATED CORONA VIRUS AND MERS-RELATED CORONA VIRUS AND DETECTING METHOD USING THE SAME
<a href="#">KR101895228</a>	KOREA CENTER FOR DISEASE CONTROL AND PREVENTION	KR	MONOCLONAL ANTIBODY AGAINST SPIKE PROTEIN OF MIDDLE EAST RESPIRATORY SYNDROME CORONAVIRUS AND USES THEROF
<a href="#">WO2018170340</a>	BROAD INST INC MASSACHUSETTS INST TECHNOLOGY HARVARD COLLEGE ABUDAYYEH OMAR GOOTENBERG JONATHAN LANDER ERIC S SABETI PARDIS FREIJE CATHERINE AMANDA MYHRVOLD CAMERON	US US US US US US US US US US	CRISPR EFFECTOR SYSTEM BASED DIAGNOSTICS FOR VIRUS DETECTION

Nº PUBLICACIÓN	SOLICITANTE	PAÍS	CONTENIDO TÉCNICO
<a href="#">US10072309</a>	NYAN DOUGBEH CHRIS	US	METHODS FOR REAL-TIME MULTIPLEX ISOTHERMAL DETECTION AND IDENTIFICATION OF BACTERIAL, VIRAL, AND PROTOZOAN NUCLEIC ACIDS
<a href="#">CN108324715</a>	INST FOR VIRAL DISEASE CONTROL AND PREVENTION CHINESE CENTER FOR DISEASE CONTROL AND PREVENTION	CN	APPLICATION OF PHENAZOPYRIDINE TO PREPARATION OF BROAD-SPECTRUM ANTI-CORONAVIRUS MEDICINE
<a href="#">KR101886274</a>	BIONEER CORP KOREA CENTER FOR DISEASE CONTROL AND PREVENTION	KR KR	COMPOSITION FOR DETECTION OF MERS-COV DETECTION METHOD COMPRISING THE COMPOSITION AND KIT THEREOF
<a href="#">KR101886272</a>	BIONEER CORP KOREA CENTER FOR DISEASE CONTROL AND PREVENTION	KR KR	COMPOSITION FOR DETECTION OF MERS-COV DETECTION METHOD COMPRISING THE COMPOSITION AND KIT THEREOF
<a href="#">WO2018107129</a>	BROAD INST INC MASSACHUSETTS INSTITUTE OF TECH HARVARD COLLEGE	US US US	CRISPR EFFECTOR SYSTEM BASED DIAGNOSTICS
<a href="#">US2018162835</a>	FORMA THERAPEUTICS INC	US	QUINAZOLINONES AND AZAQUINAZOLINONES AS UBIQUITIN-SPECIFIC PROTEASE 7 INHIBITORS
<a href="#">KR20180052317</a>	NAT UNIV CHUNGBUK IND ACAD COOP FOUND	KR	PRIMER SET FOR DETECTION OF MERS-CORONAVIRUS AND USES THEREOF
<a href="#">KR101857684</a>	KOGENE BIOTECH CO LTD KOREA CENTER FOR DISEASE CONTROL AND PREVENTION	KR KR	PRIMERS AND PROBE FOR DETECTION OF MIDDLE EAST RESPIRATORY SYNDROME CORONAVIRUS AND DETECTING METHOD FOR MIDDLE EAST RESPIRATORY SYNDROME CORONAVIRUS USING THE SAME
<a href="#">WO2018043733</a>	JAPAN SCIENCE & TECH AGENCY	JP	METHOD AND KIT FOR DETECTING PATHOGENIC MICROORGANISM
<a href="#">KR101828794</a>	CELLTRION INC	KR	A ANTIBODY ABLE TO NEUTRALIZE MIDDLE EAST RESPIRATORY SYNDROME CORONAVIRUS

