

**Annex 1 – COVID-19 vaccine candidates<sup>1</sup> with EU funding confirmed (green) or with funding from CEPI (blue)**

**NOTE:** Additional information on individual efforts by MS in supporting the development of COVID-19 vaccine candidates will be added as soon as it is available.

**NOTE:** Eight of the companies /initiatives below are already in discussion with EU bodies (EC, European Investment Bank, etc.) as regards funding and/or financing of their activities. As soon as a decision is taken, this will be communicated by the Commission, as was recently the case for CureVac AG.

Platform	Type of candidate vaccine	Developer	Current stage of clinical evaluation/regulatory status-	Same platform for non-Coronavirus candidates	Comment on funding
<b>NonReplicating Viral Vector</b>	Adenovirus Type 5 Vector	CanSino Biological Inc./Beijing Institute of Biotechnology	Phase 1 ChiCTR2000030906	Ebola	
<b>RNA</b>	LNPencapsulated mRNA	Moderna/NIAID	Phase 1 NCT0428346	Multiple candidates	CEPI
<b>DNA</b>	DNA plasmid vaccine Electroporation device	Inovio Pharmaceuticals	Pre-Clinical	Lassa, Nipah HIV Filovirus HPV Cancer indications Zika Hepatitis B	CEPI
<b>DNA</b>	DNA with electroporation	Karolinska Institute / Cobra Biologics (OPENCORONA Project)	Pre-Clinical		EU via Horizon 2020
<b>DNA</b>	DNA plasmid vaccine	Osaka University/ AnGes/ Takara Bio	Pre-Clinical		
<b>DNA</b>	DNA	Takis/Applied DNA Sciences/Evvivax	Pre-Clinical		
<b>DNA</b>	DNA plasmid vaccine	Zyodus Cadila	Pre-Clinical		
<b>Inactivated</b>	Inactivated + alum	Sinovac	Pre-Clinical	SARS	
<b>Inactivated</b>	Inactivated	Beijing Institute of Biological Products/Wuhan Institute of Biological Products	Pre-Clinical		
<b>Inactivated</b>	TBD	Osaka University/ BIKEN/ NIBIOHN	Pre-Clinical		
<b>Live Attenuated</b>	Deoptimized live	Codagenix/Serum	Pre-Clinical	HAV, InfA, ZIKV,	

<sup>1</sup> Based on the DRAFT landscape of COVID-19 candidate vaccines from WHO – 4 April 2020 ([https://www.who.int/blueprint/priority-diseases/key-action/Novel-Coronavirus\\_Landscape\\_nCoV-4april2020.pdf](https://www.who.int/blueprint/priority-diseases/key-action/Novel-Coronavirus_Landscape_nCoV-4april2020.pdf))

Virus	attenuated vaccines	Institute of India		FMD, SIV, RSV, DENV	
<b>Non- Replicating</b> Viral Vector	ChAdOx1	University of Oxford	Phase 1/2 (not yet recruiting) <a href="#">NCT04324606</a>	MERS, influenza, TB, Chikungunya, Zika, MenB, plague	<b>CEPI</b>
<b>Non- Replicating</b> Viral Vector	MVA encoded VLP	GeoVax/BravoVax	Pre-Clinical	LASV, EBOV, MARV, HIV	
<b>Non- Replicating</b> Viral Vector	Ad26 (alone or with MVA boost)	Janssen Pharmaceutical Companies	Pre-Clinical	Ebola, HIV, RSV	
<b>Non- replicating</b> viral vector	MVA-S encoded	DZIF – German Center for Infection Research	Pre-clinical	Many	
<b>Non- Replicating</b> Viral Vector	adenovirus- based NasoVAX expressing SARS2- CoV spike protein	Altimune	Pre-Clinical	influenza	
<b>Non- Replicating</b> Viral Vector	Ad5 S (GREVAX™ platform)	Greffex	Pre-Clinical	MERS	
<b>Non- Replicating</b> Viral Vector	Oral Vaccine platform	Vaxart	Pre-Clinical	InfA, CHIKV, LASV, NORV; EBOV, RVF, HBV, VEE	
<b>Protein</b> Subunit	Capsid-like Particle	AdaptVac (PREVENT-nCoV consortium)	Pre-Clinical		<b>EU via Horizon 2020</b>
<b>Protein</b> Subunit	Drosophila S2 insect cell expression system VLPs	ExpreS2ion	Pre-Clinical		Possible repetition with candidate above – to be checked
<b>Protein</b> Subunit	S protein	WRAIR/USAMRIID	Pre-Clinical		
<b>Protein</b> Subunit	S protein +Adjuvant	National Institute of Infectious Disease, Japan	Pre-Clinical	Influenza	

