



HTA Austria
Austrian Institute for
Health Technology Assessment
GmbH

Covid-19

HSS/ Horizon Scanning
Living Document V01 April 2020
Appendix



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Appendix

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Appendix 1 Vaccines (n=79)

Table A 1: Covid19 vaccines in development (all)

Company/Institution	Estimated Timeline	Technology		Stage/Funding	Source
		Platform	Type of candidate vaccine		
Moderna Therapeutics—US National Institute of Allergy	Early stage (phase 1), clinical trial in US	RNA	LNP-encapsulated mRNA	Phase1 (NCT04283461) Funding by CEPI	[1-3], GÖG
CanSino Biological Inc. and Beijing Institute of Biotechnology	Clinical evaluation ongoing	Non-Replicating Viral Vector	adenovirus Type 5 Vector	Phase 1 ChiCTR2000030906/ NCT04313127	[2, 4], GÖG
Inovio Pharmaceuticals	Human testing in the next few months	DNA	DNA plasmid vaccine Electroporation device	Preclinical Funding by CEPI, up to \$9 million	[1, 2], GÖG
Novavax	3 months	Protein Subunit	VLP-recombinant protein nanoparticle vaccine + Matrix M	Preclinical	[1, 2], GÖG
University of Queensland/GSK/Dynavax	6 months	Protein Subunit	Molecular clamp stabilized Spike protein	Preclinical Funding by CEPI	[1, 2], GÖG
Vir Biotechnology	Not available	Anti-coronavirus monoclonal antibodies. Additionally, using “whole-genome CRISPR-based screening capabilities to identify the host receptor for Wuhan coronavirus”		Preclinical	[1]
Chinese Centre for Disease Control and Prevention (CDC)	At least 1 month for development, 2–3 years before availability for use	Not available Inactivated virus vaccine (postulated, not verified)		Preclinical; virus successfully isolated, currently selecting strain	[1]
Shanghai East Hospital (Tongji University) — Stermirna Therapeutics	<40 days for manufacture of vaccine samples	RNA	mRNA	Preclinical	[1, 2]
Johnson & Johnson	1 year to market	Adenovirus—vectored technology used for Ebola vaccine (and Zika and HIV vaccine candidates)		Preclinical	[1]
University of Hong Kong	Months for animal testing, At least 1 year for clinical trials on humans	Replicating Viral Vector	Influenza vector expressing RBD	Preclinical	[1, 2]
University of Saskatchewan (VIDO-InterVac)	Target for animal testing in 6–8 weeks, human trials in at least a year	Protein Subunit	Subunit	Preclinical	[1, 2]
University of Saskatchewan	Not available	Protein Subunit	Adjuvanted microsphere peptide	Preclinical	[2]
GeoVax—BravoVax	Not available	Non-Replicating Viral Vector	MVA encoded VLP	Preclinical	[1, 2]

Appendix 1 Vaccines (n=79)

Clover Biopharmaceuticals Inc./GSK/Dynavax	Not available	Protein Subunit	Native like Trimeric subunit Spike Protein vaccine	Preclinical	[1, 2]
CureVac	Not available	RNA	mRNA	Preclinical; Phase 1 studie will start in June/July 2020	[1, 2] GÖG
Baylor College of Medicine	Not available	Protein Subunit	S1 or RBD protein	Not available	[1, 2]
Codagenix/ Serum Institute of India	Not available	Live Attenuated Virus	Deoptimized live attenuated vaccines	Preclinical	[1, 2]
Takis/Applied DNA Sciences/Evvivax	Not available	DNA	DNA	Preclinical	[2], GÖG
Zydus Cadila	Not available	DNA	DNA plasmid vaccine	Preclinical	[2]
Zydus Cadila	Not available	Replicating Viral Vector	Measles Vector	Preclinical	[2]
Sinovac	Not available	Inactivated	Inactivated + alum	Preclinical	[2]
Beijing Institute of Biological Products/Wuhan Institute of Biological Products	Not available	Inactivated	Inactivated	Preclinical	[2]
Janssen Pharmaceutical Companies	Not available	Non-Replicating Viral Vector	Ad26 (alone or with MVA boost)	Preclinical	[2]
DZIF – German Center for Infection Research	Not available	Non-replicating viral vector	MVA-S encoded	Preclinical	[2], GÖG
University of Oxford	Not available	Non-Replicating Viral Vector	ChAdOx1	Preclinical (Phase I/II study planned: NCT04324606; estimated completion: May 2021)	[2, 4] SPS Coronavirus HS report (UK), GÖG
Altimune	Not available	Non-Replicating Viral Vector	Adenovirus-based NasoVAX expressing SARS2-CoV spike protein	Preclinical	[2]
Greffex	Not available	Non-Replicating Viral Vector	Ad5 S (GREVAX™ platform)	Preclinical	[2]
Vaxart	Not available	Non-Replicating Viral Vector	Oral Vaccine platform	Preclinical	[2]
AdaptVac	Not available	Protein Subunit	Capsid-like Particle	Preclinical	[2], GÖG
ExpreS2ion	Not available	Protein Subunit	Drosophila S2 insect cell expression system VLPs	Preclinical	[2]
WRAIR/USAMRIID	Not available	Protein Subunit	S protein	Preclinical	[2]
Vaxil Bio	Not available	Protein Subunit	Peptide	Preclinical	[2]
Flow Pharma Inc	Not available	Protein Subunit	Peptide	Preclinical	[2]
AJ Vaccines	Not available	Protein Subunit	S protein	Preclinical	[2]
Generex/EpiVax	Not available	Protein Subunit	li-Key peptide	Preclinical	[2]
EpiVax/Univ. of Georgia	Not available	Protein Subunit	S protein	Preclinical	[2]
Sanofi Pasteur	Not available	Protein Subunit	S protein (baculovirus production)	Preclinical	[2]

Appendix 1 Vaccines (n=79)

Heat Biologics/Univ. Of Miami	Not available	Protein Subunit	gp-96 backbone	Preclinical	[2]
iBio/CC-Pharming	Not available	Protein Subunit	Subunit protein, plant produced	Preclinical	[2], GÖG
OncoGen	Not available	Protein Subunit	Synthetic Long Peptide Vaccine candidate for S and M proteins	Preclinical	[2]
Institute Pasteur/Themis/Univ. of Pittsburg Center for Vaccine Research	Not available	Replicating Viral Vector	Measles Vector	Preclinical	[2]
DZIF – German Center for Infection Research	Not available	Live attenuated virus	Measles Virus (S, N targets)	Preclinical	[2]
Tonix Pharma/Southern Research	Not available	Replicating Viral Vector	Horsepox vector expressing S protein	Preclinical	[2]
IAVI/Batavia	Not available	Replicating Viral Vector	VSV vector expressing S protein	Preclinical	[2]
Fudan University/ Shanghai JiaoTong University/RNACure Biopharma	Not available	RNA	LNP-encapsulated mRNA cocktail encoding VLP	Preclinical	[2]
Fudan University/ Shanghai JiaoTong University/RNACure Biopharma	Not available	RNA	LNP-encapsulated mRNA encoding RBD	Preclinical	[2]
Arcturus/Duke-NUS	Not available	RNA	mRNA	Preclinical	[2]
BioNTech/Fosun Pharma/Pfizer	Not available	RNA	mRNA	Preclinical; Mar 20: Clinical testing of this m-RNA vaccine to start in April 2020	[2, 3], GÖG
Imperial College London	Not available	RNA	saRNA	Preclinical	[2]
Medicago Inc.	Not available	VLP	Plant-derived VLP	Preclinical	[2], GÖG
Karolinska Institute	Not available	Unknown	Unknown	Preclinical	[2]
ReiThera	Not available	Unknown	Unknown	Preclinical	[2]
BioNet Asia	Not available	Unknown	Unknown	Preclinical	[2]
ImmunoPrecise	Not available	Unknown	Unknown	Preclinical	[2], GÖG
MIGAL Galilee Research Institute	Not available	Unknown	Unknown	Preclinical	[2], GÖG
Doherty Institute	Not available	Unknown	Unknown	Preclinical	[2]
Tulane University	Not available	Unknown	Unknown	Preclinical	[2]
Shenzhen Geno-Immune Medical Institute	Not available	Lentiviral Minigene Vaccine (LV-SMENP) of Covid-19		Preclinical (NCT04276896; recruiting)	[4]
Shenzhen Geno-Immune Medical Institute	Not available	Pathogen-specific antigen presenting cells (APC). Modify artificial APC (aAPC) and to activate T cells.		Preclinical (NCT04299724; recruiting)	[4]
Anges Inc, Osaka University	Not available	DNA	unknown	Preclinical	GÖG

Cambridge Infectious Diseases Research Centre	Not available	Not available	Not available	Preclinical	GÖG
Institute for Biological Research, Israel	Not available	Not available	Not available	Preclinical	GÖG
University of Texas	Not available	Not available	Not available	Not available	GÖG
Washington University School of Medicine in St. Louis	Not available	Not available	Not available	Not available	GÖG
Alpha-O Peptides	Animal testing upcoming	Protein Subunit	SAPN	Not available	[5]
SK Bioscience	Animal trial started, Clinical trials in September 2020	Not available	Not available	Preclinical	[5]
Sanofi/Translate Bio	Human testing toward the end of 2020 or in early 2021	RNA	MRNA	Preclinical	[5]
Konsortium Universitätsspital Zürich/Inselspital und Universität Bern/Unternehmen Saiba	Animal testing ongoing, availability till end of 2020	Protein Subunit	RBD	Preclinical	[5]
Kentucky BioProcessing (British American Tobacco)	Animal testing ongoing	Not available	Not available	Preclinical	[5]
US Army Medical Research and Development Command (USAMRDC)	Not available	Not available	Not available	Not available	[5]
Osaka University/ BIKEN/ NIBIOHN	Not available	Inactivated	TBD	Preclinical	[6]
National Institute of Infectious Disease, Japan	Not available	Protein Subunit	S protein+Adjuvant	Preclinical	[6]
Osaka University/ BIKEN/ National Institutes of Biomedical Innovation, Japan	Not available	Protein Subunit	VLP-recombinant protein + Adjuvant	Preclinical	[6]
Univ. of Pittsburgh	Not available	Protein Subunit	microneedle arrays S1 subunit	Preclinical	[6]
Biological E Ltd	Not available	Protein Subunit	Adjuvanted protein subunit (RBD)	Preclinical	[6]
Saint-Petersburg scientific research institute of vaccines and serums	Not available	Protein Subunit	Recombinant protein, nanoparticles (based on S-protein and other epitopes)	Preclinical	[6]
Innovax/Xiamen Univ./GSK	Not available	Protein Subunit	COVID-19 XWG-03 truncated S (spike) proteins	Preclinical	[6]
University of Tokyo/ Daiichi-Sankyo	Not available	RNA	LNP-encapsulated mRNA	Preclinical	[6]

Imophoron Ltd and Bristol University's Max Planck Centre	Not available	VLP	ADDomer™ multiepitope display	Preclinical	[6]
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Notes: n=80; further BCG vaccines will be assessed for its ability to mitigate the prevalence and severity of COVID-19 symptoms (see BRACE trial & EudraCT2020-000919-69) [4]

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Appendix 2 Therapeutics (n = ca. 155)

Table A 2: Covid19 medicines in development (all)

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
Antiviral drugs					
Remdesivir (GS-5734; GS 5734)					
Nucleoside Inhibitor Not Licensed					
Remdesivir Sponsor: Capital Medical University	NCT04252664	Hubei, China	Phase III randomised, double-blind, placebo-controlled multicenter study: hospitalized adult patients with mild and Moderate 2019-nCoV Respiratory Disease randomised to Remdesivir, or Placebo (N=308)	Time to Clinical Recovery defined as the time (in hours) from initiation of study treatment (active or placebo) until normalisation of fever, respiratory rate, and oxygen saturation, and alleviation of cough, sustained for at least 72 hours.	Recruiting; Estimated study completion: April 27, 2020
Remdesivir Sponsor: Capital Medical University	NCT04257656	Beijing, China	A Phase 3 Randomised, Double-blind, Placebo-controlled, Multicenter Study N= 453 Hospitalized Adult Patients With Severe 2019-nCoVRespiratory Disease ranomised to Remdesivir, or placebo	Time to Clinical Improvement (TTCI), two steps in a Six-category ordinal scale:1 (discharged) to 6 (death), censoring at day 28	Recruiting; Estimated study completion: May 1, 2020
Remdesivir Sponsor: National Institute of Allergy and Infectious Diseases (NIAID)	NCT04280705 EudraCT number: 2020001052-18	Up to 50 sites globally; Maryland, Nebraska, Texas, Washington,US; Korea Denmark	Phase 2 Multicenter, Adaptive, Randomised Blinded Controlled Trial N=440 Hospitalized Adults with covid- 19 randomised to Remdesivir, or placebo	Percentage of subjects reporting each severity rating on the 7-point ordinal scale (death – not hospitalized), timeframe day 15	Recruiting; Estimated study completion: April 2023
Remdesivir Sponsor: Gilead Sciences	NCT04292730 EudraCT number: 2020-00084115	China, France, Germany, Hong Kong, Italy, Japan, Korea, Netherlands, Republic of Singapore, Spain, Sweden, Taiwan, UK, US	Phase 3 open label randomised controlled trial. N=600 with moderate covid-19 randomised 1:1:1 to Remdesivir 100 mg for 5 days, Remdesivir 100 mg for 10 days, or standard of care	Proportion of participants in each group discharged by day 14.	Recruiting; Estimated study completion :May 2020
Remdesivir Sponsor: Gilead Sciences	NCT04292899 EudraCT number: 2020-00084232	China, France, Germany, Hong Kong, Italy, Japan, Korea, Netherlands, Republic of Singapore, Spain, Sweden, Taiwan, UK, US	Phase 3 open label randomised controlled trial. N=400 with severe covid-19 randomised to Remdesivir 100 mg for 5 days, or Remdesivir 100 mg for 10 days.	Proportion of Participants With Normalization of Fever and Oxygen Saturation Through Day 14	Recruiting, Estimated study completion May 2020
Remdesivir	NCT04315948	EU: France, Spain, UK, Germany, Belgium, Netherlands, Luxembourg, Norway	Adaptive, randomised open clinical trial to one of 4 treatments	Subject clinical status (on a 7-point ordinal scale) on Day 15	Recruiting; Estimated study completion: March 2023

