

Supplementary Material.

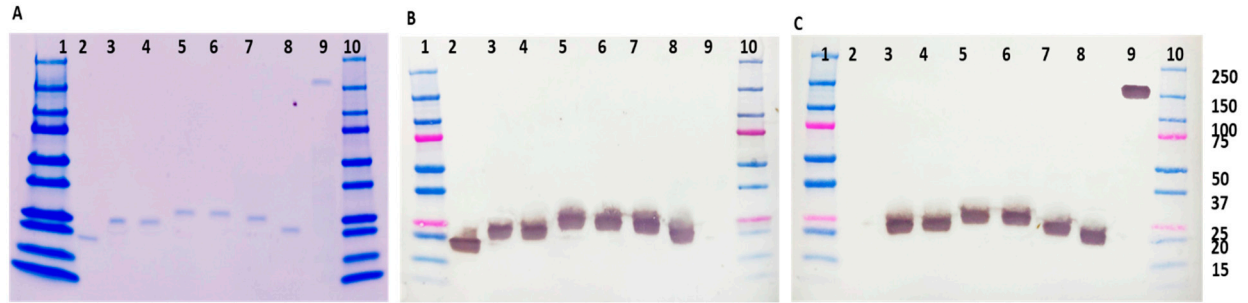


Figure S1. The images show analysis of the TMV-epitope constructs using SDS-PAGE (A); western blots were carried out using either anti-TMV (B); or anti-SARS-CoV2 S (C) polyclonal antibody. The blots were loaded as follows: Lane 1: Prestained molecular weight marker (BioRad). Lane 2: TMV-A, Lane 3 TMV-D, Lane 4: TMV-F, Lane 5: TMV-H, Lane 6: TMV-H, Lane 7: TMV-L, Lane 8: TMV-S21P2, Lane 9: SARS-CoV2 spike protein, Lane 10: Ladder

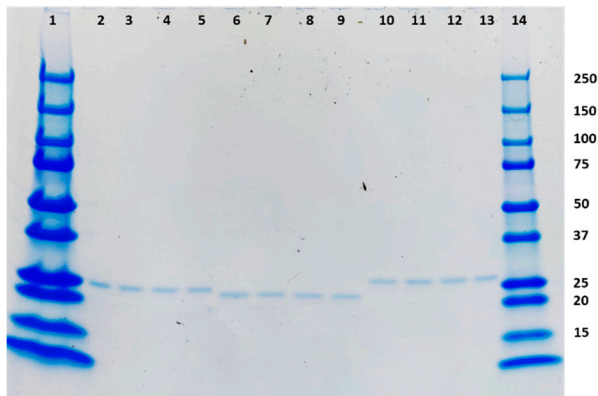


Figure S2. Coomassie-stained SDS-PAGE showing the stability of the three TMV-epitope fusions that elicited neutralizing antibodies in mice after storage at -20°C, 4°C, 25°C and 37°C for 28 days. The loading order is as follows: Lane 1: Prestained molecular weight marker (BioRad). Lane 2-5: TMV-A (-20°C, 4°C, 25°C, 37°C), Lane 6-9 TMV-D(-20°C, 4°C, 25°C, 37°C) , Lane 10-13: TMV-H(-20°C, 4°C, 25°C, 37°C) Lane 14: Prestained molecular weight marker (BioRad)