<b>Protein Subunit</b>	VLP-recombinant protein + Adjuvant	Osaka University/ BIKEN/ National Institutes of Biomedical Innovation, Japan	Pre-Clinical	
<b>Protein Subunit</b>	Native like Trimeric subunit Spike Protein vaccine	Clover Biopharmaceuticals Inc./GSK/Dynavax	Pre-Clinical	HIV, REV Influenza
<b>Protein Subunit</b>	microneedle arrays S1 subunit	Univ. of Pittsburgh	Pre-Clinical	MERS
<b>Protein Subunit</b>	Peptide	Vaxil Bio	Pre-Clinical	
<b>Protein Subunit</b>	Adjuvanted protein subunit (RBD)	Biological E Ltd	Pre-Clinical	
<b>Protein Subunit</b>	Peptide	Flow Pharma Inc	Pre-Clinical	Ebola, Marburg, HIV, Zika, Influenza, HPV therapeutic vaccine, BreastCA vaccine
<b>Protein Subunit</b>	S protein	AJ Vaccines	Pre-Clinical	
<b>Protein Subunit</b>	Ii-Key peptide	Genexx/EpiVax	Pre-Clinical	Influenza, HIV, SARS-CoV
<b>Protein Subunit</b>	S protein	EpiVax/Univ. of Georgia	Pre-Clinical	H7N9
<b>Protein Subunit</b>	S protein (baculovirus production)	Sanofi Pasteur	Pre-Clinical	Influenza, SARS-CoV
<b>Protein Subunit</b>	VLP-recombinant protein nanoparticle vaccine + Matrix M	Novavax	Pre-Clinical	RSV; CCHF, HPV, VZV, EBOV <b>CEPI</b>
<b>Protein Subunit</b>	gp-96 backbone	Heat Biologics/Univ. Of Miami	Pre-Clinical	NSCLC, HIV, malaria, Zika
<b>Protein Subunit</b>	Molecular clamp stabilized Spike protein	University of Queensland/GSK/Dynavax	Pre-Clinical	Nipah, influenza, Ebola, Lassa <b>CEPI</b>
<b>Protein</b>	S1 or RBD	Baylor College of	Pre-Clinical	SARS

Subunit	protein	Medicine		
<b>Protein Subunit</b>	Subunit protein, plant produced	iBio/CC-Pharming	Pre-Clinical	
<b>Protein Subunit</b>	Recombinant protein, nanoparticles (based on S- protein and other epitopes)	Saint-Petersburg scientific research institute of vaccines and serums	Pre-Clinical	
<b>Protein Subunit</b>	COVID-19 XWG-03 truncated S (spike) proteins	Innovax/Xiamen Univ./GSK	Pre-Clinical	HPV
<b>Protein Subunit</b>	Adjuvanted microsphere peptide	VIDO-InterVac, University of Saskatchewan	Pre-Clinical	
<b>Protein Subunit</b>	Synthetic Long Peptide Vaccine candidate for S and M proteins	OncoGen	Pre-Clinical	
<b>Replicating Viral Vector</b>	Measles Vector	Zydus Cadila	Pre-Clinical	
<b>Replicating Viral Vector</b>	Measles Vector	Institute Pasteur/Themis/Univ. of Pittsburg Center for Vaccine Research	Pre-Clinical	West Nile, Chik, Ebola, Lassa, Zika <b>CEPI</b>
<b>Live attenuated virus</b>	Measles Virus (S, N targets)	DZIF – German Center for Infection Research	Pre-clinical	Zika, H7N9, CHIKV
<b>Replicating Viral Vector</b>	Horsepox vector expressing S protein	Tonix Pharma/Southern Research	Pre-Clinical	Smallpox, monkeypox
<b>Replicating Viral Vector</b>	Influenza vector expressing RBD	University of Hong Kong	Pre-Clinical	<b>CEPI</b>
<b>Replicating Viral Vector</b>	VSV vector expressing S protein	IAVI/Batavia	Pre-Clinical	Ebola, Marburg, Lassa
<b>RNA</b>	LNP-encapsulated mRNA cocktail encoding VLP	Fudan University/Shanghai JiaoTong University/RNACure Biopharma	Pre-Clinical	
<b>RNA</b>	LNP-encapsulated mRNA encoding RBD	Fudan University/Shanghai JiaoTong University/RNACure	Pre-Clinical	

Biopharma				
RNA	LNP-encapsulated mRNA	University of Tokyo/Daiichi-Sankyo	Pre-Clinical	MERS
RNA	mRNA	China CDC/Tongji University/Stermina	Pre-Clinical	
RNA	mRNA	Arcturus/Duke-NUS	Pre-Clinical	multiple candidates
RNA	mRNA	BioNTech/Fosun Pharma/Pfizer	Pre-Clinical	
RNA	saRNA	Imperial College London	Pre-Clinical	EBOV; LASV, MARV, Inf (H7N9), RABV
RNA	mRNA	Curevac	Pre-Clinical	RABV, LASV, YFV; MERS, Infa, ZIKV, DengV, NIPV
				CEPI EU via InnovFin Infectious Disease Finance Facility under H2020
VLP	Plant-derived VLP	Medicago Inc.	Pre-Clinical	Flu, Rotavirus, Norovirus, West Nile virus, Cancer
VLP	ADDomer™ multi-epitope display	Imphoron Ltd and Bristol University's Max Planck Centre	Pre-Clinical	
Unknown	Unknown	ReiThera	Pre-Clinical	
Unknown	Unknown	BioNet Asia	Pre-Clinical	
Unknown	Unknown	ImmunoPrecise	Pre-Clinical	
Unknown	Unknown	MIGAL Galilee Research Institute	Pre-Clinical	
Unknown	Unknown	Doherty Institute	Pre-Clinical	
Unknown	Unknown	Tulane University	Pre-Clinical	