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
		N=3200 Argentina, Bahrain, Canada, Iran, South Africa, Switzerland and Thailand More countries are expected to join			
Lopinavir + Ritonavir (Kaletra) Protease inhibitors HIV infection					
Lopinavir+ Ritonavir Sponsor: Tongji Hospital	NCT04255017	Tongji Hospital, Hubei, China	Phase 4 single blinded, Prospective, Randomised Controlled Cohort Study to Compare the Efficacy of Three Antiviral Drugs (Abidol Hydrochloride (Umifenovir), Oseltamivir and Lopinavir/Ritonavir) in the Treatment of 2019-nCoV Pneumonia. N=400 patients with CT manifestation of viral pneumonia + mCoV positive randomised to Abidol hydrochloride, Oseltamivir, or Lopinavir/ritonavir	Rate of disease remission (Time Frame: two weeks) Time for lung recovery (Time Frame: two weeks)	Recruiting; Estimated study completion: July 1, 2020
Lopinavir + Ritonavir	NCT04315948	EU: France, Spain, UK, Germany, Belgium, Netherlands, Luxembourg, Norway N=3200 Argentina, Bahrain, Canada, Iran, South Africa, Switzerland and Thailand, more countries are expected to join	Adaptive, randomised open clinical trial to one of 4 treatments	Subject clinical status (on a 7-point ordinal scale) on Day 15	Recruiting; Estimated study completion: March 2023
Lopinavir + Ritonavir in combination with Interferon- beta	NCT04315948	EU: France, Spain, UK, Germany, Belgium, Netherlands, Luxembourg, Norway N=3200 Argentina, Bahrain, Canada, Iran, South Africa, Switzerland and Thailand more countries are expected to join	Adaptive, randomised open clinical trial to one of 4 treatments	Subject clinical status (on a 7-point ordinal scale) on Day 15	Recruiting; Estimated study completion: March 2023
Lopinavir + Ritonavir Sponsor: Darrell Tan	NCT04321174	Canada, Ontario	Post exposure prophylaxis. Open label randomised trial N=1220 High risk close contact with a confirmed COVID-19 case	Microbiologic evidence of infection [Time Frame: 14 days	Not yet recruiting; Estimated Primary Completion: March 31, 2021

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
Lopinavir + Ritonavir vs Interferon 1 β vs Low-dose Corticosteroids vs Hydroxychloroquine. Sponsor: University of Oxford	EudraCT 2020-001113-21	UK	Adaptive, open label randomised controlled trial. N=2000 hospitalised patients with covid-19 are randomised to 1 of 5 treatment arms in addition to usual standard of care: No additional treatment, Lopinavir-Ritonavir, Interferon 1 β , Low-dose Corticosteroids, or Hydroxychloroquine.	In-hospital death, discharge, and need for ventilation. Time frame 28 days	Ongoing
Lopinavir + Ritonavir	ChiMCTR2000002940	Wuhan, China	N=60 randomised to traditional Chinese medicine, Lopinavir/ritonavir, or traditional Chinese medicine + lopinavir/ritonavir	The rate of remission	Not Recruiting; Estimated study completion: Dec 31, 2020
Lopinavir + Ritonavir Sponsor: Guangzhou 8th People's Hospital	NCT04252885	Guangdong, China	Open label, 125 patients Randomised 2:2:1 to Lopinavir /Ritonavir Tablets, Arbidol, or ordinary treatment	The rate of virus inhibition	Recruiting; Estimated study completion: July 31, 2020
Lopinavir + Ritonavir	NCT04276688	Hong Kong	Phase 2 study Open-label randomised controlled trial among adult patients hospitalized and confirmed covid-19 infection N=70 hospitalised patients with confirmed covid 19 infection randomised to Lopinavir/ritonavir, Ribavirin, or Interferon Beta-1B	Time to negative nasopharyngeal swab (NPS) 2019-n-CoV coronavirus viral RT-PCR	Recruiting; Estimated study completion: July 31, 2022
Lopinavir + Ritonavir Sponsor: First Affiliated Hospital of Zhejiang University	NCT04261907 ChiCTR2000029603	Zhejiang University, China	Randomised, Open-label, Multi-centre Clinical Trial N=160 patients with pneumonia caused by covid-19 randomised to ASC09/ritonavir or lopinavir/ritonavir	The incidence of composite adverse outcome (time frame 14 days)	Recruiting (according to Chinese website that was updated) Estimated study completion: June 30, 2020
Lopinavir + Ritonavir	NCT04291729 ChiCTR2000030472	China, Jiangxi	50 patients with covid 19 randomised 1:1:1:1:1 to Ganovo+ritonavir with or without interferon atomization; Pegasys; Novaferon atomization; Lopinavir+ritonavir; Chinese medicines +interferon atomization	Rate of composite adverse outcomes (Time frame: 14 days)	Recruiting; Estimated study completion: April 30, 2020
Lopinavir + Ritonavir + interferon +/- ribavirin	ChiCTR2000029387	Chongqing, China	N= 108 patients with mild or moderate covid-19 randomised to Ribavirin + Interferon alpha-1b, lopinavir / ritonavir + interferon alpha- 1b, or Ribavirin + LPV/r+Interferon alpha-1b;	The time to 2019-nCoV RNA negativity in patients;	Recruiting Study execute time: From 2020-01-25 to 2021-01-25
Lopinavir + Ritonavir	ChiCTR2000029539	Tongji, Hubei, China	Open label study.	The incidence of adverse outcome within 14 days after admission:	Recruiting;

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
Sponsor: Tongji Hospital, Tongji Medical College, Huazhong University of Science and Technology			N=328 Patients with mild covid-19 or unexplained viral pneumonia randomised 1:1 to conventional standardized treatment + Lopinavir/Ritonavir, or conventional standardized treatment	Patients with conscious dyspnea, SpO2 = 94% or respiratory frequency = 24 times / min in the state of resting without oxygen inhalation;	From 2020-02-03 To 2021-02-02
Lopinavir + Ritonavir	ChiCTR2000030187	Hubei, China	N=60 randomised to lopinavir/ritonavir, or Routine symptomatic support treatment	Endotracheal intubation rate, time frame: 14 days Mortality, time frame: 14 days	Not yet recruiting; From 2020-02-25 To 2020-03-10
Lopinavir + Ritonavir vs Chloroquine	NCT04307693	Seoul, Republic of Korea	Multicenter, open labelled, randomized clinical trial N=150 with mild covid-19 Randomised to Lopinavir/Ritonavir, Hydroxychloroquine, or Conventional treatment	Viral load (Time Frame 18 days)	Recruiting; Estimated study completion: May 2020
Lopinavir + Ritonavir vs Arbidol vs ASC09/ Ritonavir (ASC09F)	ChiCTR2000029759	Chongqing	A multicenter, randomised, open label, controlled trial 60 patients randomised to Lopinavir / Ritonavir (Kaletra) + IFN aerosol inhalation, Abidol and IFN aerosol inhalation, or ASC09/ Ritonavir (ASC09F) and IFN aerosol inhalation	Time to recovery.	From 2020-02-15 To 2020-05-01
Lopinavir + Ritonavir vs Carrimycin; Carrimycin is licenced in China Sponsor: Beijing YouAn Hospital	NCT04286503 ChiCTR2000029867	Beijing YouAn Hospital and other hospitals in China	A Multicenter, Randomised, Open-controlled Study, N=520 patients stratified by severity, Randomised 1:1 to carrimycin or lopinavir/ritonavir or arbidol or chloroquine phosphate	Fever to normal time (day) (Time Frame: 30 days) Pulmonary inflammation resolution time (HRCT) (day) (Time Frame: 30 days) Negative conversion (%) of 2019-nCoV RNA in gargle (throat swabs) at the end of treatment (Time Frame: 30 days)	Not yet recruiting; Estimated study completion, Feb 28, 2021
Lopinavir + Ritonavir + emtricitabine/Tenofovir alafenamide fumarate	ChiCTR2000029468	Sichuan, China	Single arm study with historical controls Patients with covid-19 N=60 in the intervention arm N=60 historical controls	Patient survival rate	Not yet recruiting; From 2020-02-01 To 2020-06-30
Lopinavir + Ritonavir vs pinavir + ritonavir vs ritonavir	ChiCTR2000030218	Jiangxi, China	Randomised trial, blinding not stated; N=80 with mild or moderate covid-19 treated with Pinavir / ritonavir tablets combined with Xiyanning injection, or Ritonavir, or Lopinavir/ritonavir combined with Xiyanning injection	Clinical recovery time; Pneumonia Severity Index (PSI) score	Recruiting; From 2020-01-22 To 2020-06-25
Favipiravir/Favilavir (Avigan) (T-705 or favilavir) Experimental antiviral drug.					

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
Pyrazinecarboxamide derivative viral RNA polymerase inhibitor; Licenced for influenza in Japan	ChiCTR2000029548	Zhejiang, China	N=30, Randomised 1:1:1 to BaloxavirMarboxil, Favipiravir, or Lopinavir-Ritonavir; ritonavir	Primary outcome: time to negative PCR and time to clinical improvement	Not recruiting; Estimated study completion: June 2020
Favipiravir (or T-705 or Avigan)	ChiCTR2000029544	Zhejiang, China	N= 30 with Coronavirus pneumonia Randomised 1:1:1 to antiviral treatment + Baloxavir, antiviral treatment + Marboxil, or antiviral treatment	Primary outcome: time to negative PCR Time to clinical improvement	Not recruiting; Estimated study completion: June 2020
Favipiravir	ChiCTR2000030113	Guangdong, China	N=30 with corona pneumonia with poorly responsive ritonavir Randomised to ritonavir or favipiravir	Blood routine tests, Liver function examination, Renal function examination, Blood gas analysis, Chest CT examination	Recruiting; Estimated study completion: May 31, 2020
Fapilavir Approved by China for covid-19 treatment by February 17, 2020.	ChiCTR2000029996	Beijing, China	Randomised, open label, controlled trial. N=60 patients with covid-19 of ordinary type randomised to low, middle or high dose fapilavir for 10 days	Time to Clinical Recovery defined as normal body temperature and cough relief	Recruiting
Favipiravir + bromhexine	NCT04273763	China, Zhejiang	Open label N=60 with mild corona pneumonia randomised 1:1 to favipiravir + interferon-alfa + arbidol hydrochloride + interferon alfa2b, or arbidol hydrochloride + interferon alfa2b	Time to clinical recovery after treatment	Enrolling by Invitation Estimated study completion: April 30, 2020
Farpiravir	ChiCTR2000030254	Hubei, China	Randomised, open label, controlled trial. N=240 with covid-19 randomised to farpiravir or abidole	Pulse oxygen saturation, Respiratory support, nucleic acid test of novel coronavirus	Recruiting; From 2020-02-20 To 2020-03-20
Favipiravir + Tocilizumab Sponsor: Peking University First Hospital	NCT04310228	Anhui, Beijing, Hubei, China	Open label randomised controlled trial N=150 randomised to Favipiravir + Tocilizumab, Favipiravir, or Tocilizumab	Clinical cure rate [Time Frame: 3 months]	Recruiting Estimated completion date: May 2020
Darunavir + cobicistat+ chloroquine					
Antiretroviral, protease inhibitor. Used with low doses of cobicistat to increase bioavailability and half-life; Approved for HIV	NCT04304053	Barcelona, Spain	Phase 3, Open label cluster randomised trial N= 3040 participants Randomised to antiviral and prophylaxis: darunavir 800 mg / cobicistat 150 mg and chloroquine Contacts will be offered a prophylactic regimen of chloroquine Active comparator: no intervention	Incidence of secondary COVID-19 cases	Not yet recruiting; Estimated study completion: July 15, 2020
Darunavir and Cobicistat	ChiCTR2000029541	Hubei, China	Randomised, open label study	Time to conversion of 2019-nCoV RNA result from RI sample	Dec 01, 2020

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
			N=100 patients with covid-19 randomised to darunavir/cobicistat, lopinavir/ritonavir combined, or conventional treatment		
Darunavir and Cobicistat	NCT04252274	China, Shanghai	Phase 3, randomised, open label N=30 patients with covid-19 randomised to Darunavir and Cobicistat or Conventional treatment	The virological clearance rate of throat swabs, sputum, or lower respiratory tract secretions at day 7 [Time Frame: 7 days after randomization]	Estimated primary completion date/ Estimated study completion: August 31, 2020/ December 31, 2020
Oseltamivir (Tamiflu®)					
Oseltamivir vs ASC09F + Oseltamivir vs Ritonavir + Oseltamivir	NCT04261270	Tongji Hospital, China	60 patients with covid-19 randomised to ASC09F + Oseltamivir, Ritonavir + Oseltamivir, or Oseltamivir	Rate of comprehensive adverse outcome (Time Frame: 14 days) defined as low Oxygen saturation and high respiration rate	Not yet recruiting; Estimated study completion: July 1, 2020
Umifenovir (Arbidol®)					
Umifenovir + interferon (PegIFN-α-2b)	NCT04254874	Tongji Hospital, China	Phase 4 Open, Prospective, Randomised Controlled Cohort Study N=100 randomised to arbidol Hydrochloride (Umifenovir), or Arbidol Hydrochloride Combined With Interferon Atomization	Rate of disease remission (Time Frame: two weeks) Time for lung recovery (Time Frame: two weeks)	Not yet recruiting; Estimated study completion date: July 1, 2020
Umifenovir	ChiCTR2000029621	Shanghai, China	Multicenter, randomised, open-label, controlled trial N= 380 patients with mild or moderate covid-19	Virus negative conversion rate in the first week	Recruiting; From 2020-01-01 To 2020-12-31
Umifenovir , Novaferon, lopinavir/litonavir	ChiCTR2000029573	Zhejiang, China	N=600 randomised 1:1:1:1:1:1 to arbidol, Novaferon + arbidol, Lopinavir/litonavir, Arbidol, Novaferon, lopinavir/litonavir, or Novaferon + arbidol	2019-nCoV nucleic acid test confirmed negative;	Not yet recruiting From 2020-02-05 To 2020-06-30
Umifenovir	NCT04260594	Jieming QU, Ruijin Hospital	Phase 4 Randomised, Open, Multicenter Study N=380 with covid-19 randomised to arbidol or basic treatment	Virus negative conversion rate in the first week	Not recruiting yet; Estimated primary completion date/ Estimated study completion: July 1, 2020/December 30, 2020
Umifenovir Sponsor: Union Hospital, Tongji Medical College, Huazhong University of Science and Technology	ChiCTR2000029592	Hubei China	Post exposure prophylaxis Observational study High-risk population including medical staff on duty during the outbreak of 2019-nCoV. N=1000 2 cohorts treated with Arbidol or no Arbidol	2019-nCoV RNA; 2019-nCoV antibody; Chest CT;	Not yet recruiting; From 2020-02-05 To 2020-08-31
Other					

