

SUPPLEMENTARY MATERIALS R. R. MINTAEV, ET AL. "ADMINISTRATION OF RAAV ENCODING MONOCLONAL ANTIBODIES PROTECTS MICE CHALLENGED WITH A LETHAL DOSE OF H3N2 INFLUENZA VIRUS AND NEUTRALIZES H1 AND H3 STRAINS"

Table S1. Sequences of the variable heavy (V_H) and variable light chains (V_L) of anti-influenza antibodies

Antibody chain	Amino acid sequence	Amino acid sequence source	Coding sequence (5'→3')
C585, V_H	QVQLQESGPGLVKPSSETLS LTCVAVSGASISSFYWSWIR QSPGKGLEWIAIYIYSGKT QYNPAVTGRATISLQNW NHVALRVNSVTAADTAIY SCARHTLAYHYDDEGYMQ PGDAFDLWGQGTMTVTVSS	Protein Data Bank https://www.rcsb.org/ 6PDX	CAGGTGCAGCTGCAGGAGtctGGCCctGGCCTG GTGAAGCCCtctGAGACCCTGAGCCTGACCTGt GcTGTGtctGGaGCCAGCATCAGCAGCTTCTACT GGAGCTGGATCAGACAGAGCCCtGGCAAGGGC CTGGAGTGGATtGCCTACATCTACTACtctGGCA AGACCAGTACAACCCtGcTGTGACaGGCAGAG CCACCATCAGCCTGCAGAACTGGAACAACCA GTGGCCCTGAGAGTGAACtctGTGACaGcTGCaG ACACaGCCATCTACAGCTGtGCCAGACACACCC TGGCCTACCACTAtGAtGAtGAGGGCTACATGCA GCctGGaGAtGCCTTtGACCTGTGGGGCCAGGGC ACCATGGTGACaGTGAGCtct
C585, V_L	QSVLTQPPSVSAPAGQMV TIPCSGSSDIGKSFVSWY QQLPGTAPKLVYDNNKR PSGIPDRFSGSKSGTSATL GITGLQTGDEAVYYCGTW DSSLIVVFGGGTKLTVLG	Protein Data Bank https://www.rcsb.org/ 6PDX	CAGtctGTGCTGACCCAGCCCCctctGTGAGtG CCCCtGcTGGCCAGATGGTGACCATCCCCtGcT ctGGCAGCAGCtctGACATtGGCAAGAGCTTtGT GAGCTGGTACCAGCAGCTGCCtGGCACaGCCC CCAAGCTGGTGATCTAtGACAACAACAAGAGA CCCtctGGCATCCCtGACAGATTctGGCAGCAA GtctGGCACCCtctGCCACCTGGGCATCACaGGC CTGCAGACaGGaGAtGAGGcTGTGTACTACTGt GGCACCTGGGACAGCAGCCTGATCTGGGTGT TtGGaGGaGGCACCAAGCTGACaGTGCTGGGC
1G01, V_H	DEVQLVESGGRALRPGGS LRLSCAASGFKFDDYAMS WVRQVPGKLEFVSGLN WNGDITAYTDSVKGRFTV SRDNAKNSLYLHINSPKP EDTALYYCARTSSWGDY RGPEPKITWYFDLWGRGT LTVVSS	Protein Data Bank https://www.rcsb.org/ 6Q23	GAtGAGGTGCAGCTGGTGAGtctGGaGGCAGA GCCCTGAGACCtGGaGGCAGCCTGAGACTGAG CTGtGcTGCtctGGCTTCAAGTtGAtGACTAtGC CATGAGCTGGGTGAGACAGGTGCCtGGCAAGG GCCTGGAGTtTGTtctGGCCTGAACTGGAAtGG aGACATCACaGCCTACACaGACtctGTGAAGGGC AGATTCaGTGAGCAGAGACAAtGCCAAGAA CAGCCTGTACCTGCACATCAACAGCCCCAAGC CtGAGGACACaGCCCTGTACTACTGtGCCAGAA CCAGCAGCTGGGGaGACTACACCAGAGGCCctG AGCCCCAAGATCACCTGGTACTTtGACCTGTGGG GCAGAGGCACCCCTGGTGACaGTGAGCtct
1G01, V_L	DDIQLTQSPSFLSASVDR ITITCRASQIDGYLAWYQ QRPGKAPNLLIYAASLLQS GVPSRFSGSGYGFTEFTLTI SSLQPEDFATYYCQHLDSY PLFTFGPGTKVDIK	Protein Data Bank https://www.rcsb.org/ 6Q23	GAtGACATCCAGCTGACCCAGAGCCCCAGCTTC CTGtctGCCAGtGTGGaGACAGAATCACCATCA CCTGCAGAGCCAGCCAGGGCATtGAtGGCTACC TGGCCTGGTACCAGCAGAGACctGGCAAGGCC CCCAACCTGCTGATCTAtGcTCCAGCCTGCTG CAGtctGGaGTGCCAGCAGATTctGGCAGtGG CTAtGGCACaGAGTTCACCCtGACCATCAGCAG CCTGCAGCCtGAGGACTTtGCCACCTACTACTG CCAGCACCTGGACAGCTACCCCTGTTCACCT TtGGCCCCtGGACCAAGGTGGACATCAAG
MEDI8852, V_H	QVQLQQSGPGLVSKPSQTL SLTCAISGDSVSSYNAVW NWIRQSPSRGLEWLGRT YYRSGWYNDYAESVKS RITINPDTSKNQFSLQLNSV TPEDTAVYYCARSGHITV FGVNVDAFDMWQGTMTV TVVSS	Protein Data Bank https://www.rcsb.org/ 5JW4	CAGGTGCAGCTGCAGCAGtctGGCCctGGCCTGG TGAAGCCCAGCCAGACCCTGAGCCTGACCTGtG CCATCtctGGaGACtctGTGAGCAGCTACAAtGcTg TGTGGAActGGATCAGGCAGAGCCCAGCAGG GGCCTGGAGTGGCTGGGCAGGACCTACTACAG GtctGGCTGGTACAAtGACTAtGcTgAGtctGTGAA GAGCAGGATCACCATCAACCCtGACACCAGCAA GAACCAGTTCAGCCTGCAGCTGAACtctGTGAC CCCtGAGGACACaGcTGTGTACTACTGtGCCAGG tctGGCCACATCACaGTGTtGGaGTGAAtGTGGA tGCCTTtGACATGTGGGGCCAGGGCACCATGGT GACaGTGAGCtct

