
Supplementary information

SARS-CoV-2-specific T cell immunity in cases of COVID-19 and SARS, and uninfected controls

In the format provided by the
authors and unedited

Supplementary Table 1: SARS-CoV-2 peptide libraries used in the study

SARS-CoV-2 OLP: nucleocapsid					
NP-1 peptide pool			NP-2 peptide pool		
Peptide No	Peptide Sequence	aa	Peptide No	Peptide Sequence	aa
1	MSDNGPONQRNAPRI	1-15	42	SPARMAGNGGDAALA	206-220
2	PQNQRNAPRITFGGP	6-20	43	AGNGGDAALALLLD	211-225
3	NAPRITFGGPSDSTG	11-25	44	DAALALLLDRLNQL	216-230
4	TFGGPSDSTGSNQNG	16-30	45	LLLDRLNLQLESKMS	221-235
5	SDSTGSNQNGERSGA	21-35	46	RLNLQLESKMSGKQQ	226-240
6	SNQNGERSGARSQQR	26-40	47	ESKMSGKQQQQGGQT	231-245
7	ERSGARSQRRPQGL	31-45	48	GKGQQQQGGQTVTKS	236-250
8	RSKQRRPQGLPNNTA	36-50	49	QQGQTVTKSAAEAS	241-255
9	RPQGLPNNTASWFTA	41-55	50	VTKSAEASKKPRQ	246-260
10	PNNTASWFTALTQHG	46-60	51	AAEASKKPRQKRTAT	251-265
11	SWFTALTQHGKEDLK	51-65	52	KKPROKRTATKAYNV	256-270
12	LTQHGKEDLKFRPQG	56-70	53	KRTATKAYNVTAQFG	261-275
13	KEDLKFRPQGQVPIN	61-75	54	KAYNVTAQFGRGPE	266-280
14	FPRGQGVPIINTSSP	66-80	55	TOAFGRGPEQTQGN	271-285
15	GVPIINTSSPDDQIG	71-85	56	RRGPEQTQGNFGDQE	276-290
16	TNSSPDDQIGYYRRA	76-90	57	QTQGNFGDQELURQG	281-295
17	DDQIGYYRRATRRI	81-95	58	FGDQELURQGTDYKH	286-300
18	YYRRATRRIIRGGDGK	86-100	59	LIRQGTDYKHWPQIA	291-305
19	TRRIIRGGDGKMKDLS	91-105	60	TDYKHWPQIAQFAPS	296-310
20	GGDGKMKDLSPRWYF	96-110	61	WPQIAQFAPSASAFF	301-315
21	MKDLSPRWYFYLYGT	101-115	62	QFAPSASAFFGMSRI	306-320
22	PRWYFYLYGTGPEAG	106-120	63	ASAFFGMSRIGMEVT	311-325
23	YYLTGPEAGLPYGA	111-125	64	GMSRIGMEVTPSGTW	316-330
24	GPEAGLPYGANKDGI	116-130	65	GMEVTPSGTWLTYTG	321-335
25	LPYGANKDGIWVAT	121-135	66	PSGTWLTYTGAIKLD	326-340
26	NKDGIWVATEGALN	126-140	67	LYTGAIKLDDKDPN	331-345
27	IWVATEGALNTPKDH	131-145	68	AIKLDDKDPNFKDQV	336-350
28	EGALNTPKDHIGTRN	136-150	69	DKDPNFKDQVILLNK	341-355
29	TPKDHIGTRNPANNA	141-155	70	FKDQVILLNKHIDAY	346-360
30	IGTRNPANNAIVLQ	146-160	71	ILLNKHIDAYKTFPP	351-365
31	PANNAIVLQLPQGT	151-165	72	HIDAYKTFPPTPKK	356-370
32	AIVLQLPQGTTLPGK	156-170	73	KTFPPTPKKDKKKK	361-375
33	LPQGTTLPGKYFAEG	161-175	74	TEPKDKKKKADETTQ	366-380
34	TLPGKYFAEGSRGGS	166-180	75	DKKKKADETTQALPQR	371-385
35	FYAEGSRGGSQASSR	171-185	76	ADETTQALPQRQKKQQ	376-390
36	SRGGSQASSRSSRS	176-190	77	ALPQRQKKQQTVTLL	381-395
37	QASSRSSRSRNSSR	181-195	78	QKKQQTVTLLPAADL	386-400
38	SSRSRNSRNSRNPFG	186-200	79	TVTLLPAADLDDFSK	391-405
39	RNSRNSRNPFGSSRG	191-205	80	PAADLDDFSKQLQQS	396-410
40	NSTPSSRGSRTPARM	196-210	81	DDFSKQLQQSMSSAD	401-415
41	SSRGTSPARMAGNGG	201-215	82	QLQQSMSSADSTQA	406-419

