

Landscape of candidate vaccines in pre-clinical development

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New information that has been added this week.

ID	Vaccine platform acronym	Vaccine platform description	Type of candidate vaccine	Coronavirus target	Same platform for non-Coronavirus candidates
1	DNA	DNA based vaccine	DNA, engineered vaccine inserts compatible with multiple delivery systems	SARS-CoV-2 and Sarbeco-CoV	
2	DNA	DNA based vaccine	DNA vaccine	SARS-CoV2	
3	DNA	DNA based vaccine	DNA plasmid vaccine RBD&N	SARS-CoV2	
4	DNA	DNA based vaccine	DNA with electroporation	SARS-CoV2	
5	DNA	DNA based vaccine	DNA with electroporation	SARS-CoV2	
6	DNA	DNA based vaccine	Plasmid DNA, Needle-Free Delivery	SARS-CoV2	SARS
7	DNA	DNA based vaccine	DNA plasmid vaccine S, S1, S2, RBD & N	SARS-CoV2	
8	DNA	DNA based vaccine	DNA vaccine	SARS-CoV2	
9	DNA	DNA based vaccine	msDNA vaccine	SARS-CoV2	
10	DNA	DNA based vaccine	DNA vaccine	SARS-CoV2	
11	DNA	DNA based vaccine	DNA plasmids containing S-gene	SARS-CoV2	
12	DNA	DNA based vaccine	DNA plasmid vaccine	SARS-CoV2	
13	DNA	DNA based vaccine	Plasmid DNA, nanostructured RBD	SARS-CoV2	
14	DNA	DNA based vaccine	DNA plasmid vaccine encoding RBD	SARS-CoV2	
15	DNA	DNA based vaccine	DNA immunostimulatory sequences	SARS-CoV2	
16	IV	Viral vector (Non-replicating)	Egg-based, inactivated, whole chimeric Newcastle Disease Virus (NDV) expressing membrane-anchored pre-fusion-stabilized trimeric SARS-CoV-2 S protein (Hexapro) + CpG 1018	SARS-CoV2	
17	18	Inactivated virus	Egg-based, inactivated, whole chimeric Newcastle Disease Virus (NDV) expressing membrane-anchored pre-fusion-stabilized trimeric SARS-CoV-2 S protein (Hexapro) + CpG 1018	SARS-CoV2	
18	IV	Inactivated virus	Egg-based, inactivated, whole chimeric Newcastle Disease Virus (NDV) expressing membrane-anchored pre-fusion-stabilized trimeric SARS-CoV-2 S protein (Hexapro) + CpG 1018	SARS-CoV-2	
19	IV	Inactivated virus	Inactivated + alum	SARS-CoV2	JE, Zika
20	IV	Inactivated virus	Inactivated	SARS-CoV2	
21	IV	Inactivated virus	Inactivated	SARS-CoV2	
22	IV	Inactivated virus	Inactivated + CpG 1018	SARS-CoV2	
23	IV	Inactivated virus	Inactivated + CpG 1018	SARS-CoV2	
24	IV	Inactivated virus	Inactivated whole virus	SARS-CoV2	
25	IV	Inactivated virus	Inactivated	SARS-CoV2	
26	IV	Inactivated virus	Inactivated	SARS-CoV2	MMR, IPV
27	IV	Inactivated virus	Inactivated	SARS-CoV2	MMR, IPV
28	LAV	Live attenuated virus	Codon deoptimized live attenuated vaccines	SARS-CoV2	
29	LAV	Live attenuated virus	Codon deoptimized live attenuated vaccines	SARS-CoV2	
30	LABV	Live attenuated bacterial vector	Live attenuated bacterial (Pertussis) Vector	SARS-CoV2	
31	LABV	Live attenuated bacterial vector	Live attenuated bacterial vector	SARS-CoV2	
32	VVnr	Viral vector (Non-replicating)	Sendai virus vector	SARS-CoV2	
33	VVnr	Viral vector (Non-replicating)	Adenovirus-based	SARS-CoV2	