Antibody chain	Amino acid sequence	Amino acid sequence source	Coding sequence (5'→3')
MEDI8852, V _L	DIQMTQSPSSLSASVGRV TITCRTSLSYTHWYQQ KPGKAPKLLIYAASSRGS GVPSRFSGSGSGTDFTLTI SSLQPEDFATYYCQSRTF GQGTKVEIK	Protein Data Bank https://www.rcsb.org/ 5JW4	GACATCCAGATGACCCAGAGCCCCAGCAGCCT GtctGCCctGTGGGaGACAGGGTGACCATCACCT GCAGGACCAGCCAGAGCCTGAGCAGCTACACC CACTGGTACCAGCAGAAGCCtGGCAAGGCCCC CAAGCTGCTGATCTAtGcTGCCAGCAGCAGGGG CtctGGaGTGCCAGCAGGTTcTtGGCAGtGGCt tGGCACaGACTTCACCCTGACCATCAGCAGCCT GCAGCCtGAGGACTTtGCCACCTACTACTGCCA GCAGAGCAGGACCTTtGGCCAGGGCACCAAGG TGGAGATCAAG
CR9114, V _H	QVQLVQSGAEVKKPGSSV KVSCCKSSGTSNNYAIW VRQAPGQGLDWMGGISPI FGSTAYAQKFKGRVTISAD IFSNTAYMELNSLTSEDTA VYFCARHGNYYYSGMD VWGQGTTVTVSS	Protein Data Bank https://www.rcsb.org/ 4FQV	CAGGTGCAGCTGGTGCAGtctGGaGcTgAGGTG AAGAAGCCtGGCAGCtctGTGAAGGTGAGCTGC AAGAGCtctGGaGGCACCAGCAACAATAtGCCA TCAGCTGGGTGAGGACAGGCCCCtGGCCAGGGC CTGGACTGGATGGGaGGCATCAGCCCCATCTT tGGCAGCACaGCCTAtGCCAGAAGTTCCAGGG CAGGGTGACCATCtctGcTgACATCTTCAGCAAC ACaGCCTACATGGAGCTGAACAGCCTGACCtctG AGGACACaGcTGTGTACTTCTGtGCCAGGCAtG GCAACTACTACTACTtctGGCATGGAtGTGTG GGGCCAGGGCACCACaGTGACaGTGAGCtct
CR9114, V _L	QSALTQPPAVSGTPGQRVT ISCSGSDSNIGRRSVNWYQ QFPGTAPKLLIYSNDQRPS VVPDRFSGSKSGTSASLAI SGLQSEDEAEYYCAAWDD SLKGAVFGGGTQLTVLG	Protein Data Bank https://www.rcsb.org/ 4FQV	CAGtctGCCCTGACCCAGCCCCtGcTGTgTtGGC ACCCtGGCCAGAGGGTGACCATCAGCTGcTctG GcTctGACAGCAACATtGGCAGGAGGtctGTGAAC TGGTACCAGCAGTTCCcTGGCACaGCCCCAAG CTGCTGATCTACAGCAAtGACCAGAGGCCctG TGGTGCCtGACAGGTTcTctGGCAGCAAGtctGGC ACcTctGCCAGCCTGGCCATCtctGGCCTGCAGtct GAGGAtGAGGcTgAGTACTACTGtGcTGCCTGGG AtGACAGCCTGAAGGGaGcTGTGTTtGGaGGaGG CACCCAGCTGACaGTGCTGGGC