SARS-CoV-2 OLP: NSP7		
NSP7 peptide pool		
Peptide No	Peptide Sequence	aa
1	SKMSDVKCTSVVLLS	1-15
2	VKCTSVVLLSVLQQL	6-20
3	VVLLSVLQQLRVES	11-25
4	VLQQLRVESSKLWA	16-30
5	RVESSKLWAQCVQL	21-35
6	SKLWAQCVQLHNDIL	26-40
7	QCVQLHNDILLAKDT	31-45
8	HNDILLAKDTTEAFE	36-50
9	LAKDTTEAFEKMSVL	41-55
10	TEAFEKMSVLLSVLL	46-60
11	KMSVLLSVLLSMQGA	51-65
12	LSVLLSMQGAVDINR	56-70
13	SMQGAVDINRLCEEM	61-75
14	VDINRLCEEMLDNRA	66-80
15	NRLCEEMLDNRATLQ	69-83

SARS-CoV-2 OLP: NSP13								
NSP13-1 peptide pool			NSP13-2 peptide pool			NSP13-3 peptide pool		
Peptide No	Peptide Sequence	aa	Peptide No	Peptide Sequence	aa	Peptide No	Peptide Sequence	aa
1	AVGACVLCNSQTSRLR	1-15	41	EKG DYGDVAVYRGTT	201-215	80	YVYIGDPAQLPAPRT	396-410
2	VLCNSQTSRLRCGACI	6-20	42	GDAVVYRGTTTYTKLN	206-220	81	DPAQLPAPRTLTKG	401-415
3	QTSRLRCGACIRRPFL	11-25	43	YRGTTTYTKLNVGDYF	211-225	82	PAPRTLTKGTLEPE	406-420
4	CGACIRRPFLCKCKC	16-30	44	TYKLVNVGDYFVLTSH	216-230	83	LLTKGTLEPEYFNSV	411-425
5	RRPFLCKCCYDHVI	21-35	45	VG DYFVLTSHTVMPL	221-235	84	TLEPEYFNSVCLRMK	416-430
6	CKCCYDHYVISTSHK	26-40	46	VLTSHTVMPLSAPTL	226-240	85	YFNSVCLRMKTIGPD	421-435
7	YDHYVISTSHKVLVS	31-45	47	TVMPLSAPTLVPQEH	231-245	86	CRLMKTIGPDMFLGT	426-440
8	STSHKVLVSVPYVC	36-50	48	SAPTLVPQEHYVRIT	236-250	87	TIGPDMFLGTCRRCP	431-445
9	LVLVSVPYVCNAPGC	41-55	49	VPQEHYVRITGLYPT	241-255	88	MFLGTCRRCPAEIVD	436-450
10	NPYVCNAPGCDVTDV	46-60	50	YVRITGLYPTLNISD	246-260	89	CRRCPAEIVDTVSA	441-455
11	NAPGCDVTDVTLQYL	51-65	51	GLYPTLNISDEFSSN	251-265	90	AEIVDTVSAALVDNK	446-460
12	DVTDVTLQYLGGMYS	56-70	52	LNISDEFSSNVANYQ	256-270	91	TVSAALVDNKLKAHK	451-465
13	TQLYLGGMYSYCKSH	61-75	53	EFSSNVANYQKVGGMQ	261-275	92	VYDNKLKAHKDKSAQ	456-470
14	GGMSYCKSHKPPIS	66-80	54	VANYQKVGGMQYSTL	266-280	93	LKAHKDKSAQCFKMF	461-475
15	YCKSHKPPISFPLCA	71-85	55	KVGGMQYSTLQGGPPG	271-285	94	DKSAQCFKMFYKGV	466-480
16	KPPISFPLCANGQVF	76-90	56	KYSTLQGGPPGTGKSH	276-290	95	CFKMFYKGVITHDVS	471-485