Nº PUBLICACIÓN	SOLICITANTE	PAÍS	CONTENIDO TÉCNICO
<a href="#">CN107557496</a>	NINGBO INT TRAVEL HEALTH CARE CENTER	CN	FLUORESCENT RT-RAA (REVERSE TRANSCRIPTION RECOMBINASE AID AMPLIFICATION) PRIMER FOR DETECTING MERS-COV (MIDDLE EAST RESPIRATORY SYNDROME CORONAVIRUS), PROBE AND DETECTING METHOD
<a href="#">CN108060266</a>	BEIJING APPLIED BIOLOGICAL TECH CO LTD	CN	PRIMER PROBE SET, KIT AND DETECTION METHOD FOR DETECTING SARS-COV (SEVERE ACUTE RESPIRATORY SYNDROME CORONAVIRUS) AND MERS-COV (MIDDLE EAST RESPIRATORY SYNDROME CORONAVIRUS)
<a href="#">KR20190131380</a>	SAMSUNG LIFE PUBLIC WELFARE FOUNDATION	KR	- METHOD FOR DETECTING A DIAGNOSTIC MARKER FOR INFECTIOUS DISEASE BASED ON SURFACE-ENHANCED RAMAN SCATTERING
<a href="#">KR20200007980</a>	CHO HAN JUN	KR	MERS MIDEAST RESPIRATORY SYNDROME AND SEVERE ACUTE RESPIRATORY SYNDROME BIOMARKERS AND CANDIDATE COMPOUNDS FOR THE DEVELOPMENT OF MERS CURE
<a href="#">US2018002743</a>	JAN BIOTECH INC	US	FLUOROGENIC PROBES AND THEIR USE IN QUANTITATIVE DETECTION OF TARGET RNA SEQUENCES
<a href="#">US2018371526</a>	UNIV ARIZONA STATE	US	COMPOSITIONS AND METHODS FOR DETECTING VIRAL NUCLEIC ACIDS
<a href="#">WO2018048194</a>	UNIV ULSAN FOUND IND COOP ASAN FOUND	KR KR	COMPOSITION AND METHOD FOR IMPROVING SENSITIVITY AND SPECIFICITY OF DETECTION OF NUCLEIC ACIDS USING DCAS9 PROTEIN AND GRNA BINDING TO TARGET NUCLEIC ACID SEQUENCE
<a href="#">WO2018086023</a>	COYOTE BIOSCIENCE CO LTD	CN	METHODS AND SYSTEMS FOR CONDUCTING CHEMICAL OR BIOLOGICAL REACTION

Nº PUBLICACIÓN	SOLICITANTE	PAÍS	CONTENIDO TÉCNICO
<a href="#">WO2019144966</a>	COYOTE BIOSCIENCE CO LTD	CN	SYSTEMS AND METHODS FOR ANALYZING NUCLEIC ACIDS
<a href="#">MY167532</a>	TELEKOM MALAYSIA BERHAD UNIV TELEKOM SDN BHD	MY MY	METHOD OF MEASURING BODY TEMPERATURE
<a href="#">WO2019094969</a>	SYNTHETIC GENOMICS INC	US	COMPOSITIONS, SYSTEMS, KITS, AND METHODS FOR MODIFYING RNA
<a href="#">CN109266731</a>	DOU SHUAIJIE	CN	APPLICATION OF TIM-3 INTERACTION WITH NF90 IN PRODUCTS FOR THE PREVENTION OR TREATMENT OF VIRAL INFECTION
<a href="#">KR20190000009</a>	UNIV INDUSTRY COOPERATION GROUP KYUNG HEE UNIV BOREDA BIOTECH	KR KR	S2 A METHOD FOR PRODUCING MERS ANTIGEN USING DROSOPHILA MELANOGASTOR S2
<a href="#">WO2018223151</a>	FLOWMETRIC LIFE SCIENCES INC	US	FLOW CYTOMETRY SYSTEM AND METHODS FOR THE DIAGNOSIS OF INFECTIOUS DISEASE
<a href="#">WO2018202818</a>	NANOLOGICA AB	SE	A PROCESS FOR MANUFACTURING POROUS SILICA PARTICLES LOADED WITH AT LEAST ONE BIOACTIVE COMPOUND ADAPTED FOR LUNG, NASAL, SUBLINGUAL AND/OR PHARYNGEAL DELIVERY
<a href="#">WO2018145075</a>	DANA FARBER CANCER INST INC	US	COMPOSITIONS AND METHODS FOR AUGMENTING ANTIBODY MEDIATED RECEPTOR SIGNALING
<a href="#">KR20180027929</a>	UNIV KOREA RES & BUS FOUND	KR	GLOVES FOR INFECTIOUS DISEASE DIAGNOSTIC
<a href="#">WO2018034885</a>	REGENERON PHARMA	US	METHODS FOR QUANTITATING INDIVIDUAL ANTIBODIES FROM A MIXTURE
<a href="#">WO2018011421</a>	GENMAB AS BIONTECH AG	DK DE	MULTISPECIFIC ANTIBODIES AGAINST CD40 AND CD137
<a href="#">WO2020006494</a>	HUTCHINSON FRED CANCER RES UNIV WASHINGTON	US US	CELL-STORED BARCODED DEEP MUTATIONAL SCANNING LIBRARIES AND USES OF THE SAME