Table S2. Protein and nucleotide sequences of epitopes used in this study

Name	Position	Epitope Sequence
A	300-330	KCTLKSFTVEKGIYQTSNFRVQPTESIVRFP
		aagtgtacgttgaaatccttcactgtagaaaaaggaatctatcaaacttctaactttagagtccaaccaacagaatctattgttagatttccttag
B	365-395	YSVLNSASFSTFKCYGVSPTKLNDLCFTNV
		tattctgtcctatataattccgcatcatttccacttttaagtgttatggagtgtctctactaaattaatgatctctgttactaattgtctag
C	420-440	DYNYKLDDFTGCVIAWNSNN
		gattataattataaattaccagatgattttacaggctgcgttatagcttgaattctaacaattag
D	435-480	AWNSNNLDSKVGGNYNYLYRLFRKSNLKPFERDISTEIQAGSTPC
		gcttgaattctaacaatcttgattctaaggttggtggaattataattacgttatagattgttaggaagtctaactctaaacctttgagagagatattcaactgaaatctatcaggccggttagcacacctgttag
E	420-500	DYNYKLDDFTGCVIAWNSNNLDSKVGGNYNYLYRLFRKSNLKPFERDISTEIQAGSTPCNGVEGFNCYFPLQSYGFQPT
		gattataattataaattaccagatgattttacaggctgcgttatagcttgaattctaacaatcttgattctaaggttggtggaattataattacgttatagattgttaggaagtctaactctaaacctttgagagagatattcaactgaaatctatcaggccggttagcacacctgtaatggtgttgaaggttttaattgttactttcctttacaatcatatggtttccaaccacttag
F	440-500	NLDSKVGGNYNYLYRLFRKSNLKPFERDISTEIQAGSTPCNGVEGFNCYFPLQSYGFQPT
		aatcttgattctaaggttggtggaattataattacgttatagattgttaggaagtctaactctaaacctttgagagagatattcaactgaaatctatcaggccggttagcacacctgtaatggtgttgaaggttttaattgttactttcctttacaatcatatggtttccaaccacttag
G	420-540	DYNYKLDDFTGCVIAWNSNNLDSKVGGNYNYLYRLFRKSNLKPFERDISTEIQAGSTPCNGVEGFNCYFPLQSYGFQPTNGVGYQPYRVVLSFELLHAPATVCGPKKSTNLVKNKCVN
		gattataattataaattaccagatgattttacaggctgcgttatagcttgaattctaacaatcttgattctaaggttggtggaattataattacgttatagattgttaggaagtctaactctaaacctttgagagagatattcaactgaaatctatcaggccggttagcacacctgtaatggtgttgaaggttttaattgttactttcctttacaatcatatggtttccaaccactaatggtgttggttaccaaccatacagtagtagtactttcctttgaacttctacatgcaccagcaactgttggacctaataaagtctactaatttggttaa
		aaacaaatgtgtcaattag
H	481-540	NGVEGFNCYFPLQSYGFQPTNGVGYQPYRVVLSFELLHAPATVCGPKKSTNLVKNKCVN
		aatggtgttgaaggttttaattgttactttcctttacaatcatatggtttccaaccactaatggtgttggttaccaaccatacagagtagtagtactttcctttgaacttctacatgcaccagcaactgttggacctaataaagtctactaatttggttaaaacaaatgtgtcaattag
I	475-500	AGSTPCNGVEGFNCYFPLQSYGFQPT

		<div>gccggtagcacacctgtaatggtgtgaaggtttaattgttactttcctttacaatcatatggttccaaccacttag</div>
J	520-540	<div>APATVCGPKKSTNLVKNKCVN</div> <div>gcaccagcaactgtttgtggacctaanaagctactaatttggttaaaacaaatgtgtcaattag</div>
K	660-680	<div>YECDIPIGAGICASYQTQNS</div> <div>tatgagtgtgacataccattggtgcaggtatatgcgctagtatcagactcagactaattcttag</div>
L	660-710	<div>YECDIPIGAGICASYQTQNSPRRARSVASQSIIAYTMSLGAENSVAYSNN</div> <div>tatgagtgtgacataccattggtgcaggtatatgcgctagtatcagactcagactaattctctcggcgggcacgtagttag</div> <div>ctagtcaatccatcattgcctacactatgtcacttggtgcagaaaattcagttgcttactctaataactag</div>
M	990-1035	<div>EVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLG</div> <div>gaagtgcaaattgataggtgatcacaggcagacttcaaagttgcagacatatgtgactcaacaattaattagagctgcaga</div> <div>aatcagagcttctgctaattctgtgctactaaaatgtcagagtgtgtacttgatag</div>
N	931-970	<div>IGKIQDSLSTASALGKLQDVVNQNAQALNLTQKQSSNF</div> <div>attggcaaaattcaagactcactttctccacagcaagtcacttggaacttcaagatgtggtcaacaaaatgcacaagct</div> <div>ttaaacacgctgttaacaacttagctccaatttttag</div>
S21P2	709-727	<div>PSKPSKRSFIEDLLFNKV</div> <div>CCCAGCAAGCCCAGCAAGAGAAGCTTCATCGAGGACCTGCTGTTCAACAAGGTGTGA</div>
S14P5	552-570	<div>TESNKKFLPFQQFGRDIA</div> <div>ACCGAGAGCAACAAGAAGTTCCTGCCCTTCAGCAGTTCGGCAGAGACATCGCCTGA</div>