17	FPLCANGQVGLYKN	81-95	57	QGGPPGTGKSHFAIGL	281-295	96	YKGVITHDVSSAINR	476-490
18	NGQVFGLYKNTCVGS	86-100	58	TGKSHFAIGLALYYP	286-300	97	THDVSSAINRPQIGV	481-495
19	GLYKNTCVGSDNVTD	91-105	59	FAIGLALYYP SARIV	291-305	98	SAINRPQIGVREFL	486-500
20	TCVGSDNVTDFNAIA	96-110	60	ALYYP SARIVYTACS	296-310	99	PQIGVREFLTRNPA	491-505
21	DNVTDFNAIATCDWT	101-115	61	SARIVYTACSHAAVD	301-315	100	VREFLTRNPAWRKAV	496-510
22	FNAIATCDWTNAGDY	106-120	62	YTACSHAAVDALCEK	306-320	101	TRNPAWRKAVFISPY	501-515
23	TCDWTNAGDYILANT	111-125	63	HAAVDALCEKALKYL	311-325	102	WRKAVFISPYNSQNA	506-520
24	NAGDYILANTCTERL	116-130	64	ALCEKALKYLPIDKC	316-330	103	FISPYNSQNAVASKI	511-525
25	ILANTCTERLKLFAA	121-135	65	ALKYLPIDKCSRIIP	321-335	104	NSQNAVASKILGLPT	516-530
26	CTERLKLFAAETLKA	126-140	66	PIDKCSRIIPARARV	326-340	105	VASKILGLPTQTVDS	521-535
27	KLFAAETLKATEETF	131-145	67	SRIIPARARVCEFDK	331-345	106	LGLPTQTVDSQSGSE	526-540
28	ETLKATEETFKLSYG	136-150	68	ARARVCEFDKFKVNS	336-350	107	QTVDSQSGSEYDVVI	531-545
29	TEETFKLSYGIAIVR	141-155	69	ECFDKFKVNSTLEQY	341-355	108	SGSEYDVVIYFTTQT	536-550
30	KLSYGIAIVREVLSL	146-160	70	FKVNSTLEQYVFCTV	346-360	109	YDVYFTTQTETTAHS	541-555
31	IATVREVLSLDRLEHL	151-165	71	TLEQYVFCTVNALPE	351-365	110	FTTQTETTAHSCNVNR	546-560
32	EVLSDRELHLSWEVG	156-170	72	VFCTVNALPETTADI	356-370	111	ETAHSCNVNRFNVAI	551-565
33	RELHLSWEVGKPRPP	161-175	73	NALPETTADIVFDE	361-375	112	CNVNRFNVAITRAKI	556-570
34	SWEVGKPRPPLNRNY	166-180	74	TTADIVVFDEISMAT	366-380	113	FNVAITRAKIGILCI	561-575
35	KPRPPLNRNYVFTGY	171-185	75	VVFDEISMATNYDLS	371-385	114	TRAKIGILCIMSDRD	566-580
36	LNRNYVFTGYRVTKI	176-190	76	ISMATNYDLSVNVAR	376-390	115	GILCIMSDRDLYDKL	571-585
37	VFTGYRVTKNSKVQN	181-195	77	NYDLSVNVNARLRAKH	381-395	116	MSDRDLYDKLQFTSL	576-590
38	RVTKNSKVQIGEYTF	186-200	78	VVNARLRAKHYYVIG	386-400	117	LYDKLQFTSLPIPRR	581-595
39	SKVQIGEYTFEKGDV	191-205	79	LRAKHYYVIGDPAQL	391-405	118	FTSLPIPRNVATLQ	587-601
40	GEYTFEKG DYGDVAD	196-210						