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
Oseltamivir (Tamiflu®), lopinavir, ritonavir, favipiravir, darunavir, chloroquine	NCT04303299	Bangkok, Thailand	A 6 Week Prospective, Open Label, Randomized, in Multicenter Study N=80 stratified by severity: Mild COVID19: Oseltamivir Plus Chloroquine, Lopinavir/ Ritonavir Plus Oseltamivir, Lopinavir/ Ritonavir Plus Favipiravir, or Conventional quarantine Moderate to Critically Ill COVID19: Lopinavir/ Ritonavir Plus Oseltamivir, Favipiravir Plus Lopinavir / Ritonavir, Darunavir/ Ritonavir Plus Oseltamivir Plus Chloroquine, Favipiravir Plus Darunavir, Ritonavir Plus Chloroquine	SARS-CoV-2 eradication time	Not yet recruiting; Estimated study completion: November 30, 2020
Azvadine , nucleoside reverse transcriptase inhibitor Currently investigated in phase 3 studies for the treatment of HIV	ChiCTR2000029853	He'nan, China	Randomised, open label N=20 randomised to Azvadine or conventional treatmet	Several of primary clinical endpoints.	Recruiting, From 2020-02-16 To 2020-04-16
Azvadine	ChiCTR2000030424	He'nan, China	Single arm study N=30 treated with azvadine	conversion rate	Not yet recruiting From 2020-03-02 To 2022-05-02
Azvadine	ChiCTR2000030041		Single arm study of 20 patients with common or severe type covid-19 treated with azvadine on top of conventional treatment	The novel coronavirus nucleic acid negative rate	Not yet recruiting; From 2020-02-21 To 2020-06-30
Azvadine	ChiCTR2000030487	He'nan, China	Single arm, N=10 treated with azvadine	Conversion time	Recruiting From 2020-03-04 To 2020-05-04
Triazavirin Developed in Russia has been investigated for the treatment of influenza and other virus infections. Sponsor: Health commission of Heilongjiang province	ChiCTR2000030001	Heilongjiang, China	A multicenter, randomised, double blinded, placebo-controlled trial N=240 randomised to Triazavirin or conventional treatment	Time to Clinical recovery	Recruiting; From 2020-02-15 To 2020-05-28
Novaferon New antiviral drug developed in China	ChiCTR2000029496	Huhan, China	Randomised controlled trial. N=90 with covid-19 randomised to Novaferon, Kaletra, or Novaferon+ Kaletra	Time to negative testing	Recruiting
Galidesivir (BCX4430, Immuncillin-A)	NA	NA	Current Phase I clinical study.	NA	NA
Emtricitabine + tenofovir (Truvada licensed for HIV)	NA	NA	Current clinical trials	NA	NA

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
Ganovo® (Danoprevir) + Ritonavir combination therapy Sponsor: Ascleitis Pharma Inc.	https://www1.hkexnews.hk/listedco/listconews/sehk/2020/0310/2020031000340.pdf	Hangzhou, China	One of the treatment groups in this study is the group receiving oral Ganovo® and Ritonavir combination therapy, in which 10 Novel Coronavirus Pneumonia patients were planned to be enrolled, and 11 patients actually enrolled. As of the date of this announcement, all 11 patients receiving oral Ganovo® and Ritonavir combination therapy have been discharged as they are satisfied with the discharge standards under the "Diagnosis and Treatment Program for Novel Coronavirus Infection (Trial Version 6)" 《(新型冠状病毒肺炎診療方案(試行第六版))》 issued by the National Health Commission of the People's Republic of China.	NA	NA
ATR-002 MEK inhibitor Sponsor: Atriva Therapeutics GmbH	https://pharmaintelligence.informa.com/resources/product-content/atriva-fast-tracks-antiviral-candidate-as-coronavirus-arrives-in-germany	Germany	Successfully completed Phase I safety trials for seasonal influenza Preliminary lab tests of the drug	NA	NA
Brilacidin a defensin mimetic Sponsor: Innovation Pharmaceuticals	http://www.ipharminc.com/pressrelease/2020/3/12/innovation-pharmaceuticals-announces-testing-procedures-of-brilacidin-against-coronavirus-covid-19	USA	NA	Evaluation of Brilacidin's potential inhibitory efficacy against SARS-CoV-2 in lung epithelial cell lines, as well as its potential inhibitory effect in viral replication of the alphavirus (with Venezuelan Equine Encephalitis Virus [VEEV] as a prototype) in different cell lines.	Testing is scheduled to begin the week of March 16.
Danoprevier	Chen et al., medRxiv, DOI: 10.1101/2020.03.22.20034011	NA	Case series	NA	NA
Baloxavir marboxil (Xofluza) polymerase acidic endonuclease inhibitor FDA-approved since 2018, approved to treat influenza Sponsor: Roche/The First Affiliated Hospital of Zhejiang University Medical School	ChiCTR2000029544 ChiCTR2000029548	NA	Clinical trials	NA	NA
Vicromax , broad spectrum antiviral	NA	NA	Pre-clinical	NA	NA

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
Sponsor: ViralClear Pharmaceuticals					
Antiviral compounds Sponsor: Cocystal Pharma	NA	NA	Pre-clinical	NA	NA
Immune modulating drugs					
Glucocorticoids					
Glucocorticoid	NCT04244591	China, Beijing	Phase 2 and 3: open label, randomised controlled trial N=80 with severe disease (ICU admission) randomised to methylprednisolone 40 mg x2 for 5 days	Lower Murray lung injury score (Time Frame: 7 days and 14 days after randomization)	Recruiting; Estimated primary completion date/ Estimated study completion: April 25, 2020/ December 25, 2020
Methylprednisolone	NCT04263402	Tongji Hospital	Phase 4 open label, Prospective, Randomised Controlled Cohort Study N=100 patients with severe pneumonia randomised to <40 mg methylprednisolone/day, or 40-80 mg/day	Rate of disease remission rate and time of entering the critical stage	Not yet recruiting; Estimated study completion: July 1, 2020
Methylprednisolone	NCT04273321	China, Hubei	Open label, randomised trial N=400 patients Randomised to Methylprednisolone 1mg/kg/day ivgtt for 7 days or?	The incidence of treatment failure in 14 days	Recruiting; Estimated primary completion/estimated study completion: May 1, 2020/may 30, 2020
Methylprednisolone	ChiCTR2000029386	Chongqing, China	Randomised Controlled Trial N=40 with severe covid-19 randomised to methylprednisolone or conventional treatment	Mortality 12 weeks, 4 weeks and clinical improvement	Recruiting From 2020-01-29 to 2021-01-29
Corticosteroids	ChiCTR2000029656	Hubei, China	Open label randomised controlled trial. N=100 patients with Covid-19 randomised to methylprednisolone or standard treatment	ECG, chest imaging, complications	Not yet recruiting. From 2020-02-14 To 2020-04-14
Corticosteroids	ChiCTR2000030481	Hubei, China	Parallel study, blinding unknown; N=200 corticosteroid therapy timing early timing, medium timing, or conventional treatment	The time of duration of COVID-19 nucleic acid RT-PCR test results of respiratory specimens (such as throat swabs) or blood specimens change to negative.	Recruiting; From 2020-03-01 To 2020-04-30
ISR-50 Sponsor: ISR Immune System Regulation	NA	NA	Pre-clinical	NA	NA
Immunoglobulins					
Anti-SARS-CoV-2 virus inactivated plasma	ChiCTR2000030010	Hubei	Randomised double blinded parallel-controlled trial	Improvement of clinical symptoms (Clinical improvement is defined as a	Not yet recruiting;

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
Sponsor: Wuhan Jinyintan Hospital (Wuhan Infectious Diseases Hospital)			Patients with severe covid-19. N=100 randomised to Anti-SARS-CoV-2 virus inactivated plasma, or conventional treatment	reduction of 2 points on the 6-point scale of the patient's admission status or discharge from the hospital)	From 2020-02-19 To 2020-05-31
PLX cell product, placenta-based cell therapy Sponsor: Pluristem Therapeutics/BIH Center for Regenerative Therapy/Berlin Center for Advanced Therapies	NA	NA	Pre-clinical	NA	NA
Immunoglobulin Sponsor: Peking Union Medical College Hospital	NCT04261426	Tongji Hospital	Phase 2/3 randomised, Open-label, Controlled, Single-center Study N=80 patients with severe or critically ill covid19 respiratory disease randomised to IV immunoglobulin or standard care	Clinical improvement based on the 7- point scale (discharged to death) [Time Frame: 28 days after randomization] and 3. Lower murray lung injury score (day 7 and day 14)	Not recruiting yet; Estimated primary completion date/ Estimated study completion: April 30, 2020/ June 30, 2020
Immunoglobulin	NCT04264858	China, Hubei	An Exploratory Clinical Study N=10 patients with severe covid19. Treatment: immunoglobulin From cured 2019-nCoV Pneumonia Patients Or gammaglobulin	Time to Clinical Improvement (decline of two categories a six-category ordinal scale of clinical status which ranges from 1 (discharged) to 6 (death).)	Not recruiting yet; Estimated primary completion date/ Estimated study completion: April 30, 2020/ May 31, 2020
Anti-SARS-CoV-2 Inactivated Convalescent Plasma	NA	NA	Case-Only, observational study: The Efficacy and Safety of Anti-SARS-CoV-2 Inactivated Convalescent Plasma in the Treatment of Novel Coronavirus Pneumonia Patient (COVID-19) N=15	The virologic clearance rate	Recruiting; Estimated study completion: December 31, 2020
Convalescent plasma treatment	ChiCTR2000029850	Zhejiang, China	Prospective cohort study; N=20 with severe covid-19	Fatality rate	Recruiting; From 2020-02-15 To 2022-02-15
Convalescent plasma treatment	ChiCTR2000030039	Jiangsu	90 patients with normal to critical covid-19. N=30 treated with convalescent plasma N=60 treated with conventional therapy	SARS-CoV-2 DNA, And SARS-CoV-2 antibody levels	Recruiting, Unknown end-date
Anti-2019-nCoV inactivated convalescent plasma	ChiCTR2000030046	Hubei, China	Single arm study of 10 patients with Anti-2019-nCoV virus inactivated plasma	Several outcomes, the changes of clinical symptom, laboratory and radiological data etc.	Recruiting; From 2020-02-07 To 2020-04-07
Anti-SARS-CoV-2 inactivated convalescent plasma	ChiCTR2000030381	Hubei, China	Randomized, open-label, controlled and single-centre trial N=40 patients with moderate covid-19	Clinical symptom improvement rate: improvement rate of clinical symptoms = number of cases with clinical symptom improvement /number of enrolling cases * 100%	Not yet recruiting From 2020-02-29 To 2020-05-31
Anti-SARS-CoV-2	ChiCTR2000030381	Hubei, China	Single arm n=24 treated with anti-SARS-CoV-2 inactivated convalescent plasma	Clinical symptom improvement rate: improvement rate of clinical symptoms	NA

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
inactivated convalescent plasma				= number of cases with clinical symptom improvement / number of enrolling cases * 100%	
Convalescent plasma	ChiCTR2000030627	He'nan, China	Randomised controlled trial. N=30 patients with severe or critical covid-19 randomised 1:1 to convalescent plasma or conventional treatment	Temperature, Virus nucleic acid detection	Recruiting; From 2020-02-01 To 2020-05-30
(COVID-HIG) and horse plasma product (COVID-EIG) Sponsor: Emergent BioSolutions Funded by: UK government	NA	NA	Pre-clinical	NA	Phase 2 trials begin August 2020
Convalescent plasma (blood plasma from recovered patients) Multiple global research sponsors, including New York State Department of Health	NCT04321421 NCT04292340 NCT04316728	NA	Clinical trial	NA	NewYorkStateDepartmentof Health trialbegins March 2020
Hyperimmune Plasma	NCT04321421	Pavia, PV, Italy	Single arm treatment of 49 patients with moderate to severe COVID-19 undergoing mechanical ventilation or continuous positive airway pressure.	death [Time Frame: within 7 days]	Active, not recruiting; Estimated primary completion: May 31, 2020
Monoclonal antibodies					
Tocilizumab (Roactemra®) Approved for rheumatoid arthritis Sponsor: The First Affiliated Hospital of University of science and technology of China (Anhui Provincial Hospital)	ChiCTR2000029765	Anhui, China	Phase 4, Randomised controlled trial. Blinding not stated N=198 Severe cases of covid19 randomised to tocilizumab, or conventional treatment	Cure rate	Recruiting May 10, 2020
Tocilizumab Sponsor: Roche	NCT04320615	Not stated yet	Randomised, Double-Blind, Placebo-Controlled, Multicenter Study N=330 Patients With Severe COVID-19 randomised to Tocilizumab or placebo	Clinical Status Assessed Using a 7-Category Ordinal Scale [Time Frame: Day 28]	Not yet recruiting Estimated study completion: September, 2021
Tocilizumab + ivig (human antibodies) + CRRT (continuous renal replacement therapy?)	ChiCTR2000030442	Shaanxi, China	Single arm study of 100 patients with severe covid-19	In hospital time	Not yet recruiting From 2020-03-05 To 2020-05-15
Tocilizumab TOCIVID-19	EudraCT:2020- 001110-38 NCT04317092	Italy, Multicentre	Multicenter single-arm, open-label, phase 2 study on the efficacy and tolerability of	Mortality rate one month after registration	Ongoing Estimated primary

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
			tocilizumab in the treatment of patients with COVID-19 pneumonia Control: retrospective observational cohort Sample size (estimated) N = 330		completion/estimated study completion Dec 2020/Dec 2022
Tocilizumab Sponsor: Tongji hospital	NCT04306705	Tongji hospital, Hubei, China	A Retrospective Study N=120 with cytokine release syndrome with Serum IL-6 ≥ 3 times the upper limit of normal treated with Tocilizumab or Continuous Renal Replacement Therapy	Proportion of Participants With Normalization of Fever and Oxygen Saturation Through Day 14	Recruiting; Estimated completion: June 2020.
Tocilizumab Sponsor: Università Politecnica delle Marche	NCT04315480	Ancona, AN, Italy	Single arm study N=30 with severe covid-19	Rate of patients with no need in increase of FiO2 to maintain stable SO2 and no need of intubation; improving in pulmonary function [Time Frame: 7 days]	Not yet recruiting; Estimated Study Completion May 2020
Sarilumab (Kevzara) IL-6 blocking Mab Sponsor: Regeneron + Sanofi	NCT04315298	USA Multicenter	RCT, double-blind, placebocontrolled, on top of supportive care. Ph2 Ph3 (adaptive, depends on Ph2 results) N=400 Adults hospitalized with serious complications from COVID-19	Ph2: fever, O2 need Ph3: longterm outcomes (e.g. death, hospitalisation, ventilation, O2 supply etc)	Recruiting – March 2020 Estimated completion March 2021
Sarilumab (Kevzara) IL-6 blocking Mab Sponsor: Sanofi	EudraCT: 2020-001162-12 Sarilumab COVID-19 Protocol number: EFC16844	Canada France Germany Israel Italy Japan Russian Federation Spain	An adaptive phase 2/3, randomized, double-blind, placebo-controlled study assessing efficacy and safety of sarilumab for hospitalized patients with COVID-19 (Sarilumab COVID-19). Phase 2 n= 100 Phase 3 n= 200	Ph2: resolution of fever or discharge Ph3: adaptive design. PEP depends on Ph2 results.	Ongoing
Sarilumab (Kevzara) IL-6 blocking Mab vs tocilizumab (Roactemra) Sponsor: Assistance Publique - Hôpitaux de Paris	EudraCT: 2020-001246-18 NCT04324047	France	Randomised, open label trial. Moderate, severe or critical COVID-19 N=1000 randomised to sarilumab, tocilizumab, or standard of care.	For patients not requiring ICU: Co Primary Endpoints Survival without needs of ventilator utilization at day 14. Early end point: OMS progression scale ≤ 5 at day 4 For patients requiring ICU: Co Primary Endpoints Cumulative incidence of successful tracheal extubation at day 14. Early end point: OMS progression scale ≥ 7 at day 4	Not yet recruiting; March 26, 2021
Meplazumab Sponsor: Tang-Du Hospital	NCT04275245	China, Shaanxi	Phase 1/2 Open label, single arm N=20 with pneumonia	Virological clearance rate (time frame 14 days)	Recruiting; Estimated study completion: Dec 31, 2020

