Peptide Array, Influenza Virus A/New Caledonia/20/1999 (H1N1) Hemagglutinin Protein

Catalog No. NR-2602

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Contributor:
BEI Resources

Manufacturer:
American Peptide Company, Inc.

Product Description:
The 94-peptide array spans the hemagglutinin (HA) protein of the A/New Caledonia/20/1999 (H1N1) strain of influenza virus (GenPept: ABF21272).[1] Peptides are 16- to 17-mers, with 11 or 12 amino acid overlaps. Please see Table 1 for length and sequence of individual peptides.

Material Provided:
Peptides are provided lyophilized at 1 mg per vial.

Packaging/Storage:
Lyophilized peptides should be placed in a closed dry environment with desiccants and stored at -20ºC or colder immediately upon arrival. A frost-free freezer should be avoided, since changes in moisture and temperature may affect peptide stability.

Solubility:
Solubility may vary based on the amino acid content of the individual peptide (see Table 2). Peptides can almost always be dissolved in 100% DMSO.

Reconstitution:
Lyophilized peptides should be warmed to room temperature for 1 hour prior to reconstitution. They should be dissolved at the highest possible concentration, and then diluted with water or buffer to the working concentration. Buffer should be added only after the peptide is completely in solution because salts may cause aggregation.

The most common dissolution process is 1 mg of peptide in 1 mL of sterile, distilled water or 1 mL of 100% DMSO. The DMSO can be slowly diluted to a lower concentration with aqueous medium. Care must be taken to ensure that the peptide does not begin to precipitate out of solution. For cell-based assays, 0.5% DMSO in medium is usually well-tolerated.

Sonication and/or the addition of small amounts of dilute (10%) aqueous acetic acid for basic peptides, aqueous ammonia for acidic peptides or acetonitrile may also help dissolution (see Table 2). These solvents may not be appropriate for certain applications, including cell-based assays.

Storage of Reconstituted Peptides:
The shelf life of peptides in solution is very limited, especially for sequences containing cysteine, methionine, tryptophan, asparagine, glutamine, and N-terminal glutamic acid. In general, peptides may be aliquoted and stored in solution for a few days at -20ºC or colder. For long-term storage, peptides should be re-lyophilized and stored at -20ºC or colder. If long-term storage in solution is unavoidable, peptide solutions should be buffered to pH 5-6, aliquoted and stored at -20ºC or colder. Freeze-thaw cycles should be avoided.

Citation:
Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Peptide Array, Influenza Virus A/New Caledonia/20/1999 (H1N1) Hemagglutinin Protein, NR-2602."

Biosafety Level: 1
Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. Biosafety in Microbiological and Biomedical Laboratories. 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see www.cdc.gov/biosafety/publications/bmbl5/index.htm.

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References:

1. Mbawuike, I. N., et al. "Complete Genome Sequencing and Analysis of Selected Influenza Virus Vaccine Strains Spanning Six Decades (1933-1999)." Unpublished. GenPept: ABF21272.