MHAA4549A, V _H	EVQLVESGGGVVQPGKSL RLSCAASGLTFSSYAVHW VRQAPGKLEWVTLISYD GANQYYADSVKGRFTISR DNSKNTVYVLMNSLRPED TAVYYCAVPGPVFGIFPPW SYFDNWGQGLVTVSS	KEGG DRUG Database https://www.kegg.jp/ kegg/drug/ D11381	GAGGTGCAGCTGGTGGAGtctGGaGGaGGTGTG GTGCAGCCTGGCAAGAGCCTGAGGCTGAGCTG TGCTGCCctGGCCTGACCTTCAGCAGCTAtGcTg TGCCTGGGTGAGGCAGGCCCCtGGCAAGGGC CTGGAGTGGGTGACCCTGATCAGCTAtGAtGGa GCCAACCAGTACTAtGcTgACTctGTGAAGGGCA GGTTACCATCAGCAGGGACAACAGCAAGAAC ACaGTGTACCTGCAGATGAACAGCTGAGGCCt GAGGACACaGcTGTGTACTACTGtGcTGTGCCtG GCCCCtGTGTTtGGCATCTTCCCCCCTGGAGCTA CTTtGACAACCTGGGGCCAGGGCATCCTGGTGA CaGTGAGCtct
MHAA4549A, V _L	EIVLTQSPATLSVSPGERA TLSCRASQVISHNLAWYQ QKPGQAPRLLIYGASTRA SGIPARFSGSGSTDYTLT ITSLQSEDFAVYYCQHYSN WPPRLTFGGGTKVEIK	KEGG DRUG Database https://www.kegg.jp/ kegg/drug/ D11381	GAGATtGTGCTGACCCAGAGCCcTGCCACCCTG tctGTGAGCCcTGGaGAGAGGGCCACCCTGAGC TGCAGGGCCAGCCAGGTGATCAGCCACAACCT GGCCTGGTACCAGCAGAAGCCtGGCCAGGCC CCAGGCTGCTGATCTAtGGaGCCAGCACCAGG GCCctGGCATCCcTGGCAGGTTcTctGGCtctGGC tctGGCACaGACTACACCCTGACCATCACCAGCC TGCAGtctGAGGACTTtGcTGTGTACTACTGCCA GCACTACAGCAACTGGCCCCCAGGCTGACCT TtGGaGGaGGCACCAAGGTGGAGATCAAG
COV2-2196, V _H	QMQLVQSGPEVKKPGTSV KVSCKASGFTFMSSAVQW VRQARGQRLEWIGWIVIG SGNTNYAQKFKQERVITIR DMSTSTAYMELSSLRSED AVYYCAAPYCSSISCSNDGF DIWGQGTMTVTVSS	KEGG DRUG Database https://www.kegg.jp/ kegg/drug/ D11993	CAGATGCAGCTGGTGCAGTCTGGCCCTGAGGT GAAGAAGCCTGGCACCTCTGTGAAGGTGAGCT GCAAGGCCTCTGGCTTACCTTCATGAGCTCTG CTGTGCAGTGGGTGAGACAGGCCAGAGGCCAG AGACTGGAGTGGATTGGCTGGATTGTGATTGG CTCTGGCAACACCAACTATGCCAGAAGTTCCA GGAGAGAGTGACCATCACCAGAGACATGAGCA CCAGCACAGCCTACATGGAGCTGAGCAGCCTG AGATCTGAGGACACAGCTGTGTACTACTGTGCT GCCCCCTACTGCAGCAGCATCAGCTGCAATGAT GGCTTTGACATCTGGGGCCAGGGCACCATGGT GACAGTGAGCAGC