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
Bevacizumab ; Approved for certain cancers; Sponsor: Qilu Hospital of Shandong University	NCT04275414	China, Shandong	Phase 2/3 single group assignment N=20 severe and critical COVID-19 patients	Partial arterial oxygen pressure at 24 hours, 72 hours and 7 days	Recruiting; Estimated study completion: May 2020
Bevacizumab Sponsor: Qilu Hospital of Shandong University	NCT04305106	China, Shandong	Double blinded multicentre randomised controlled trial N=118 Severe or Critical Patients With COVID-19 Randomised to bevacizumab. No comparator	Proportion of patients whose oxygenation index increased by 100mmhg on the 7th day after admission [Time Frame: On the 7th day after admission]	Not yet recruiting; Estimated study completion: May 31, 2020
Eculizumab (Soliris); Modulation of the complement system EMA approved for Paroxysmal nocturnal haemoglobinuria (PNH). Atypical haemolytic uremic syndrome (aHUS) Refractory generalized myasthenia gravis (gMG) Neuromyelitis optica spectrum disorder (NMOSD) Sponsor: Hudson Medical	NCT04288713	US	The drug is being used in a protocol for the treatment of covid-19. Awaits FDA approval.	NA	NA
vMIP (viral macrophage inflammatory protein, chemokine); Sponsor: Union Hospital, Tongji Medical College, Huazhong University of Science and Technology	ChiCTR2000029636	Hubei, China	Single arm, case series. Moderate or severe covid-19	2019-nCoV nucleic acid turning negative time (from respiratory secretion), or the time to release isolation	Recruiting; From 2020-02-07 To 2020-07-3
Tozumab + adamumab (adalimumab)	ChiCTR2000030580	Hubei, China	Parallel intervention study, N=60 patients with severe or critical covid-19 randomised to tozumab + adamumab	Several primary outcomes: chest CT, coronavirus detection, IL6 etc.	Recruiting; From 2020-02-01 To 2020-04-30
Adalimumab	ChiCTR2000030089	Shanghai, China	A randomized, open-label, controlled trial N= patients with severe or critical covid- 19	TTCI (Time to Clinical Improvement)	Not yet recruiting; From 2020-02-28 To 2020-08-31
Siltuximab (Sylvant®) IL-6 blocking Mab Sponsor: EUSA Pharma	NCT04322188	Italy, Bergamo	Retrospective case-control study (compassionate use vs matched controls) Observational Case-control Study	reduction in the need of invasive ventilation, time spent in ICU or 30-day mortality	Recruiting Estimated study completion date end of May 2020
Gamifant (emapalumab) - (IFN γ) blocking antibody - FDA approved for primary	Eudra-CT: 2020-001167-93 NCT04324021	Italy	Randomized, Open-label, Parallel Group, 3-arm, Multicenter Study N = 54	Treatment success [Time Frame: Up to Day 15]	Not yet recruiting (30-03-2020) Estimated study completion Sep 2020

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
haemophagocytic lymphohistiocytosis (HLH). Kineret (anakinra) – IL-1 receptor antagonist FDA + EMA approved for CAPS, Still's disease, FMF, RA			Active: Emapalumab (n=18) Active: Anakinra (n=18) Comparator: SOC (n=18) Adult COVID-19 with respiratory distress	Defined as the proportion of patients not requiring invasive mechanical ventilation or Extracorporeal membrane oxygenation (ECMO)	
Leronlimab subcutaneous injection (PRO-140)	NA	NA	Phase II clinical study https://www.cytodyn.com/newsroom/press-releases/detail/392/cytodyn-files-ind-and-protocol-for-phase-2-clinical-trial	NA	NA
APN01 (Apeiron) recombinant soluble human Angiotensin Converting Enzyme 2 Sponsor: University of British Columbia/ Apeiron Biologics Funded by: Austrian Government	https://www.vfa.de/de/arzneimittel-forschung/woran-wir-forschen/therapeutische-medikamente-gegen-die-coronavirusepidemie-covid-19 Clinical Trials Arena Apeiron Biologics Apeiron Biologics press release*	NA	Phase 2 began in April 2020	NA	NA
Gimsilumab , anti-granulocyte-macrophage colony stimulating factor monoclonal Sponsor: Roivant Sciences	NA	NA	Pre-clinical	NA	NA
TJM2 (TJ003234), anti-granulocyte-macrophage colony stimulating factor antibody Sponsor: I-Mab Biopharma	NA	USA	Pre-clinical	NA	NA
IFX-1 monoclonal anti-human complement factor C5a antibody Sponsor: InflaRx N.V.	https://www.inflarx.de/Home/Investors/Press-Releases/03-2020-InflaRx-Doses-First-Patient-in-Multicenter-Randomized-Clinical-Trial-in-Severe-Progressed-COVID-19-Pneumonia-in-Europe-upon-Receipt-of-Initial-Positive-Human-Data-with-InflaRx-s-anti-C5a-Technology.html	Jena, Germany	Randomized clinical trial	Safety and efficacy	Enrolment
Interferons					

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
Interferon beta 1a SNG001 is an inhaled formulation of interferon-beta-1a Not licensed Sponsor: Synairgen Research Limited	EudraCT: 2020-001023-14	UK, at leading NHS respiratory medicine centres.	Phase 2 Randomised, double-blind, placebo-controlled trial. Pilot phase with 100 COVID-19 patients In total 400 patients Recruitment via WHO webpage.	Change in condition measured using the Ordinal Scale for Clinical Improvement during the dosing period. The Ordinal Scale for Clinical Improvement is a World Health Organisation recommended scale for use in COVID-19 trials.	Ongoing Estimated study completion: Unknown
Rebif (interferon beta-1a) FDA-approved since 2002, approved to treat multiple sclerosis Institut National de la Sante et de la Recherche Medicale (Merck KGaA) Sponsored by: INSERM	NCT04315948	France	NA	NA	Recruiting
Interferon alfa1beta	NCT04293887	Tongji Hospital, China	Early phase 1 Multi-center, randomised, open, blank-controlled, multi-stage clinical study. N=328 patients with corona pneumonia	Dyspnea, reduced SPO2, respiratory rate	Not yet recruiting; Estimated study completion date: June 30, 2020
Interferon alfa2beta (PegIntron®, Sylatron®, IntronA®)	http://www.c-hictr.org.cn/showprojen.aspx?proj=48684	NA	Clinical trials	NA	NA
Interferon	ChiCTR2000029638	Sichuan, China	Multicenter randomised controlled trial. N=100 patients with moderate to severe covid-19 randomised to nebulization of novel gene recombinant super compound interferon or nebulization of alpha-interferon	Clinical symptoms, blood routine etc.	Recruiting; From 2020-02-03 To 2020-08-01
Cerrokin (recombinant human interferon alpha 1beta)	ChiCTR2000030480	Hubei, China	Randomized, open, blank controlled trial. N=332 with covid-19 randomised to cerrokin or conventional treatment	Incidence of side effects	Recruiting; From 2020-03-03 To 2020-07-03
Recombinant human interferon alpha 1b spray	ChiCTR2000030013	Hubei, China	Preventive study N=450, highly exposed Medical staff treated with interferon (N=300) or nothing	Blood routine examination and chest CT.	Not yet recruiting; From 2020-02-20 To 2020-06-30
Novaferon Recombinant inteferon	ChiCTR2000029496	Huhan, China	Randomised, open label controlled trial. N=90 with covid-19 randomised to Novaferon, Kaletra, or Novaferon+ Kaletra	Time to negative testing	Recruiting
Inhalation of IFN-κ and TFF2 in treatment of nCo- V- infected patients.	ChiCTR2000030262	Shanghai, China	Clinical study, design not described. Intervention:	Wide range of primary outcomes: viral load, clinical features, inflammation, pulmonary imaging	Recruiting

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
			one day treatment of IFN- κ and TFF2 (n=10) two day treatment of IFN- κ and TFF2 (n=10) control (n=10)		
rhIFNα nasal drops and thyosin- α Sponsor: Shanghai Jiao Tong University School of Medicine	NCT04320238	China, Hubei	Open label non-randomised trial N=2933 medical staff divided into high risk or low risk group. High risk: rhIFN α nasal drops and thyosin- α Low risk: rhIFN α nasal drops	New-onset COVID-19	Recruiting Estimated primary completion: May 2020
Peginterferon lambda Sponsor: Eiger BioPharmaceuticals, Inc	NA	USA	Phase 2 began in April 2020	Studies will assess a 180 mcg, once-weekly, subcutaneous dose of Lambda	NA
Ilaris (canakinumab), interleukin-1 β blocker FDA approved since 2009, approved to treat periodic fever syndromes and systemic juvenile idiopathic arthritis Sponsor: Novartis	NA	NA	Clinical trial	NA	NA
Other immune modulating drugs					
NK cells	NCT04280224	China, Henan	Phase 1 N=30 with covid19 randomised to NK cells, or Conventional treatment	Improvement of clinical symptoms including duration of fever, and respiratory frequency Adverse reactions	Recruiting; Estimated primary completion date/ Estimated study completion: Sep 30, 2020/ Dec 30, 2020
Umbilical cord blood CIK (cytokine induced killer) and NK (natural killer) cells	ChiCTR2000030329	Shaanxi, China	N=90 patients with mild to moderate covid-19 and poor immune function randomised 1:1:1 to Umbilical cord CIK cells, Umbilical cord NK cells, or Conventional treatment	Status of immune function Time of nucleic acid turns to negative Length of hospital stay	Not yet recruiting From 2020-03-01 To 2021-02-17
Type I macrophages therapy	ChiCTR2000029431	Liaoning, China	3 arm intervention study. N=45 patients with covid-19 randomised to Critical Treatment + Ankylosaurus, Critical Treatment + Ankylosaurus+M1 suppression therapy, or Critical Treatment	CT of lung	Recruiting; Study execute time: 2020-01-29 2021-12-31
PD-blocking antibody Sponsor: Southeast University, China	NCT04268537	China	Phase 2 randomised, open label N=120 patients with severe covid19 randomised to PD-1 blocking antibody,	Lung injury score [Time Frame: 7 days]	Not recruiting yet; Estimated primary completion date/ Estimated study completion:

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
			Thymosin, or standard treatment		April 30, 2020/ Oct 31, 2020
PD-1 monoclonal antibody	ChiCTR2000030028	Hubei, China	Prospective comparative study in severe and critical patients with covid- 19. N=20: PD-1 mAb N=20: standard treatment	Several primary outcomes.	Not yet recruiting. From 2020-02-24 To 2020-08-31
Fingolimod Sponsor: First Affiliated Hospital of Fujian Medical University	NCT04280588	Wan-Jin Chen	Phase 2, not randomised, single arm N=30 with severe covid19	The change of pneumonia severity on X- ray images	Recruiting; Estimated study completion: July 1, 2020
Pirfenidone (Esbriet) EMA approved for pulmonary fibrosis Sponsor: Huilan Zhang	NCT04282902	Hubei, China Tongji hospital	Phase 3 open label, N=294 with severe or critical covid-19 randomised to Pirfenidone, or standard treatment	Lesion are of chest CT Change in pulse oxygen from baseline	Recruiting; Estimated primary completion date/ Estimated study completion: April 30, 2020/ June 1, 2020
Pirfenidone	ChiCTR2000030333		A randomized, open-label controlled trial N=292 with severe or critical covid-19 randomised to pirfenidone 400 mg x 3 (n=147) for 4 weeks or conventional treatment (n=145)	Survey, pulse oxygen, chest CT, blood gas	Recruiting From 2020-03-04 To 2020-07-07
Polyinosinic : polycytidylic acid	ChiCTR2000029776	Zhejiang	Open label study N=40, randomised to Polyinosinic:polycytidylic acid or ceonventional therapy	Time to Clinical recovery	Recruiting; From 2020-02-11 To 2020-12-31
Tranilast , novel NLRP Inflammasome inhibitor. Used for the prevention of scarring post glaucoma filtration surgery. Has previously been approved in Japan and South Korea for bronchial asthma, keloid and hypertrophic scar.	ChiCTR2000030002	Anhui, China	Open label study; N=60 randomised to tranilast or vonventional therapy	Cure rate	Recruiting; From 2020-02-15 To 2020-07-30
Granulocyte colony-stimulating factor Sponsor: The First Affiliated Hospital of Guangzhou Medical University	ChiCTR2000030007	Guangdong and Hubei, China	Randomised controlled trial, N=200 with mild to severe covid-19 and low white blood cell count and low lymphocyte count	Clinical symptoms	Not yet recruiting; From 2020-02-03 To 2020-04-10
LEUKINE® (sargramostim) A recombinant human granulocyte-macrophage colony stimulating factor (rhu GM-CSF)	EudraCT: 2020-001254-22	Belgium	A prospective, randomized, open-label, interventional study N=80 COVID-19 patients with acute hypoxic respiratory failure randomised to Leukine or	Oxygenation after 5 DAYS through assessment of pretreatment (day 0) and post-treatment (day 5) ratio of PaO ₂ /FiO ₂ and through measurement of the P(A-a) O ₂ gradient	Ongoing