34	VVnr	Viral vector (Non-replicating)	Adeno-associated virus vector (AAVCOVID)	SARS-CoV2	
35	VVnr	Viral vector (Non-replicating)	MVA encoded VLP	SARS-CoV2	LASV, EBOV, MARV, HIV
36	VVnr	Viral vector (Non-replicating)	MVA-S encoded	SARS-CoV2	Multiple candidates
37	VVnr	Viral vector (Non-replicating)	MVA-S	SARS-CoV2	
38	VVnr	Viral vector (Non-replicating)	Adeno5-based	SARS-CoV2	
39	VVnr	Viral vector (Non-replicating)	Ad5 S (GREVAX™ platform)	SARS-CoV2	MERS
40	VVnr	Viral vector (Non-replicating)	Oral Ad5 S	SARS-CoV2	Zika, VZV, HSV-2 and Norovirus
41	VVnr	Viral vector (Non-replicating)	adenovirus-based + HLA-matched peptides	Pan-Corona	
42	VVnr	Viral vector (Non-replicating)	MVA expressing structural proteins	SARS-CoV2	Multiple candidates
43	VVnr	Viral vector (Non-replicating)	Parainfluenza virus 5 (PIV5)-based vaccine expressing the spike protein	SARS-CoV2	MERS
44	VVnr	Viral vector (Non-replicating)	Recombinant deactivated rabies virus containing S1	SARS-CoV2	HeV, NIV, EBOV, LASSA, CCHFV, MERS
45	VVnr	Viral vector (Non-replicating)	Influenza A H1N1 vector	SARS-CoV2	
46	VVnr	Viral vector (Non-replicating)	Newcastle disease virus expressing the spike protein	SARS-CoV2	
47	VVnr	Viral vector (Non-replicating)	Newcastle disease virus expressing membrane-anchored spike	SARS-CoV2	
48	VVnr	Viral vector (Non-replicating)	Lentiviral Vector	SARS-CoV2	
49	VVnr	Viral vector (Non-replicating)	Lentiviral Vector	SARS-CoV2	
50	VVnr	Viral vector (Non-replicating)	Lentiviral Vector Retro-VLP Particles	SARS-CoV2	
51	VVnr	Viral vector (Non-replicating)	Ad 5 vector for intranasal administration	SARS-CoV2	
52	VVnr	Viral vector (Non-replicating)	Oral vaccine platform	SARS-CoV2	InfA, CHIKV, LASV, NORV, EBOV, RVF, HBV, VEE
53	PS	Protein subunit	RBD protein delivered in mannose-conjugated chitosan nanoparticle	SARS-CoV2	
54	PS	Protein subunit	Recombinant spike protein with Essai O/W 1849101 adjuvant	SARS-CoV2	
55	PS	Protein subunit	Peptides	SARS-CoV2	
56	PS	Protein subunit	Recombinant spike protein with Essai O/W 1849101 adjuvant	SARS-CoV2	
57	PS	Protein subunit	Recombinant S protein	SARS-CoV2	
58	PS	Protein subunit	RBD protein (baculovirus production) + FAR-Squalene adjuvant	SARS-CoV2	Multiple candidates
59	PS	Protein subunit	Protein Subunit	SARS-CoV2	
60	PS	Protein subunit	RBD-protein	SARS-CoV2	
61	PS	Protein subunit	Recombinant S protein	SARS-CoV2	
62	PS	Protein subunit	Peptide + novel adjuvant	SARS-CoV2	
63	PS	Protein subunit	S subunit intranasal liposomal formulation with GLA/3M052 adjs.	SARS-CoV2	
64	PS	Protein subunit	S-Protein (Subunit) + Adjuvant, E coli based Expression	SARS-CoV2	
65	PS	Protein subunit	Protein Subunit S,N,M&S1 protein	SARS-CoV2	
66	PS	Protein subunit	Protein Subunit	SARS-CoV2	
67	PS	Protein subunit	RBD protein fused with Fc of IgG + Adj.	SARS-CoV2	
68	PS	Protein subunit	Capsid-like Particle	SARS-CoV2	
69	PS	Protein subunit	Drosophila S2 insect cell expression system VLPs	SARS-CoV2	
70	PS	Protein subunit	Peptide antigens formulated in LNP	SARS-CoV2	