Support Provided by NIAID

Table 1

Peptide	Length	Sequence
1 of 94	17	1 MKAKLLVLLCTFTATYA 17
2 of 94	17	7 VLLCTFTATYADTICIG 23
3 of 94	17	13 TATYADTICIGYHANNS 29
4 of 94	17	19 TICIGYHANNSTDTVDT 35
5 of 94	17	25 HANNSTDTVDTVLEKNV 41
6 of 94	17	31 DTVDTVLEKNVTVTHSV 47
7 of 94	17	37 LEKNVTVTHSVNLLEDS 53
8 of 94	16	43 VTHSVNLLEDSHNGKL 58
9 of 94	17	48 NLLEDSHNGKLCLLKGI 64
10 of 94	17	54 HNGKLCLLKGIAPLQLG 70
11 of 94	17	60 LLKGIAPLQLGNCSVAG 76
12 of 94	17	66 PLQLGNCSVAGWILGNP 82
13 of 94	17	72 CSVAGWILGNPECELLI 88
14 of 94	17	78 ILGNPECELLISKESWS 94
15 of 94	17	84 CELLISKESWSYIVETP 100
16 of 94	17	90 KESWSYIVETPNPENGT 106
17 of 94	17	96 IVETPNPENGTCYPGYF 112
18 of 94	17	102 PENGTCYPGYFADYEEL 118
19 of 94	17	108 YPGYFADYEELREQLSS 124
20 of 94	17	114 DYEELREQLSSVSSFER 130
21 of 94	17	120 EQLSSVSSFERFEIFPK 136
22 of 94	17	126 SSFERFEIFPKESSWPN 142
23 of 94	17	132 EIFPKESSWPNHTVTGV 148
24 of 94	17	138 SSWPNHTVTGVSASCSH 154
25 of 94	17	144 TVTGVSASCSHNGKSSF 160
26 of 94	17	150 ASCSHNGKSSFYRNLLW 166
27 of 94	17	156 GKSSFYRNLLWLTGKNG 172
28 of 94	17	162 RNLLWLTGKNGLYPNLS 178
29 of 94	17	168 TGKNGLYPNLSKSYVNN 184
30 of 94	17	174 YPNLSKSYVNNKEKEVL 190

Table 1		
Peptide	**Length**	**Sequence**
31 of 94	17	180 SYVNNKEKEVLVLWGVH 196
32 of 94	17	186 EKEVLVLWGVHHPPNIG 202
33 of 94	17	192 LWGVHHPPNIGNQRALY 208
34 of 94	17	198 PPNIGNQRALYHTENAY 214
35 of 94	17	203 NQRALYHTENAYVSVVS 219
36 of 94	17	209 HTENAYVSVVSSHYSRR 225
37 of 94	17	215 VSVVSSHYSRRFTPEIA 231
38 of 94	17	221 HYSRRFTPEIAKRPKVR 237
39 of 94	17	227 TPEIAKRPKVRDQEGRI 243
40 of 94	17	233 RPKVRDQEGRINYYWTL 249
41 of 94	17	238 DQEGRINYYWTLLEPGD 254
42 of 94	17	244 NYYWTLLEPGDTIIFEA 260
43 of 94	17	250 LEPGDTIIFEANGNLIA 266
44 of 94	17	256 IIFEANGNLIAPWYAFA 272
45 of 94	17	262 GNLIAPWYAFALSRGFG 278
46 of 94	17	268 WYAFALSRGFGSGIITS 284
47 of 94	17	274 SRGFGSGIITSNAPMDE 290
48 of 94	17	280 GIITSNAPMDECDAKCQ 296
49 of 94	17	286 APMDECDAKCQTPQGAI 302
50 of 94	17	292 DAKCQTPQGAINSSLPF 308
51 of 94	17	298 PQGAINSSLPFQNVHPV 314
52 of 94	17	304 SSLPFQNVHPVTIGECP 320
53 of 94	17	310 NVHPVTIGECPKYVRSA 326
54 of 94	17	316 IGECPKYVRSAKLRMVT 332
55 of 94	17	322 YVRSAKLRMVTGLRNIP 338
56 of 94	17	328 LRMVTGLRNIPSIQSRG 344
57 of 94	17	334 LRNIPSIQSRGLFGAIA 350
58 of 94	17	340 IQSRGLFGAIAGFIEGG 356
59 of 94	17	346 FGAIAGFIEGGWTGMVD 362
60 of 94	17	352 FIEGGWTGMVDGWYGYH 368
61 of 94	17	358 TGMVDGWYGYHHQNEQG 374
62 of 94	17	364 WYGYHHQNEQGSGYAAD 380
63 of 94	17	369 HQNEQGSGYAADQKSTQ 385
64 of 94	17	375 SGYAADQKSTQNAINGI 391
65 of 94	17	380 DQKSTQNAINGITNKVN 396
66 of 94	17	386 NAINGITNKVNSVIEKM 402
67 of 94	17	392 TNKVNSVIEKMNTQFTA 408
68 of 94	17	398 VIEKMNTQFTAVGKEFN 414
69 of 94	17	404 TQFTAVGKEFNKLERRM 420
70 of 94	17	410 GKEFNKLERRMENLNKK 426