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
FDA approved drug. Sponsor: University Hospital Ghent			standard care.		
Recombinant human Interleukin-2	ChiCTR2000030	Hubei, China	Randomised, controlled trial. Blinding not stated. N=80 randomised to Recombinant Human Interleukin-2, or placebo	Fatality rate, and CD8+, CD4+ and NK cells	Not yet recruiting; From 2020-03-02 To 2020-09-01
Ruxolitinib + stem cell therapy	ChiCTR2000029580	Tongji hospital, Hubei, China	A prospective, single-blind, randomised controlled trial N=70 High risk patients randomised to Ruxolitinib + stem cell therapy, or Conventional treatment	Safety	Recruiting; From 2020-01-31 To 2020-12-31
Jakotinib	ChiCTR2000030170	Shanghai, China	Single arm treatment stratified by severity, N=16	Time to clinical improvement / time to clinical recovery Time window: 28 days	Recruiting; From 2020-02-15 To 2020-07-31
Baricitinib; Anti-JAK acting against JAK1 and JAK2. Sponsor: Hospital of Prato	NCT04320277	Tuscany, Italy,	Phase 3 study Non-randomised study with historical controls. N=60 allocated to baricitinib. Controls: patients admitted to hospital the previous 2 weeks who were treated with antiviral and/or hydroxychloroquine.	The percentage of ICU admission	Recruiting; Estimated Study Completion: May 30, 2020
CD24Fc A non-antiviral immunomodulator. Has completed a phase 2 study for prophylactic treatment of graft-versus- host disease (GVHD) for leukemia patients undergoing hematopoietic stem cell transplantation Sponsor: Oncolmmune, Inc.	NCT04317040	United States, Maryland	Phase 3 randomized, Double-blind, Placebo-controlled, Multi-site trial. N=230 with severe covid-19 or NIAID 7- point ordinal score 3 to 4 randomised to CD24Fc, or placebo	Time to improve in clinical status [Time Frame: 14 days]: time required from the start of treatment to the improvement of clinical status "severe" to "moderate/mild"; or improvement from "scale 3 or 4" to "scale 5 or higher" based on NIAID ordinal scales.	Estimated Primary Completion/ Estimated Study Completion: May 2021/May 2022
Thymosin AiRuiKa (camrelizumab), anti-programmed cell death protein (PD-1) Sponsor: Wuhan Jinyintan Hospital (Wuhan Infectious Diseases Hospital)	ChiCTR2000029806		N=120 with severe covid-19 and lymphocytopenia randomised to PD-1 (PD-1 and thymosin), thymosin, or conventional treatment	Proportion of patients with a lung injury score reduction of 1-point or more 7 days after randomization	Recruiting; From 2020-01-01 To 2021-01-31
TAK-888 , anti-SARS-CoV-2 polyclonal hyperimmune globulin (H-IG)	NA	NA	Begin Phase 1 trials in late spring. To patients between December 2020 and December 2021	NA	NA

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
Sponsor: Takeda rCIG (recombinant anti-coronavirus 19 hyperimmune gammaglobulin), polyclonal antibodies) (GigaGen)	NA	NA	Pre-clinical	NA	NA
Sponsor: FierceBiotech Panaphix cytokine storm inhibitor Sponsor: CRO Novotech	https://novotech-cro.com/news/novotech-wins-cro-contract-komipharm-coronavirus-covid-19-clinical-trial-south-korea	Seoul, Sout Korea	Clinical trials	Restraints the overproduction of immune cells and their activating compounds, cytokines.	NA
Stem cell therapy					
Stem cell therapy Sponsor: Beijing 302 Hospital	NCT04288102	Hubei, China	Phase 2 Prospective, double-blind, multicentre, randomised trial N=60 severe Covid-19 patients randomised 2:1 to 3 intravenous doses of mesenchymal stem cells (MSCs) or placebo (saline).	Improvement time of clinical critical treatment index within 28 days Side effects in the MSCs treatment group	Recruiting; Estimated primary completion date/ Estimated study completion: August 31, 2020/December 31, 2020
Stem cell therapy	NCT04252118	China	Phase 1 Open label, non-randomised intervention study N=20 patients with covid19 Treatment: N=10 treated with MSN N=10 treated with conventional treatment	Size of lesion area by chest radiograph or CT (time frame day 28) Side effects day (time frame day 180)	Recruiting; Estimated primary completion date/ Estimated study completion: Dec 2020/December, 2021
Stem cell therapy Allogenic Adipose Mesenchymal Stem Cells	NCT04276987	China	Phase 1, open label pilot study N=30 with severe covid19, Single group assignment	Adverse reactions Time to clinical improvement (28 days)	Not yet recruiting; Estimated study completion: July 31, 2020
Human Umbilical Cord Mesenchymal Stem Cells (UC-MSCs) therapy Sponsors: Puren Hospital Affiliated to Wuhan University of Science and Technology	NCT04293692	China, Hubei	Triple blinded randomised controlled trial. N=48 with moderate - severe covid19 randomised to UC-MSCs or placebo	Size of lesion area by chest imaging	Recruiting; Estimated primary completion date/ Estimated study completion: May 1 2020/Feb 1, 2021
Stem cell therapy; Umbilical cord mesenchymal stem cells. Sponsor: Wuhan Union Hospital, China	NCT04273646	China, Hubei	Open label, randomised study N=48 with severe covid19; Randomised to stem cell therapy or placebo	Pneumonia severity index week 0- week 12. Oxygenation index	Not yet recruiting; Estimated primary completion / Estimated study completion:

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
					June 30 2020/Feb 15, 2022
Umbilical cord mesenchymal stem cell	ChiCTR2000029569	China, Hubei	Open label N=30 with severe and critical covid-19 randomised to Stem cell or conventional treatment	PSI	Not recruiting From 2020-02-05 To 2021-04-30
Umbilical cord blood mononuclear cells	ChiCTR2000029572	China, Hubei	Open label N=30 with severe covid 19 randomised to Stem cell or conventional treatment	PSI	Not recruiting From 2020-02-05 To 2021-04-30
Stem cell therapy; Umbilical cord- derived mesenchymal stem cells Sponsor: ZhiYong Peng	NCT04269525	China, Hubei	Phase 2, open label N=10, serious or critical covid19	Oxygenation index day 14	Recruiting; Estimated primary completion / Estimated study completion: April 30, 2020/Sept 30, 2020
Human Menstrual Blood-Derived Stem Cells	ChiCTR2000029606	Zhejiang, China	Open label, 5 arm study. Critically ill patients treated with stem cells, conventional treatment, artificial liver therapy, artificial liver therapy + stem cells, or Conventional treatment	Mortality	Recruiting; From 2020-01-15 To 2022-12-31
Umbilical cord mononuclear cells	ChiCTR2000029812	Guangdong, China	Open label, N= 60 patients with Covid 19 randomised to umbilical cord blood mononuclear cells or conventional treatment	Time to disease recovery	Not recruiting ; From 2020-02-20 To 2021-02-20
Cord Blood Mesenchymal Stem Cells	ChiCTR2000029816	Guangdong, China	Open label, N= 60 patients with Covid 19 randomised to Cord Blood Mesenchymal Stem Cells or conventional treatment	Time to disease recovery;	Not recruiting ; From 2020-02-20 To 2021-02-20
Cord Blood NK Cells Combined with Cord Blood Mesenchymal Stem Cells	ChiCTR2000029817	Guangdong, china	Open label, N= 60 patients with Covid 19 randomised to High dose NK cells, and mesenchymal stem cells, Conventional dose NK cells and mesenchymal stem cells, or Preventive dose NK cells and mesenchymal stem cells.	Time to disease recovery;	Not recruiting ; From 2020-02-20 To 2021-02-20
Cord Blood NK Cells Combined with Cord Blood Mesenchymal Stem Cells	ChiCTR2000029818	Guangdong, china	Open label, N= 60 patients with Covid 19 randomised to High dose NK cells, and mesenchymal stem cells, Conventional dose NK cells and mesenchymal stem cells, or Preventive dose NK cells and mesenchymal stem cells.	Time to disease recovery;	Not recruiting ; From 2020-02-20 To 2021-02-20
Mesenchymal stem cells	ChiCTR2000029990	Beijing, Hubei, Shanghai	Phase 1-2; N=120, Severe covid-19 randomised to mesenchymal stem cells or saline	Improved respiratory system function (blood oxygen saturation) recovery time;	Recruiting; From 2020-01-30 To 2020-03-31

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
Umbilical cord Wharton's Jelly derived mesenchymal stem cells	ChiCTR2000030088	Beijing, China	Type of study not stated. Blinding not stated N= 40 with critical covid-19 Treatment: stem cells (n=20) 40 ml saline (n=20)	The nucleic acid of the novel coronavirus is negative CT scan of ground glass shadow disappeared	Not yet recruiting; From 2020-03-01 To 2021-12-31
Human umbilical cord mesenchymal stem cells	ChiCTR2000030116	Jiangxi, China	N=16 with critical covid-19; Different stem cell doses	Time to leave ventilator on day 28 after receiving MSCs infusion	Recruiting; From 2020-02-01 To 2020-08-31
Human mesenchymal stem Cells Sponsor: Chinese PLA General Hospital	ChiCTR2000030138	Hainan, China	Phase 2; Randomised, double blind, placebo controlled trial N=60 randomised to human umbilical cord mesenchymal stem cells (UC-MSC), or placebo	Clinical index	Not yet recruiting; From 2020-02-24 To 2020-05-31
Mesenchymal stem cells	ChiCTR2000030224	Hubei, China	Clinical study, open label Severe or critical covid-19 patients; N=32 stratified severity and randomised to stem cells or injection with saline	Several primary endpoints – not specified	Not yet recruiting; From 2020-02-14 To 2020-05-31
Umbilical cord mesenchymal stem cells	ChiCTR2000030300	Jiangsu, China	A single-centre, single arm, prospective, open clinical study N=9	Time to disease recovery; Exacerbation (transfer to RICU) time	Recruiting; From 2020-02-19 To 2021-02-20
Stem cell educator therapy	NCT04299152	NA	This is a prospective, two-arm, partially masked, single center clinical study. N=20 patients with SARS-CoV-2 undergoing either stem cell therapy or conventional treatment	Number of Covid-19 patients who were unable to complete SCE Therapy [Time Frame: 4 weeks]	Not yet recruiting; Estimated study completion: Nov 2020
Dental pulp mesenchymal stem cells	NCT04302519	NA	Early phase 1, single arm study N=24 patients with severe covid-19 assigned to stem cell therapy	Disappear time of ground-glass shadow in the lungs [Time Frame: 14 days]	Not yet recruiting, Estimated study completion: July 2021
Wharton's Jelly Mesenchymal stem cells Sponsor: Stem Cells Arabia	NCT04313322	Jordan	Phase 1, single arm study N=5 with COVID-19	Improvement of clinical symptoms; Adverse events; Viral RNA	Recruiting. Estimated study completion: Sept, 2020
NestCell® Mesenchymal Stem Cell Sponsor: Azidus Brasil	NCT04315987	Not stated	Phase 1 / 2 study N=24 patients	Disappear time of ground-glass shadow in the lungs	Not yet recruiting. Estimated study completion: June, 2020
Ryoncil (remestemcel-L), allogenic mesenchymal stem cells (Mesoblast) Sponsor: FierceBiotech	NA	NA	Pre-clinical	NA	NA
MultiStem , bone marrow stem cells (Athersys) Sponsor: BioSpace	NA	NA	Clinical trial	NA	NA
Allogeneic T-cell therapies	NA	NA	Pre-clinical	NA	NA

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
Sponsor: AlloVir/Baylor College of Medicine/Fierce Biotech					
Natural killer cell-based therapy Sponsor: GCLabCell/KLEO Pharmaceuticals/ UPI Korea Biomedical Review	NA	NA	Pre-clinical	NA	Begin Phase 1 by end of 2020
CYNK-001, allogeneic, natural killer cell therapy Sponsor: Celularity	NA	NA	Pre-clinical	NA	Phase 1/2 study to start in April 2020
Other					
Chloroquine or hydroxy- chloroquine Antimalarial agent, heme polymerase inhibitor; Malaria prophylaxis and treatment					
Chloroquin and Hydroxychloroquin	NCT04315948 EudraCT: 2020-000982-18	EU: France, Spain, UK, Germany, Belgium, Netherlands, Luxembourg, Norway N=3200 Argentina, Bahrain, Canada, Iran, South Africa, Switzerland and Thailand More countries are expected to join	Adaptive, randomised open clinical trial to one of 4 treatments (not Chloroquin in EU)	Subject clinical status (on a 7-point ordinal scale) on Day 15	Recruiting; Estimated study completion: March 2023
Chloroquine Renmin Hospital of Wuhan University	ChiCTR2000029559	Hubei, China	Double blind; N=300 with Covid-19 randomised 1:1:1 to Hydroxychloroquine 0.1 oral 2/ day, Hydroxychloroquine 0.2 oral 2/ day, or placebo	The time when the nucleic acid of the novel coronavirus turns negative T cell recovery time	Recruiting; From 2020-01-31 To 2020-02-29
Hydroxychloroquine Sponsor: National Institute of Respiratory Diseases, Mexico	NCT04315896	Mexico	Randomised double blinded placebo controlled trial N= 500 severe covid-19 patients randomised to hydroxychloroquine, or placebo	All-cause hospital mortality, time frame day 120	Not yet recruiting; Estimated Primary Completion: October 31, 2020
Hydroxychloroquine Sponsor: National Institute of Respiratory Diseases, Mexico	NCT04318015	Mexico	Prevention trial Randomised double blinded placebo controlled trial, stratified by risk. N= 400 Healthcare personnel exposed to patients with COVID-19 randomised to hydroxychloroquine, or placebo	Symptomatic COVID-19 infection rate	Not yet recruiting; Estimated Primary Completion: December 31, 2020
Hydroxychloroquine Sponsor:	NCT04318444	New York	Post Exposure Prophylaxis for Household Contacts of COVID-19 Patients: A NYC	Number of participants with symptomatic, lab-confirmed COVID-19.	Not yet recruiting; Estimated Primary Completion: March 2021