Supplementary Table 2: SARS-CoV-1 peptide libraries used in the study

SARS-CoV-1 OLP: nucleocapsid					
NP-1 peptide pool			NP-2 peptide pool		
Peptide No	Peptide Sequence	aa	Peptide No	Peptide Sequence	aa
1	MSDNGPQSNQRSAPR	1-15	43	MASGGGETALALLL	211-225
2	PQSNQRSAPRITFGG	6-20	44	GETALALLLDRLNQ	216-230
3	RSAPRITFGGPTDST	11-25	45	ALLLDRLNQLESKV	221-235
4	ITFGGPTDSTDNNQN	16-30	46	DRLNQLESKVSGKGQ	226-240
5	PTDSTDNNQNGGRNG	21-35	47	LESKVSGKGQQQQGQ	231-245
6	DNNQNGGRNGARPKQ	26-40	48	SGKGQQQQGQTVTKK	236-250
7	GGRNGARPKQRRPQG	31-45	49	QQQGQTVTKKSAAEA	241-255
8	ARPKQRRPQGLPNNI	36-50	50	TVTKKSAAEASKKPR	246-260
9	RRPQGLPNNIASWFT	41-55	51	SAAEASKKPRQKRTA	251-265
10	LPNNIASWFTALTQH	46-60	52	SKKPRQKRTATKQYN	256-270
11	ASWFTALTQHGKEEL	51-65	53	QKRTATKQYNVTQAF	261-275
12	ALTQHGKEELRFRPG	56-70	54	TKQYNVTQAFGRRGP	266-280
13	GKEELRFRPGQGVPI	61-75	55	VTQAFGRRGPEQTQG	271-285
14	RFRPGQGVPIINTNSG	66-80	56	GRRGPEQTQGNFQDQ	276-290
15	QGVPIINTNSGPDQI	71-85	57	EQTQGNFGDQDLIRQ	281-295
16	NTNSGPDQIGYYRR	76-90	58	NFGDQDLIRQGTDYK	286-300
17	PDDQIGYYRRATRRV	81-95	59	DLIRQGTDYKHWPQI	291-305
18	GYRRATRRVRGGDG	86-100	60	GTDYKHWPQIAQFAP	296-310
19	ATRRVRGGDGKMKEL	91-105	61	HWPOIAQFAPSASAF	301-315
20	RGGDGKMKELSPRWY	96-110	62	AQFAPSASAFFGMSR	306-320
21	KMKELSPRWYFYLLG	101-115	63	SASAFFGMSRIGMEV	311-325
22	SPRWYFYLLGTGPEA	106-120	64	FGMSRIGMEVTPSGT	316-330
23	FYLLGTGPEASLPYG	111-125	65	IGMEVTPSGTWLTYH	321-335
24	TGPEASLPYGANKEG	116-130	66	TPSGTWLTYHGAIKL	326-340
25	SLPYGANKEGIVVWA	121-135	67	WLYHGAIKLDDKDP	331-345
26	ANKEGIVVWATEGAL	126-140	68	GAIKLDDKDPQFKDN	336-350
27	IVVWATEGALNTPKD	131-145	69	DDKDPQFKDNVILLN	341-355
28	TEGALNTPKDHIGTR	136-150	70	QFKDNVILLNKHIDA	346-360
29	NTPKDHIGTRNPNNN	141-155	71	VILLNKHIDAYKTFP	351-365
30	HIGTRNPNNNAATVL	146-160	72	KHIDAYKTFPTEPK	356-370
31	NPNNNAATVLQLPQG	151-165	73	YKTFPTEPKDKKKK	361-375
32	AATVLQLPQGTTLPK	156-170	74	PTEPKDKKKKTDEA	366-380
33	QLPQGTTLPKGFYAE	161-175	75	KDKKKKTDEAQPLPQ	371-385
34	TTLPKGFYAEGRGG	166-180	76	KTDEAQPLPQRQKKQ	376-390
35	GFYAEGRGGSQASS	171-185	77	QLPQRQKKQPTVTL	381-395
36	GSRGGSQASSRSSSR	176-190	78	RQKKQPTVTLPAAD	386-400
37	SQASSRSSSRSGNS	181-195	79	PTVTLPAADMDDFS	391-405
38	RSSSRSGNSRNSPT	186-200	80	LPAADMDDFSRQLQN	396-410
39	SRGNSRNSPTGSSRG	191-205	81	MDDFSRQLQNSMSG	401-415
40	RNSPTGSSRGSNSPAR	196-210	82	RQLQNSMSGASADST	406-420
41	GSSRGSNSPARMASGG	201-215	83	SMSGASADSTQA	411-422
42	NSPARMASGGGETAL	206-220			