71	PS	Protein subunit	S protein	SARS-CoV2	

72	PS	Protein subunit	S protein +Adjuvant	SARS-CoV2	Influenza
73	PS	Protein subunit	VLP-recombinant protein + Adjuvant	SARS-CoV2	
74	PS	Protein subunit	microneedle arrays S1 subunit	SARS-CoV2	MERS
75	PS	Protein subunit	Peptide	SARS-CoV2	
76	PS	Protein subunit	Adjuvanted protein subunit (RBD)	SARS-CoV2	
77	PS	Protein subunit	Peptide	SARS-CoV2	Ebola, Marburg, HIV, Zika, Influenza, HPV therapeutic vaccine, BreastCA vaccine
78	PS	Protein subunit	S protein	SARS-CoV2	
79	PS	Protein subunit	II-Key peptide	SARS-CoV2	Influenza, HIV, SARS-CoV
80	PS	Protein subunit	S protein	SARS-CoV2	H7N9
81	PS	Protein subunit	Protein Subunit EPV-CoV-19	SARS-CoV2	
82	PS	Protein subunit	gp-96 backbone	SARS-CoV2	NSCLC, HIV, Malaria, Zika
83	PS	Protein subunit	Subunit vaccine	SARS-CoV2	
84	PS	Protein subunit	S1 or RBD protein	SARS-CoV2	SARS
85	PS	Protein subunit	Subunit protein, plant produced	SARS-CoV2	
86	PS	Protein subunit	Recombinant protein, nanoparticles (based on S-protein and other epitopes)	SARS-CoV2	
87	PS	Protein subunit	Cross-reactive T-cell recombinant vaccine based on SARS-CoV-2 nucleoprotein (N) expressed in E.coli	SARS-CoV2	various (cross-immunity)
88	PS	Protein subunit	COVID-19 XWG-03 truncated S (spike) proteins	SARS-CoV2	HPV
89	PS	Protein subunit	Adjuvanted microsphere peptide	SARS-CoV2	
90	PS	Protein subunit	Synthetic Long Peptide Vaccine candidate for S and M proteins	SARS-CoV2	
91	PS	Protein subunit	Oral E. coli-based protein expression system of S and N proteins	SARS-CoV2	
92	PS	Protein subunit	Nanoparticle vaccine	SARS-CoV2	
93	PS	Protein subunit	Plant-based subunit (RBD-Fc + Adjuvant)	SARS-CoV2	
94	PS	Protein subunit	OMV-based vaccine	SARS-CoV2	Flu A, Plague
95	PS	Protein subunit	OMV-based vaccine	SARS-CoV2	
96	PS	Protein subunit	structurally modified spherical particles of the tobacco mosaic virus (TMV)	SARS-CoV2	Rubella, Rotavirus
97	PS	Protein subunit	Spike-based	SARS-CoV2	Hepatitis C
98	PS	Protein subunit	Recombinant S1-Fc fusion protein	SARS-CoV2	
99	PS	Protein subunit	Recombinant protein	SARS-CoV2	
100	PS	Protein subunit	Recombinant S protein in IC-BEVS (Viral vector vaccine (based on baculovirus expression system in insect cell line)	SARS-CoV2	
101	PS	Protein subunit	Orally delivered, heat stable subunit	SARS-CoV2	
102	PS	Protein subunit	Peptides derived from Spike protein	SARS-CoV2	
103	PS	Protein subunit	Protein Subunit	SARS-CoV2	
104	PS	Protein subunit	RBD-based	SARS-CoV2	
105	PS	Protein subunit	Outer Membrane Vesicle (OMV)-subunit	SARS-CoV2	
106	PS	Protein subunit	Spike-based (epitope screening)	SARS-CoV2	
107	PS	Protein subunit	Spiked-based	SARS-CoV2	
108	PS	Protein subunit	Recombinant spike with adjuvant	SARS-CoV2	
109	PS	Protein subunit	Recombinant S protein produced in BEVS	SARS-CoV2	
110	PS	Protein subunit	Protein Subunit Nanoformulated	SARS-CoV2	
111	PS	Protein subunit	Protein Subunit Adenoviral Carrier	SARS-CoV2	