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
Columbia University			Community-Based Randomized Clinical Trial, double- blinded N=1600 household contacts		
Chloroquine Sponsor: University of Oxford	NCT04303507	UK	A Randomised, Placebo-controlled Prophylaxis Study (COPCOV) N=10000 Participant works in healthcare facility or other well characterised high-risk environment, OR is an inpatient or relative of a patient in a participating hospital and likely exposed to COVID-19 infection or another high-risk group Loading dose of 10 mg/kg, followed by 150 mg daily for 3 months	Number of symptomatic COVID-19 infections [Time Frame: Approximately 100 days]	Not yet recruiting; Estimated completion date: May 2022
Hydroxychloroquine Sponsor: University of Minnesota	NCT04308668	Minneapolis, Minnesota, United States New York, United States	Post-exposure Prophylaxis. A Pragmatic Randomized Clinical Trial Quadruple blinded. N=1500 exposed to a COVID19 case within 3 days as either a healthcare worker or household contact randomised to hydroxychloroquine or placebo	Incidence of COVID19 Disease [Time Frame: 14 days] Ordinal Scale of COVID19 Disease Severity [Time Frame: 14 days]	Recruiting. Estimated Study Completion: May 2021
Hydroxychloroquine	EudraCT: 2020-001224-33	Germany	Randomised, double-blinded, placebo-controlled trial N=220 patients with COVID-19 randomised to Hydroxychloroquine or placebo	Viral clearance measured in throat swabs. Interim analysis: will be done when 40% of events have accrued. In case the interim analysis shows a HR > 1.93 (nominal p < 0.0018), efficacy is shown and the trial may be stopped.	Ongoing
Hydroxychloroquine Sulfate	NCT04316377	University Hospital, Akershus, Norway	An Open Label Randomized Controlled Pragmatic Trial N=202 hospitalised patients with moderate to severe covid-19 randomised to hydroxychloroquine, or placebo	Rate of decline in SARS-CoV-2 viral load [Time Frame: Baseline (at randomization) and at 96 hours]	Not yet recruiting; Estimated Primary Completion: April 1, 2021
Hydroxychloroquine + azithromycin Sponsor: Hospital Israelita Albert Einstein	NCT04321278	Brazil, multicentres	Open label randomised controlled trial . N=440 COVID-19 patients who require oxygenation and/or ventilation randomised to Hydroxychloroquine + azithromycin, or Hydroxychloroquine	Clinical status o a 7-point scale [Time Frame: 15 days after randomization]	Recruiting; Estimated Primary Completion: August 30, 2020
Chloroquine vs lopinavir/ritonavir	ChiCTR2000029609	Guangdong, China	A prospective, open-label, multiple- center study or patients with Covid-19 stratified by severity. Mild symptoms randomised to chloroquine phosphate (n=59) lopinavir/ritonavir (59), or Chloroquine + lopinavir/ritonavir (59)	Primary Outcome(s) virus nucleic acid negative-transforming time;	From 2020-02-10 To 2020-12-31

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
			Severe symptoms randomised to Chloroquine phosphate (n=14) or lopinavir/ritonavir (n=14)		
Chloroquine and lopinavir/ritonavir	ChiCTR2000029741	Guangdong, China	Open label study N=112 cases with Confirmed Covid-19 randomised to Chloroquine, or Lipinavir/ritonavir	Several primary outcomes are stated: length of stay, mortality and other	Recruiting; From 2020-02-12 To 2020-12-31
Chloroquine	ChiCTR2000029740	Tongji hospital, Hubei, China	Open label COVID-19 Randomised to hydroxychloroquine 0.2 mg bid (n=52), or conventional therapy (n=24)	Oxygen index, respiratory rate, lung radiography, lymphocyte count at sees 1,2,3,and 4.	Recruiting; From 2020-02-11 To 2020-02-29
Chloroquine	ChiCTR2000029762	Chongqing, China	60 patients with severe covid-19	Negative conversion rate of COVID-19 nucleic acid Lung inflammation absorption ratio	Cancelled due to lack of patients
Chloroquine	ChiCTR2000029761	Chongqing, China	240 patients randomised to 3 different doses of hydroxychloroquine or conventional treatment	Negative conversion rate of 2019-nCoV nucleic acid Lung inflammation absorption ratio	Cancelled due to lack of patients
Phosphoric Chloroquine Sponsor: Jingzhou Central Hospital	ChiCTR2000029826	Hubei, China	Randomised double blinded trial. Serious or critically ill patients randomised to chloroquine (n=30) or placebo (n=15)	Mortality rate	Not yet recruiting; From 2020-02-17 To 2020-03-17
Chloroquine	ChiCTR2000029868	Hubei, China	Multicenter, randomised controlled trial N=200 with mild covid-19 randomised to hydroxychloroquine or conventional treatment	Viral nucleic acid test	Recruiting; From 2020-02-06 To 2020-07-31
Chloroquine Sponsor: Jingzhou Central Hospital	ChiCTR2000029837	Hubei, China	A randomised, double-blind, parallel, controlled trial Mild or moderate covid19 Randomised to hydroxychloroquine (n=80) or Placebo (n=40)	Time of conversion to be negative of novel coronavirus nucleic acid	Not yet recruiting; From 2020-02-17 To 2020-03-17
Chloroquine	ChiCTR2000029939	Zhejiang, China	Single-blind, Randomised, Controlled Clinical Trial N=100 patients with covid-19 (severity unknown), randomised to chloroquine phosphate or placebo	Length of hospital stay	Recruiting; From 2020-02-06 To 2021-02-06
Chloroquine	ChiCTR2000029935	Zhejiang, China	Single arm study, N=100 patients with covid-19 (severity unknown), treated with chloroquine phosphate	Length of hospital stay	Recruiting; From 2020-02-06 To 2021-02-06
Hydroxychloroquine sulfate vs phosphate chloroquine	ChiCTR2000029899	Hubei, China	Randomised, Open-label, Parallel, Controlled Trial	Time to clinical recovery (time frame 28 days)	Recruiting; From 2020-02-17 To 2020-04-30

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
			N=100 with mild or moderate covid-19 randomised to Hydroxychloroquine sulfate, or phosphate chloroquine		
Hydroxychloroquine sulfate vs phosphate chloroquine	ChiCTR2000029898	Hubei, China	Randomised, Open-label, Parallel, Controlled Trial N=100 with severe covid-19 randomised to Hydroxychloroquine sulfate, or phosphate chloroquine	Time to clinical improvement (time frame 28 days)	Recruiting; From 2020-02-17 To 2020-04-30
Hydroxychloroquine sulfate vs phosphate chloroquine	ChiCTR2000029992	Hubei, China	Randomised, Open-label, Parallel, Controlled Trial N=100 with severe covid-19 randomised to Hydroxychloroquine sulfate (n=40), or phosphate chloroquine (n=40), or routine treatment (n=20)	Clinical recovery time (6-point scale); Changes in viral load of upper and lower respiratory tract	Not yet recruiting; From 2020-02-17 To 2020-05-20
Chloroquine phosphate	ChiCTR2000029988	Hubei, China	Open label clinical trial. N=80 patients with severe covid-19 randomised to chloroquine phosphate or no treatment	Time to clinical recovery	Recruiting; From 2020-02-13 To 2020-05-31
Chloroquine phosphate aerosol inhalation	ChiCTR2000029975	Jilin, China	Single arm study of 10 patients; severity is not defined.	Viral negative-transforming time; 30-day cause-specific mortality	Not yet recruiting; From 2020-02-24 To 2020-05-31
Phosphoric chloroquine The Sixth Affiliated Hospital of Guangzhou Medical University (Qingyuan People's Hospital)	ChiCTR2000030031;	Guangdong, China	A randomised, double-blind, parallel, controlled trial N=120 patients with mild and moderate covid-19 randomised to phosphoric chloroquine (n=80) or placebo (n=40)	Time of conversion to be negative of novel coronavirus nucleic acid	Recruiting; From 2020-02-20 To 2021-03-20
Hydroxychloroquine sulfate vs chloroquine phosphate	ChiCTR2000030054	Hubei, China	Randomised, Open-label, Parallel, Controlled Trial N=100 with mild or moderate covid-19 randomised to Hydroxychloroquine sulfate (n=40), or phosphate chloroquine (n=40), or routine treatment (n=20)	Clinical recovery time, time frame 28 days	Not yet recruiting; From 2020-02-17 To 2020-05-21
Hydroxychloroquine	ChiCTR2000029760	Chongqing	Randomised controlled study N=240 Patients with mild or moderate infectious disease	Time to clinical recovery	Cancelled due to lack of patients
Chloroquine	ChiCTR2000029803	Hubei, China	Prevention. Prospective, randomised, open-label, controlled clinical study to evaluate the preventive effect of hydroxychloroquine on close contacts after exposure (COVID-19) 320 patients randomised to hydroxychloroquine small dose, high dose, abidol small dose or abidol high dose.	Number of patients who have progressed to suspected or confirmed within 24 days of exposure to new coronavirus	Not yet recruiting; From 2020-02-20 To 2021-02-20

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
Chloroquine phosphate inhalation	ChiCTR2000030417	Heilongjiang, China	Randomised controlled trial. N=30 patients with covid-19 randomised to chloroquine phosphate aerosol inhalation or water for injection atomization inhalation	Several primary outcomes: Temperature, respiratory symptoms improvement, pulmonary imaging improvement, negative virus test	Not yet recruiting; From 2020-03-01 To 2020-06-30
Chloroquine	ChiCTR2000029542	Guangdong, China	Phase 4, open label, non-randomised N=20 with covid-19 Treatment: chloroquine or conventional treatment	Viral negative-transforming time, 30-day cause specific mortality	Recruiting From 2020-02-03 To 2020-07-30
Hydroxychloroquine Non-commercial	EudraCT: 2020-000890-25	France	Patients with documented respiratory infection with coronavirus SARS COV 2 N=25	Results of SARS-COV2 virus detection (Day 1, Day 4, Day 7 and Day 14)	Last visit of the last participant.
Others					
Anibiotics Teicoplanin (Targocid)	NA	NA	Clinical trials	NA	NA
Dihydroartemisinin ne piperazine (Eurartesim) Indicated for the treatment of uncomplicated Plasmodium falciparum malaria	ChiCTR2000030082	NA	Randomised open label, controlled trial Mild to common covid-19 randomised to dihydroartemisinin piperazine tablets combined with antiviral treatment, or alpha-interferon and Arbidol	The time when the nucleic acid of the novel coronavirus turns negative	Recruiting; From 2020-02-23 To 2020-04-30
ACE-2 Recombinant human angiotensin-converting enzyme 2	NCT04287686	China, Guangdong	Pilot study to decide whether to continue with phase 2B trial N=24 patients with positive SARS-CoV-2 or homolog to covid19 randomised to rhACE2 or placebo	Body temperature and viral load	Not yet recruiting; Estimated study completion: April 2020
ARB or ACE inhibitor	ChiCTR2000030453	Zhejiang, China	Single arm study N=100 treated with angiotensin receptor blocker /angiotensin converting enzyme inhibitor	Ratio of severe cases	Not yet recruiting; No estimated end- date
ARB or ACE inhibitor Sponsor: Neuromed IRCCS	NCT04318418	IRCCS, Neuromed, Department of Epidemiology and Prevention, Pozzilli, Italy	Observational case control study N=5000	Severe COVID-19	NA
Losartan Sponsor: University of Minnesota	NCT04312009	Minneapolis, Minnesota, United States	Randomized Controlled Trial, double blinded. N=200 hospitalised patients with COVID-19 randomised to Losartan 25 mg daily or	Sequential Organ Failure Assessment (SOFA) Respiratory Score [Time Frame: 28 days]	Not yet recruiting Estimated study completion. April 1, 2021
Losartan Sponsor: University of Minnesota	NCT04311177	Minneapolis, Minnesota, United States	Randomized Controlled Trial, double blinded. N=516 patients with COVID-19 not requiring hospitalisation randomised to Losartan 25 mg daily or placebo	Hospital Admission [Time Frame: 28 days]	Not yet recruiting Estimated study completion. April 1, 2021
Aviptadil Synthetic version of Vasoactive Intestinal Polypeptide	NCT04311697	New York, New York, US Haifa, Israel	Phase 2 double blinded randomised trial.	Mortality [Time Frame: 5 Days with followup through 30 days	March 17, 2020 Estimated study completion: August 2020

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
Sponsor: NeuroRx, Inc.			N=120 patients, intubated and on maximal conventional medial therapy are randomised to Intravenous Aviptadil or placebo		
Nitrogen oxide Sponsor: Xijing Hospital	NCT04290858	Xijing Hospital Massachusetts General Hospital Fondazione IRCCS Ca' Granda, Ospedale Maggiore Policlinico	Double blinded randomised trial N=400 with covid19 with fever, resp. rate>24 or sat>93% randomised to NO	Sp=2<93%, , intubation, ECMO	Not yet recruiting; Estimated study completion: March 1, 2021
Nitrogen oxide Sponsor: Xijing Hospital	NCT04290871	Xijing Hospital Massachusetts General Hospital Fondazione IRCCS Ca' Granda, Ospedale Maggiore Policlinico	Phase 2 study; Double blinded, sham controlled randomised trial N=104 with covid19 with PaO2/FiO2 < 300 or SpO2 below 93% breathing ambient air randomised to NO or sham NO	SARS-free patients at 14 days [Time Frame: 14 days since beginning of treatment] Percentage of patients that have a PaO2/FiO2 ratio steadily > 300 in ambient air	Not yet recruiting; Estimated study completion: March 1, 2021
Nitrogen oxide Sponsor: Massachusetts General Hospital	NCT04305457	Xijing Hospital Massachusetts General Hospital Fondazione IRCCS Ca' Granda, Ospedale Maggiore Policlinico	Phase 2 randomised open label trial N=240 with mild covid-19 Randomised to NO or no intervention	Reduction in intubation and mechanical ventilation (time frame 28 days)	Not yet recruiting; Estimated primary completion date/study completion: April 2021/ April 2022
Nitrogen oxide Sponsor: Massachusetts General Hospital	NCT04306393	Xijing Hospital Massachusetts General Hospital	Phase 2 randomised open label trial N=200 with severe covid-19 randomised to NO or no intervention	Change of arterial oxygenation at 48 hours from enrollment [Time Frame: 48 hours]	Not yet recruiting; Estimated primary completion date/study
Nitrogen oxide Sponsor: Massachusetts General Hospital	NCT04312243	Xijing Hospital Massachusetts General Hospital Fondazione IRCCS Ca' Granda, Ospedale Maggiore Policlinico	Preventive study: Phase 2 open label trial of 460 healthcare workers.	Percentage of subjects with COVID-19 diagnosis	Not yet recruiting; Estimated primary completion date/study completion: March 2021/ March 2022
Hydrogen-oxygen nebulizer	ChiCTR2000029739	Guangdong and Shanghai	Multicenter, Randomised, Parallel Controlled Clinical Study N=440 patients with moderate covid-19 randomised to Hydrogen-oxygen nebulizer or conventional treatment	Worsening or improving of condition	Recruiting; From 2020-02-01 To 2021-08-31
ECMO	ChiCTR2000029804		Case series, N=100	Mortality	Recruiting
Nutrients Vitamin C Sponsor: ZhiYong Peng	NCT04264533	China, Hubei	Phase 2, blinded N=140 patients with serious or critical covid-19 randomised to vitamin C IV, or placebo	Ventilation-free days	Recruiting; Sep 30, 2020,