Nº PUBLICACIÓN	SOLICITANTE	PAÍS	CONTENIDO TÉCNICO
<a href="#">US2019351049</a>	REGENERON PHARMA	US	HUMAN ANTIBODIES TO MIDDLE EAST RESPIRATORY SYNDROME - CORONAVIRUS SPIKE PROTEIN
<a href="#">US2019023769</a>	UNIV NORTH CAROLINA CHAPEL HILL UNIV JOHNS HOPKINS	US US	COMPOSITIONS AND METHODS FOR INHIBITING PATHOGEN INFECTION
<a href="#">US2019148014</a>	RELIANT IMMUNE DIAGNOSTICS INC	US	BIOFLUIDIC TRIGGERING SYSTEM AND METHOD

# DISPOSITIVOS PARA EL TRATAMIENTO O CONTROL DE LA INFECCIÓN VÍRICA

Nº PUBLICACIÓN	SOLICITANTE	PAÍS	CONTENIDO TÉCNICO
<a href="#">KR 102028044</a>	KIM PHIL LIP	KR	A Mask with breathing assembly
<a href="#">KR 20190041374</a>	UNIV KWANGWOON IND ACAD COLLAB	KR	Plasma Emitting Diode Devices
<a href="#">US 10302318</a>	CHAMBERS ANITA MARGARETTE	US	Recursive multi-tiered health isolation facility
<a href="#">US 2018272023</a>	HGI IND INC	US	SMART OPTIC CONTROLLER FOR A HYDROXYL GENERATOR UNIT
<a href="#">KR 20180089206</a>	WOSEM CO LTD	KR	Laboratory safety damper
<a href="#">WO 2018144505</a>	RTT MOLECULAR DX USA INC	US	DEVICE AND METHOD FOR TREATMENT OF INFLAMMATION BY EXTRACORPOREAL PERIPHERAL BLOOD FILTRATION FOR SPECIFIC REMOVAL OF INFLAMMATION FACTORS
<a href="#">KR 101885031</a>	UNIV SEOUL IND COOP FOUND	KR	APPARATUS AND METHOD FOR MONITORING A DISEASE AREA AND PROVIDING AN INFORMATION BASED ON A TRAFFIC NETWORK
<a href="#">KR 20180064705</a>	KOREA ELECTRONICS TECHNOLOGY	KR	Portable Virus Detection Device using Mobile Phone
<a href="#">KR 20180027929</a>	UNIV KOREA RES & BUS FOUND	KR	Gloves for infectious disease diagnostic
<a href="#">JP 2018000278</a>	DAINIPPON PRINTING CO LTD	JP	HEALTH STATE MANAGEMENT SYSTEM
<a href="#">US 2019148014</a>	RELIANT IMMUNE DIAGNOSTICS INC	US	BIOFLUIDIC TRIGGERING SYSTEM AND METHOD