112	PS	Protein subunit	Protein DC-targeted epitopes	SARS-CoV2	
113	PS	Protein subunit	Soluble recombinant S protein produced in CHO cells	SARS-CoV2	
114	PS	Protein subunit	NYVAC-KC, attenuated vaccinia virus vector expressing SARS-CoV-2 Spike and other viral proteins	SARS-CoV2	
115	PS	Protein subunit	Protein peptides with alum	SARS-CoV2	
116	PS	Protein subunit	Recombinant Spike (S) proteins encoded by Baculoviruses in Insect cells	SARS-CoV2	
117	PS	Protein subunit	Adjuvanted Peptides + Recombinant Spike Protein	SARS-CoV2	
118	PS	Protein subunit	Development of recombinant protein based S1 and S2 (Spike) and nucleocapsid subunits vaccines using a plant expression vector.	SARS-CoV2	
119	PS	Protein subunit	Recombinant Protein Vaccine	SARS-CoV2	
120	BVr	Bacterial vector (Replicating)	Oral Salmonella enteritidis (3934Vac) based protein expression system of RBD	SARS-CoV2	Multiple candidates
121	VVr	Viral vector (Replicating)	YF17D Vector	SARS-CoV2	
122	VVr	Viral vector (Replicating)	Measles Vector	SARS-CoV2	
123	VVr	Viral vector (Replicating)	Measles Vector	SARS-CoV2	
124	VVr	Viral vector (Replicating)	Measles Virus (S, N targets)	SARS-CoV2	Zika, H7N9, CHIKV
125	VVr	Viral vector (Replicating)	Horsepox vector expressing S protein	SARS-CoV2	Smallpox, Monkeypox
126	VVr	Viral vector (Replicating)	Live viral vectored vaccine based on attenuated influenza virus backbone (intranasal)	SARS-CoV2	Influenza
127	VVr	Viral vector (Replicating)	Recombinant vaccine based on Influenza A virus, for the prevention of COVID-19 (intranasal)	SARS-CoV2	Influenza
128	VVr	Viral vector (Replicating)	Attenuated Influenza expressing an antigenic portion of the Spike protein	SARS-CoV2	Influenza
129	VVr	Viral vector (Replicating)	Influenza vector expressing RBD	SARS-CoV2	
130	VVr	Viral vector (Replicating)	Replication-competent VSV chimeric virus technology (VSVAG) delivering the SARS-CoV-2 Spike (S) glycoprotein.	SARS-CoV2	Ebola, Marburg, Lassa
131	VVr	Viral vector (Replicating)	Replicating VSV vector-based DC-targeting	SARS-CoV2	
132	VVr	Viral vector (Replicating)	VSV-S	SARS-CoV2	HIV, MERS
133	VVr	Viral vector (Replicating)	VSV-S	SARS-CoV2	
134	VVr	Viral vector (Replicating)	VSV vector	SARS-CoV2	
135	VVr	Viral vector (Replicating)	M2-deficient single replication (M2SR) influenza vector	SARS-CoV2	Influenza
136	VVr	Viral vector (Replicating)	Newcastle disease virus vector (NDV-SARS-CoV-2/Spike)	SARS-CoV2	
137	VVr	Viral vector (Replicating)	Avian paramyxovirus vector (APMV)	SARS-CoV2	
138	VVr	Viral vector (Replicating)	Intranasal Newcastle disease virus vector (rNDV-LS1-HN-RBD/SARS-CoV-2 protein: rNDV-LS1-HN-RBD/SARS-CoV-2	SARS-CoV2	Multiple candidates
139	VVr	Viral vector (Replicating)	Intranasal Newcastle disease virus vector (rNDV-LS1-FARVET) expressing S1 protein: rNDV-LS1-S1-F/SARS-CoV-2	SARS-CoV2	Multiple candidates
140	RNA	RNA based vaccine	saRNA formulated in a NLC	SARS-CoV2	