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
Vitamin C 0.5 g + diammonium glycerrhizinate enteric coated capsules 150 mg t.i.d.	ChiCTR2000029768	Hubei, China	A randomised, open, controlled trial N=60 patients with covid-19	Time to Clinical recovery	Recruiting; From 2020-02-12 To 2020-05-12
Vitamin C	ChiCTR2000029957	Shaanxi and Hubei, China	Case series, observational study of 56 patients with severe or critical covid-19	Ventilation-free days; mortality;	Not yet recruiting; From 2020-02- 24 To 2021-02-28
Vitamin C	ChiCTR2000030135	Hubei and Shaanxi, China	Randomised trial, Blinding not stated; Severe or critical covid-19 patients High dose vitamin: N=26 Routine treatment: N=13	Ventilation free days; Mortality	Not yet recruiting; From 2020-02- 25 To 2021-02-28
Alpha lipoic acid	ChiCTR2000029851		N=68 with severe covid-19 randomised to alpha lipoic acid or placebo	SOFA	Recruiting; From 2020-02-19 To 2020-03-10
Lipoic acid	NA	Guangdong and Hubei, China	Parallel single blind study. N=394 randomised to lipoic acid or blank control	Progression rate from mild to critical/severe	Recruiting; From 2020-03-02 To 2020-04-30
Microbiota	NCT04251767	China, Jiangsu	Washed Microbiota Transplantation in Patients With covid19. Quadruple blinded. N=40 patients with severe infection randomised to Washed microbiota suspension delivered through nasogastric tube, nasojejunal tube or oral, combining with standard therapy, or Placebo	Number of participants with improvement from severe type to common type (Time Frame: 2 weeks)	Enrolling by invitation; Estimated study completion: April 16, 2020
Probiotics	ChiCTR2000029974	Shandong, China	A prospective, multicenter, open-label, randomised, parallel-controlled trial. N=300 patients with mild to severe covid-19 randomised to live Clostridium Butyricum Capsules and Live Bacillus Coagulans Tablets for 14 days	Time to Clinical recovery	Recruiting; From 2020-02-09 To 2020-08-31
Thalidomide Sponsor: First Affiliated Hospital of Wenzhou Medical University	NCT04273581	China	Prospective, Multicenter, Randomised, Double-blind, Placebo, Parallel Controlled Clinical Study N=40, Severe Covid-19 randomised to thalidomide or placebo	Time to Clinical Improvement (TTCl) (Time Frame: up to 28 days)	Not yet recruiting; May 30, 2020
Thalidomide Sponsor: First Affiliated Hospital of Wenzhou Medical University	NCT04273529	China	Phase 2 study, prospective, Multicenter, Randomised, Double-blind, Placebo, Parallel Controlled Clinical Study N=100 moderate Covid-19 randomised to thalidomide, or placebo	Time to Clinical Recovery (TTCR) (Time Frame: up to 28 days)	Not yet recruiting, Estimated study completion date: June 30, 2020
Dipyridamido	ChiCTR2000030055	Guangdong, Hubei, Zhejiang, China	Phase 4, blinding not stated.	Several primary outcomes	Recruiting; From 2020-02-10 To 2020-04-10

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
			N=460 patients with suspected corona infection but not 2019-nCoV pneumonia patients... Randomised to dipyridamole, or Conventional treatment		
Sodium aescinate	ChiCTR2000029742	Hubei, China	A randomised, parallel controlled trial stratified by severity:	Chest imaging (CT)	Recruiting;
A triterpene saponin derived from the seeds of horse chestnut (<i>Aesculus hippocastanum</i>). Abundant reports have indicated the therapeutic properties of AESS, such as anti-inflammatory, anti-oxidant, relieving tissue oedema, and recovering vasopermeability (Liu et al. 2020)	NA	NA	N=60 with moderate covid-19 Randomised to Conventional treatment, or Conventional + sodium aescinate. N=30 Severe patients randomised to Conventional + hormone therapy, Conventional treatment, or Conventional treatment + sodium aescinate	NA	From 2020-02-10 To 2020-12-31
GD31 Nucleoside analog	ChiCTR2000029895	Guangdong, China	Single arm, N=160	The negative conversion rate and negative conversion time of novel coronavirus nucleic acid	Recruiting; From 2020-02-16 To 2020-12-31
PUL-042 Toll like receptor 2/6/9 Agonist In a phase 2 study in stem cell transplant recipients. Sponsor: Pulmotect, Inc.	NCT04313023	Not yet provided	A Phase 2 Multiple Dose, Double blinded, placebo-controlled study. N=200 exposed patients (without COVID-19) randomised to PUL-042 or placebo	Prevention of COVID-19 [Time Frame: 14 days]	Not yet recruiting. Estimated Study Completion: October 2020
PUL-042 Toll like receptor 2/6/9 Agonist In a phase 2 study in stem cell transplant recipients. Sponsor: Pulmotect, Inc.	NCT04312997	Houston, Texas, US	A Phase 2 Multiple Dose Double blinded, placebo controlled study. N=100 with COVID-19 without severe symptoms randomised to PUL-042 or placebo	Ordinal Scale for Clinical Improvement (score 1-8) [Time Frame: 14 days]	Not yet recruiting. Estimated Study Completion: October 2020
Suramin sodium Used for treatment of trypanosomiasis	ChiCTR2000030029	Zhejiang, China	Single arm study of 20 patients with covid-19.	Clinical cure rate, incidence of mechanical ventilation by day28; All-cause mortality by day28; Incidence of ICU admission by day28	From 2020-01-31 To 2020-05-30
CMAB806	ChiCTR2000030196	Hubei, China	Phase 2, a multicenter, single arm, open label trial N=60 with moderate or severe covid-19 with elevated IL6	Relive of cytokine release syndrome	Not yet recruiting; From 2020-02-20 To 2020-05-31
Acetylcystein Inhaled	ChiCTR2000030328	Hubei, China	Clinical trial, blinding not stated. N=60 with moderate covid-19 treated with either Acetylcysteine inhaled via tracheal tube or saline inhaled via tracheal tube	Wide range of primary outcomes	Not yet recruiting End-date not specified

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
Bismuth potassium citrate	ChiCTR2000030398	Hubei, China	A randomized, double-blind, placebo-controlled trial N=340 randomised 1:1 to bismuth potassium citrate or	Conversion rate at day 15	Not yet recruiting
Sildenafil	NCT04304313	Hubei, China	Phase 3, pilot study, single arm study N=10	Rate of disease remission Rate of entering the critical stage Time of entering the critical stage Time frame 14 days	Recruiting; November 9, 2020
Ebastine H1 antagonist	ChiCTR2000030535	Hubei, China	Single blind, multicenter, randomized, parallel controlled trial N= 100 patients with mild to severe covid-19 randomised to Ebastine + interferon- alpha aerosol inhalation + lopinavir, or interferon-alpha aerosol inhalation + lopinavir	Several primary outcomes: Fever, respiratory rate, blood oxygen saturation turned to normal and cough relieved for at least 72 hours.	Recruiting; From 2020-02-20 to 2020-03-30
Nebulized amniotic fluid University of Utah	NCT04319731	Not provided	Phase 1 study Single arm study N=10	Ventilator Free Days [	Not yet recruiting Estimated primary completion March 20, 2021
Camostat (Foipan®) mesylate Licenced for pancreatitis and reflux esophagitis after gastrectomy in Japan	NCT04321096	Denmark, at hospital across DK	A multicenter, randomised, double blinded, placebo-controlled trial N=180 randomised to Camostat mesylate, or placebo	Days to clinical improvement from study enrolment [Time Frame: 30 days]	Not recruiting; Estimated Primary Completion: December 31, 2020
Camostat TMPRSS-2 inhibitor	https://www.ncbi.nlm.nih.gov/pubmed/30849247	NA	NA	NA	NA
Leflunomide Approved in EU for rheumatoid arthritis and psoriasis arthritis Sponsor: Renmin Hospital of Wuhan University	ChiCTR2000030058	Hubei	Phase 3, multicenter, randomized, double-blind, controlled clinical trial N=200 patients with pneumonia caused by novel coronavirus. randomised to Leflunomide, or placebo	The days from positive to negative for viral nucleic acid testing	Not yet recruiting; From 2020-03-01 To 2020-05-30
Itraconazole Sponsor: UZLeuven	EurdraCT: 2020-001243-15	Belgium	Randomised, open label trial. N= 200 hospitalized patients randomized to itraconazole or standard of care	Clinical status of subject at day 15 (on a 7-point ordinal scale)	Ongoing
Colchicin anti-inflammatory drug already used to treat gout and pericarditis (inflammation of the heart membrane)	https://www.ctvnews.ca/health/coronavirus/canadian-researchers-study-drug-to-reduce-covid-19-complications-1.4864738	Montreal, Canada	Clinical trial with 6000 pts.	Reduce the risks of pulmonary complications and death	Recruiting

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
Cerocal, NP-120 (Ifenprodil) N-methyl-D-aspartate (NMDA) receptor glutamate receptor antagonist specifically targeting the NMDA-type subunit 2B (Glu2NB) (Novotech) Sponsor: Algernon	https://www.globenewswire.com/news-release/2020/03/19/2003362/0/en/Algernon-to-Support-Planned-Phase-2-Trial-of-Ifenprodil-for-Coronavirus.html Clinical Trials Arena Algernon Pharmaceuticals	South Korea	Phase 2 clinical trial	NA	Not yet recruiting
Solnatide IMP designated as orphan medicinal product in the European Union for the therapeutic indication "Treatment of Acute Lung Injury (ARDS)" APEPTICO Forschung und Entwicklung GmbH	https://www.lisavienna.at/de/news/apectico-agrees-supplying-its-development-compound-solnatide-for-the-immediate-treatment-of-covid-19/	NA	NA	NA	NA
BXT-25 (Bioxytran; glycolprotein) Late Stage Treatment, Acute Respiratory Distress Syndrome (ARDS)	https://www.globenewswire.com/news-release/2020/02/05/1980137/0/en/Bioxytran-Seeking-Partners-for-Late-Stage-Treatment-of-Wuhan-Coronavirus-using-BXT-25.html	NA	Pre-clinical	NA	Not yet recruiting
Antibodies from mice, REGN3048-3051 , against the spike protein (Regeneron) Funded by: Biomedical Advanced Research and Development Authority (BARDA)	NA	NA	Pre-clinical	NA	Start Phase 1 June 2020
Antibodies from recovered COVID-19 patients (CelltrionCelltri) Sponsor: Korea Herald UPI	NA	NA	Pre-clinical	NA	Start Phase 1 in July 2020
Antibodies from recovered COVID-19 patients (Kamada) Sponsor: BioSpace	NA	NA	Pre-clinical	NA	NA

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
AbbVie					
Antibodies from recovered COVID-19 patients Sponsor: Vir Biotech/WuXi Biologics/Biogen	NA	NA	Pre-clinical	NA	Start Phase 1 ~ July 2020
Antibodies from recovered COVID-19 patients Sponsor: Lilly/Ab-Cellera/NIH Vaccines Research Center	NA	NA	Pre-clinical	NA	Start Phase 1 in late July 2020
Antibody (Erasmus MC/Utrecht University)	NA	NA	Pre-clinical	NA	NA
Antibodies (ImmunoPrecise Antibodies)	NA	NA	Pre-clinical	NA	NA
Antibody (Harbour BioMed/Mount Sinai Health System)	NA	NA	Pre-clinical	NA	NA
Antibodies (AstraZeneca)	NA	NA	Pre-clinical	NA	NA
Antibody (Distributed Bio)	NA	NA	Pre-clinical	NA	NA
Antibodies (Chelsea and Westminster Hospital, Imperial College London) Funded by:UK government	NA	NA	Pre-clinical	NA	NA
Antibody (Vanderbilt Vaccine Center)	NA	NA	Pre-clinical	NA	Phase 1 trial begins in summer 2020
Antibodies from recovered COVID-19 patients (Tsinghua University / Third People's Hospital of Shenzhen / Bii Biosciences)	NA	NA	Pre-clinical	NA	Phase 1 trial begins Q3 2020
Antibodies from recovered COVID-19 patients (Grifols)	NA	NA	Pre-clinical	NA	NA
Antibodies from recovered COVID-19 patients (Amgen / Adaptive Biotechnologies)	NA	NA	Pre-clinical	NA	NA
Non-viral gene therapy to produce monoclonal antibodies	NA	NA	Pre-clinical	NA	NA

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
(Generation Bio / Vir Biotechnology)					
RNAi - testing 150 RNAis (Sirnaomics)	NA	NA	NA	NA	NA
siRNA candidates (Vir Biotech/Alnylam Pharmaceuticals)	NA	NA	Pre-clinical	NA	NA
Ampligen; (rintatolimod) (AIM ImmunoTech/National Institute of Infectious Diseases in Japan)	NA	NA	Pre-clinical	NA	NA
OT-101, a TGF-Beta antisense drug candidate (Mateon Therapeutics)	NA	NA	Pre-clinical	NA	NA
Peptides targeting the NP protein (CEL-SCI/University of Georgia Center for Vaccines and Immunology)	NA	NA	Pre-clinical	NA	NA
BIO-11006, inhaled peptide (Biomarck Pharmaceuticals)	NA	NA	Pre-clinical	NA	Phase 2
WP1122, glucose decoy prodrug (and related drug candidates) (Moleculin Biotech/University of Texas Medical Branch)	NA	NA	Pre-clinical	NA	NA
Nafamostat approved in Japan to treat pancreatitis and other diseases (University of Tokyo/ National Center for Global Health and Medicine)	NA	Japan	Pre-clinical	NA	Trial starts April 2020
A number of synthesized nanoviricide drug candidates (NanoViricides)	NA	NA	Pre-clinical	NA	NA
Activase (alteplase) , tissue plasminogen activator (tPA) FDA-approved since 1987, approved to treat stroke, myocardial infarction, and pulmonary embolism	http://news.mit.edu/2020/covid-19-treat-respiratory-patients-plasminogen-	USA (Compassionate use)	NA	NA	NA

Appendix 2 Therapeutics (n = ca. 155)

Product; Description; Sponsor	Study identifier	Study location	Study design	Primary outcome	Status of trial
(Beth Israel Deaconess, the University of Colorado Anschutz Medical Campus, and Denver Health (Genentech))	0324				
AT-001 , aldose reductase inhibitor (Applied Therapeutics/ numerous New York City hospitals)	NA	USA (Compassionate Use)	"Named Patient" Emergency INDs or Investigator-Initiated Trials	Address acute lung inflammation and cardiomyopathy in critical COVID-19 patients.	NA
Aplidin (plitidepsin) , approved in Australia to treat multiple myeloma (PharmaMar)	NA	Spain	Multicenter, randomized Phase II clinical trial	Evaluation of two different doses of plitidepsin	Clinical trial protocol submitted

Appendix 3 EudraCT registered studies (n=29)