Antibody, chain	Amino acid sequence	Amino acid sequence source	Coding sequence (5'→3')
COV2-2196, V _L	EIVLTQSPGTL _L SLSPGERA TLSCRASQSVSSSYLAWYQ QKPGQAPRLLIYGASSRAT GIPDRFSGSGGTDFLTIS RLEPEDFAVYYCQHYGSSR GWTFGQGTKVEIK	KEGG DRUG Database https://www.kegg.jp/kegg/drug/D11993	GAGATTGTGCTGACCCAGAGCCCTGGCACC CTGAGCCTGAGCCCTGGAGAGAGGGCCAC CCTGAGCTGCAGGGCCAGCCAGAGTGTGA GCAGCAGCTACCTGGCCTGGTACCAGCAGA AGCCTGGCCAGGCCCCAGGCTGCTGATCT ATGGAGCCAGCAGCAGGGCCACAGGCATCC CTGACAGGTTCTCTGGCAGTGGCTCTGGCA CAGACTTCACCCTGACCATCAGCAGGCTGG AGCCTGAGGACTTTGCTGTGTACTACTGCC AGCACTATGGCAGCAGCAGGGGCTGGACCT TTGGCCAGGGCACCAAGGTGGAGATCAAG

Table S2. Protective activity of experimental samples in a mouse model of A/Aichi/2/1968 (H3N2)-induced pneumonia

Sample	Animal survival rate, survived/total number	Mortality, %
CR9114	8/10 (p1 = 0.001111; p2 = 0.01633)	20
MEDI8852	7/10 (p1 = 0.0023541; p2 = 0.0403)	30
MHAA4549A	10/10 (p1 = 0.000178; p2 = 0.00106)	0
C585	8/8 (p1 = 0.000743; p2 = 0.00333)	0
1G01	10/10 (p1 = 0.000178; p2 = 0,001069)	0
COV2-2196**	2/8** (p1 = 0,32467)	75
Virus control*	2/22	90.9

*Virus control – non-immunized animals challenged with the virus. ** – control mice receiving the COV2-2196 antibody against SARS-CoV-2. p1 – p-value calculated using the Mantel–Cox test relative to the virus control. p2 – p-value estimated using the Mantel–Cox test compared to the group receiving COV2-2196.