141	RNA	RNA based vaccine	LNP-encapsulated mRNA encoding S	SARS-CoV2	
142	RNA	RNA based vaccine	Self-amplifying RNA	SARS-CoV2	
143	RNA	RNA based vaccine	mRNA	SARS-CoV2	
144	RNA	RNA based vaccine	LNP-mRNA	SARS-CoV2	
145	RNA	RNA based vaccine	LNP-mRNA	SARS-CoV2	
146	RNA	RNA based vaccine	LNP-encapsulated mRNA cocktail encoding VLP	SARS-CoV2	
147	RNA	RNA based vaccine	LNP-encapsulated mRNA encoding RBD	SARS-CoV2	
148	RNA	RNA based vaccine	Replicating Defective SARS-CoV-2 derived RNAs	SARS-CoV2	
149	RNA	RNA based vaccine	LNP-encapsulated mRNA	SARS-CoV2	MERS
150	RNA	RNA based vaccine	Liposome-encapsulated mRNA	SARS-CoV2	
151	RNA	RNA based vaccine	Several mRNA candidates	SARS-CoV2	
152	RNA	RNA based vaccine	mRNA	SARS-CoV2	
153	RNA	RNA based vaccine	mRNA	SARS-CoV2	
154	RNA	RNA based vaccine	mRNA in an intranasal delivery system	SARS-CoV2	

155	RNA	RNA based vaccine	mRNA	SARS-CoV2	
156	RNA	RNA based vaccine	mRNA	SARS-CoV2	
157	RNA	RNA based vaccine	mRNA	SARS-CoV2	
158	RNA	RNA based vaccine	mRNA	SARS-CoV2	
159	RNA	RNA based vaccine	mRNA	SARS-CoV2	
160	RNA	RNA based vaccine	D614G variant LNP-encapsulated mRNA	SARS-CoV2	
161	RNA	RNA based vaccine	Encapsulated mRNA	SARS-CoV2	
162	RNA	RNA based vaccine	Recombinant, prefusion stabilized SARS-CoV-2 Spike antigen	SARS-CoV2	
163	PS	Protein subunit	Multiple peptides fragments targeting (S, M, N) and (NSPs) SARS-CoV-2 proteins to induce T cell responses (CD8)	SARS-CoV2	
164	VLP	Virus like particle	VLP	SARS-CoV2	
165	VLP	Virus like particle	Virus-like particle-based Dendritic Cell(DC)-targeting vaccine	SARS-CoV2	
166	VLP	Virus like particle	VLP	SARS-CoV2	
167	VLP	Virus like particle	VLP	SARS-CoV2	
168	VLP	Virus like particle	Enveloped Virus-Like Particle (eVLP)	SARS-CoV-2, SARS-CoV, & MERS-CoV	CMV, GBM, Zika
169	VLP	Virus like particle	S protein integrated in HIV VLPs	SARS-CoV2	
170	VLP	Virus like particle	VLP + Adjuvant	SARS-CoV2	
171	VLP	Virus like particle	Virus-like particles, lentivirus and baculovirus vehicles	SARS-CoV2	
172	VLP	Virus like particle	Virus-like particle, based on RBD displayed on virus-like particles	SARS-CoV2	
173	VLP	Virus like particle	ADDomer™ multiepitope display	SARS-CoV2	
174	VLP	Virus like particle	Unknown	SARS-CoV2	
175	VLP	Virus like particle	VLP	SARS-CoV1, SARS-CoV2	
176	VLP	Virus like particle	eVLP	SARS-CoV2	Malaria
177	VLP	Virus like particle	VLPs peptides/whole virus	SARS-CoV2	
178	VLP	Virus like particle	VLPs produced in BEVS	SARS-CoV2	
179	VLP	Virus like particle	Plant derived VLP	SARS-CoV2	
180	VLP	Virus like particle	Myxoma virus co-expressing S, M, N and E proteins	SARS-CoV2	
181	VLP	Virus like particle	Plasmid driven production of virus-Like-Particles (VLPs) containing S, M, N and E proteins of SARS-CoV-2	SARS-CoV2	
182	Cell	Cellular based vaccine	Engineered human mesenchymal stem cells transfected with a plasmid expressing S and N-protein	SARS-CoV2	

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