Table A 3: EudraCT registered studies for Covid19 treatments

EudraCT registered studies	
Title	COUNTER-COVID - Oral imatinib to prevent pulmonary vascular leak in COVID-19 – a randomized, single-blind, placebo controlled, clinical trial in patients with severe COVID-19 disease
EudraCT Number	2020-001236-10
Trial protocol	https://www.clinicaltrialsregister.eu/ctr-search/trial/2020-001236-10/NL
Start Date	2020-03-31
Medical condition	Covid19 is characterized by hypoxemic respiratory failure, caused by extensive vascular leak and pulmonary edema early in the course of disease.
Sponsor	Amsterdam UMC
Title	An adaptive phase 2/3, randomized, double-blind, placebo-controlled, study assessing efficacy and safety of sarilumab for hospitalized patients with COVID-19
EudraCT Number	2020-001162-12
Trial protocol	https://www.clinicaltrialsregister.eu/ctr-search/trial/2020-001162-12/DE
Start Date	2020-03-26
Medical condition	Corona virus infection
Sponsor	Sanofi-aventis Recherche et Développement
Title	Randomized controlled trial of hydroxychloroquine versus placebo for the treatment of adult patients with acute coronavirus disease 2019 – COVID-19
EudraCT Number	2020-001224-33
Trial protocol	https://www.clinicaltrialsregister.eu/ctr-search/trial/2020-001224-33/DE
Start Date	2020-03-25
Medical condition	Acute coronavirus disease 2019
Sponsor	Universitätsklinikum Tübingen
Title	The Greek study in the Effects of Colchicine in Covid-19 complications prevention
EudraCT Number	2020-001455-40
Trial protocol	https://www.clinicaltrialsregister.eu/ctr-search/trial/2020-001455-40/GR
Start Date	2020-04-01
Medical condition	This trial will investigate if colchicine could potentially have an effect in patients' clinical course by limiting the myocardial necrosis and pneumonia development in the context of COVID-19
Sponsor	Hellenic Society of Rhythmology
Title	Reducing health care workers absenteeism in SARS-CoV-2 pandemic by enhanced trained immune responses through Bacillus Calmette-Guérin vaccination , a randomized controlled trial (COVID-19).
EudraCT Number	2020-000919-69
Trial protocol	https://www.clinicaltrialsregister.eu/ctr-search/trial/2020-000919-69/NL
Start Date	2020-03-17
Medical condition	SARS-CoV-2 infection
Sponsor	University Medical Center
Title	Platform Randomised trial of INterventions against COVID-19 In older peoPLE
EudraCT Number	2020-001209-22
Trial protocol	https://www.clinicaltrialsregister.eu/ctr-search/trial/2020-001209-22/GB
Start Date	2020-03-26
Medical condition	Suspected COVID-19
Sponsor	University of Oxford / Clinical Trials and Research Governance
Title	An adaptive Phase 2/3, randomized, open-label study assessing efficacy and safety of hydroxychloroquine for hospitalized patients with moderate to severe COVID-19
EudraCT Number	2020-001270-29

Trial protocol	https://www.clinicaltrialsregister.eu/ctr-search/trial/2020-001270-29/GB
Start Date	2020-04-02
Medical condition	Coronavirus infection
Sponsor	sanofi-aventis recherche & développement
Title	Effectiveness of Interleukin-6 Receptor Inhibitors in the Management of Patients with Severe SARS-CoV-2 Pneumonia: An Open-Label Multicenter Sequential Randomized Controlled Trial
EudraCT Number	2020-001275-32
Trial protocol	https://www.clinicaltrialsregister.eu/ctr-search/trial/2020-001275-32/DK
Start Date	2020-04-03
Medical condition	SARS-CoV-2 infection
Sponsor	The Parker Institute, Bispebjerg and Frederiksberg Hospital, The Capital Region of Denmark
Title	NORWEGIAN CORONAVIRUS DISEASE 2019 (NO COVID-19) STUDY: AN OPEN LABELED RANDOMIZED CONTROLLED PRAGMATIC TRIAL TO EVALUATE THE ANTIVIRAL EFFECT OF CHLOROQUINE IN ADULT PATIENTS WITH SARS-COV-2 INFECTION
EudraCT Number	2020-001010-38
Trial protocol	https://www.clinicaltrialsregister.eu/ctr-search/trial/2020-001010-38/NO
Start Date	2020-03-23
Medical condition	SARS-COV-2 infection
Sponsor	Akershus University Hospital
Title	The Impact of Camostat Mesilate on COVID-19 Infection: An investigator-initiated randomized, placebo-controlled, phase IIa trial
EudraCT Number	2020-001200-42
Trial protocol	https://www.clinicaltrialsregister.eu/ctr-search/trial/2020-001200-42/DK
Start Date	2020-03-30
Medical condition	2019-nCoV acute respiratory disease
Sponsor	Department of Infectious Diseases, Aarhus University Hospital
Title	A prospective, randomized, open-label, interventional study to investigate the efficacy of sargramostim (Leukine®) in improving oxygenation and short- and long-term outcome of COVID-19 patients with acute hypoxic respiratory failure.
EudraCT Number	2020-001254-22
Trial protocol	https://www.clinicaltrialsregister.eu/ctr-search/trial/2020-001254-22/BE
Start Date	2020-03-24
Medical condition	Acute hypoxic respiratory failure of COVID-19 patients
Sponsor	University Hospital Ghent
Title	Uno studio randomizzato multicentrico in aperto per valutare l'efficacia della somministrazione precoce del Tocilizumab (TCZ) in pazienti affetti da polmonite da COVID-19.
EudraCT Number	2020-001386-37
Trial protocol	https://www.clinicaltrialsregister.eu/ctr-search/trial/2020-001386-37/IT
Start Date	2020-03-27
Medical condition	COVID-19 infection
Sponsor	Azienda Unità Sanitaria Locale-IRCCS di Reggio Emilia
Title	HYCOVID - Hydroxychloroquine versus placebo chez les patients ayant une infection COVID-19 à risque d'aggravation secondaire : étude prospective multicentrique randomisée en double aveugle
EudraCT Number	2020-001271-33
Trial protocol	https://www.clinicaltrialsregister.eu/ctr-search/trial/2020-001271-33/FR
Start Date	2020-03-31
Medical condition	Patient atteint du Covid-19
Sponsor	CHU Angers
Title	A RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED, MULTICENTER STUDY TO EVALUATE THE SAFETY AND EFFICACY OF TOCILIZUMAB IN PATIENTS WITH SEVERE COVID-19 PNEUMONIA
EudraCT Number	2020-001154-22
Trial protocol	https://www.clinicaltrialsregister.eu/ctr-search/trial/2020-001154-22/FR
Start Date	2020-03-31

Medical condition	Severe COVID-19 pneumonia
Sponsor	F. Hoffmann-La Roche Ltd
Title	A Multicenter, Adaptive, Randomized Blinded Controlled Trial of the Safety and Efficacy of Investigational Therapeutics for the Treatment of COVID-19 in Hospitalised Adults
EudraCT Number	2020-001052-18
Trial protocol	https://www.clinicaltrialsregister.eu/ctr-search/trial/2020-001052-18/GB
Start Date	2020-03-25
Medical condition	Influenza COVID-19
Sponsor	Regents of the University of Minnesota
Title	Covid-19: A randomized, open-label, adaptive, proof-of- concept clinical trial of new antiviral drug candidates against SARS-CoV-2.
EudraCT Number	2020-001243-15
Trial protocol	https://www.clinicaltrialsregister.eu/ctr-search/trial/2020-001243-15/BE
Start Date	2020-03-26
Medical condition	COVID-19
Sponsor	UZLeuven
Title	A pragmatic adaptive open label, randomized Phase II/III multicenter study of IFX-1 in Patients with severe COVID-19 Pneumonia - "PANAMO"
EudraCT Number	2020-001335-28
Trial protocol	https://www.clinicaltrialsregister.eu/ctr-search/trial/2020-001335-28/NL
Start Date	2020-03-29
Medical condition	Severe pneumonia in context of COVID-19
Sponsor	InflaRx GmbH
Title	Multicenter study on the efficacy and tolerability of tocilizumab in the treatment of patients with COVID-19 pneumonia
EudraCT Number	2020-001110-38
Trial protocol	https://www.clinicaltrialsregister.eu/ctr-search/trial/2020-001110-38/IT
Start Date	2020-03-18
Medical condition	COVID-19 pneumonia
Sponsor	ISTITUTO NAZIONALE PER LO STUDIO E LA CURA DEI TUMORI - FONDAZIONE "G. PASCALE"
Title	A randomised double-blind placebo-controlled trial to determine the safety and efficacy of inhaled SNG001 (IFN β -1a for nebulisation) for the treatment of patients with confirmed SARS-CoV-2 infection (COVID-19)
EudraCT Number	2020-001023-14
Trial protocol	https://www.clinicaltrialsregister.eu/ctr-search/trial/2020-001023-14/GB
Start Date	2020-03-17
Medical condition	COVID-19
Sponsor	Synairgen Research Limited
Title	Cohort Multiple randomized controlled trials open-label of immune modulatory drugs and other treatments in COVID-19 patients
EudraCT Number	2020-001246-18
Trial protocol	https://www.clinicaltrialsregister.eu/ctr-search/trial/2020-001246-18/FR
Start Date	2020-03-25
Medical condition	COVID-19
Sponsor	Assistance Publique - Hôpitaux de Paris
Title	A Phase 3 Randomized Study to Evaluate the Safety and Antiviral Activity of Remdesivir (GS-5734™) in Participants with Moderate COVID-19 Compared to Standard of Care Treatment
EudraCT Number	2020-000842-32
Trial protocol	https://www.clinicaltrialsregister.eu/ctr-search/trial/2020-000842-32/DE
Start Date	2020-03-18
Medical condition	Coronavirus disease 2019 (COVID-19)
Sponsor	Gilead Sciences, Inc.
Title	A Phase 3 Randomized Study to Evaluate the Safety and Antiviral Activity of Remdesivir (GS-5734™) in Participants with Severe COVID-19
EudraCT Number	2020-000841-15
Trial protocol	https://www.clinicaltrialsregister.eu/ctr-search/trial/2020-000841-15/DE

Start Date	2020-03-18
Medical condition	Coronavirus disease 2019 (COVID-19)
Sponsor	Gilead Sciences, Inc.
Title	Recombinant human angiotensin-converting enzyme 2 (rhACE2) as a treat-ment for patients with COVID-19
EudraCT Number	2020-001172-15
Trial protocol	https://www.clinicaltrialsregister.eu/ctr-search/trial/2020-001172-15/DK
Start Date	2020-04-03
Medical condition	Severe COVID-19 POSITIVE hospitalized male or female, between 35 and ≤ 80 years of age
Sponsor	APEIRON Respiratory Therapies GmbH
Title	The NOR Solidarity multicenter trial on the efficacy of different anti-viral drugs in SARS-CoV-2 infected patients (COVID-19)
EudraCT Number	2020-000982-18
Trial protocol	https://www.clinicaltrialsregister.eu/ctr-search/trial/2020-000982-18/NO
Start Date	2020-03-26
Medical condition	SARS-COV-2 infection
Sponsor	Oslo University Hospital
Title	Evaluation of the concentration/viral effect relationship of hydroxychloroquine in COVID-19 patients in the intensive care unit.
EudraCT Number	2020-001281-11
Trial protocol	https://www.clinicaltrialsregister.eu/ctr-search/trial/2020-001281-11/FR
Start Date	2020-03-30
Medical condition	covid-19
Sponsor	CHU de Saint Etienne
Title	Randomised Evaluation of COVID-19 Therapy (RECOVERY)
EudraCT Number	2020-001113-21
Trial protocol	https://www.clinicaltrialsregister.eu/ctr-search/trial/2020-001113-21/GB
Start Date	2020-03-17
Medical condition	COVID-19 (infection with SARS-CoV-2 virus)
Sponsor	University of Oxford
Title	Treatment of Coronavirus SARS-Cov2 Respiratory Infections with Hydroxychloroquine
EudraCT Number	2020-000890-25
Trial protocol	https://www.clinicaltrialsregister.eu/ctr-search/trial/2020-000890-25/FR
Start Date	2020-03-05
Medical condition	Patients with documented respiratory infection with coronavirus SARS COV 2
Sponsor	Fondation Méditerranée Infection (FMI) - IHU Méditerranée Infection
Title	A prospective, randomized, factorial design, interventional study to compare the safety and efficacy of combinations of blockade of interleukin-6 pathway and interleukin-1 pathway to best standard of care in improving oxygenation and short- and long-term outcome of COVID-19 patients with acute hypoxic respiratory failure and systemic cytokine release syndrome.
EudraCT Number	2020-001500-41
Trial protocol	https://www.clinicaltrialsregister.eu/ctr-search/trial/2020-001500-41/BE
Start Date	2020-04-03
Medical condition	COVID-19 patients with acute hypoxic respiratory failure and systemic cytokine release syndrome.
Sponsor	University Hospital Ghent
Title	Multi-centre, adaptive, randomized trial of the safety and efficacy of treatments of COVID-19 in hospitalized adults
EudraCT Number	2020-000936-23
Trial protocol	https://www.clinicaltrialsregister.eu/ctr-search/trial/2020-000936-23/FR
Start Date	2020-03-09
Medical condition	COVID-19 - Has laboratory-confirmed SARS-CoV-2 infection as determined by PCR, or other commercial or public health assay in any specimen < 72 hours prior to randomization. - Illness of any duration, and at least one of the following: •Clinical assessment (evidence of rales/crackles on exam) AND SpO2 ≤ 94% on room air, OR •Requiring mechanical ventilation and/or supplemental oxygen.

Sponsor	INSERM
Title	CHROLOQUINE PHOSPHATE AGAINST INFECTION BY THE NOVEL CORONAVIRUS SARS-CoV-2 (COVID-19): THE HOPE OPEN-LABEL, NON-RANDOMIZED CLINICAL TRIAL
EudraCT Number	2020-001345-38
Trial protocol	https://www.clinicaltrialsregister.eu/ctr-search/trial/2020-001345-38/GR
Start Date	2020-04-02
Medical condition	Possible prevention of pneumonia from SARS-CoV-2 in patients staying home and improving symptoms of SARS-CoV-2 pneumonia in patients treated in hospital
Sponsor	Uni-Pharma Kleon Tsetis Pharmaceutical Laboratories S.A.
Title	EFFICIENCY IN MANAGEMENT OF ORGAN DYSFUNCTION ASSOCIATED WITH INFECTION BY THE NOVEL SARS-CoV-2 VIRUS (COVID-19) THROUGH A PERSONALIZED IMMUNOTHERAPY APPROACH: THE ESCAPE CLINICAL TRIAL
EudraCT Number	2020-001039-29
Trial protocol	https://www.clinicaltrialsregister.eu/ctr-search/trial/2020-001039-29/GR
Start Date	2020-04-01
Medical condition	Organ dysfunction by the novel SARS-Cov-2 virus
Sponsor	HELLENIC INSTITUTE FOR THE STUDY OF SEPSIS



HTA Austria

Austrian Institute for
Health Technology Assessment
GmbH