Table 1		
Peptide	**Length**	**Sequence**
71 of 94	17	416 LERRMENLNKKVDDGFL 432
72 of 94	17	422 NLNKKVDDGFLDIWTYN 438
73 of 94	17	428 DDGFLDIWTYNAELLVL 444
74 of 94	17	434 IWTYNAELLVLLENERT 450
75 of 94	17	440 ELLVLLENERTLDFHDS 456
76 of 94	17	446 ENERTLDFHDSNVKNLY 462
77 of 94	17	452 DFHDSNVKNLYEKVKSQ 468
78 of 94	17	458 VKNLYEKVKSQLKNNAK 474
79 of 94	16	464 KVKSQLKNNAKEIGNG 479
80 of 94	17	469 LKNNAKEIGNGCFEFYH 485
81 of 94	16	475 EIGNGCFEFYHKCNNE 490
82 of 94	17	480 CFEFYHKCNNECMESVK 496
83 of 94	17	486 KCNNECMESVKNGTYDY 502
84 of 94	17	492 MESVKNGTYDYPKYSEE 508
85 of 94	17	498 GTYDYPKYSEESKLNRE 514
86 of 94	17	504 KYSEESKLNREKIDGVK 520
87 of 94	17	510 KLNREKIDGVKLESMGV 526
88 of 94	17	516 IDGVKLESMGVYQILAI 532
89 of 94	17	522 ESMGVYQILAIYSTVAS 538
90 of 94	17	527 YQILAIYSTVASSLVLL 543
91 of 94	17	533 YSTVASSLVLLVSLGAI 549
92 of 94	17	539 SLVLLVSLGAISFWMCS 555
93 of 94	16	545 SLGAISFWMCSNGSLQ 560
94 of 94	16	550 SFWMCSNGSLQCRICI 565

Table 2			
Peptide	**Solubility**	**Solvent**	**Reconstitution pH, if required**
1 of 94	1 mg/mL	Formic acid	pH 1
2 of 94	1 mg/mL	Water	
3 of 94	1 mg/mL	20% acetonitrile in water	pH 6
4 of 94	1 mg/mL	5% ammonium hydroxide in water	pH 11
5 of 94	1 mg/mL	Water	
6 of 94	1 mg/mL	10% acetonitrile in water	pH 6
7 of 94	1 mg/mL	5% ammonium hydroxide in water	pH 11
8 of 94	1 mg/mL	Water	
9 of 94	1 mg/mL	20% acetonitrile in water	pH 6
10 of 94	1 mg/mL	Water	

Table 2			
Peptide	**Solubility**	**Solvent**	**Reconstitution pH, if required**
11 of 94	1 mg/mL	20% acetonitrile in water	pH 6
12 of 94	1 mg/mL	5% ammonium hydroxide in water	pH 11
13 of 94	1 mg/mL	20% acetonitrile in water	pH 6
14 of 94	1 mg/mL	20% acetonitrile in water	pH 6
15 of 94	1 mg/mL	0.02% ammonia and 20% acetonitrile in water	pH 8
16 of 94	1 mg/mL	Water	
17 of 94	1 mg/mL	Water	
18 of 94	1 mg/mL	Water	
19 of 94	1 mg/mL	5% ammonium hydroxide in water	pH 11
20 of 94	1 mg/mL	5% ammonium hydroxide in water	pH 11
21 of 94	1 mg/mL	30% acetonitrile in water	pH 6
22 of 94	1 mg/mL	Water	
23 of 94	1 mg/mL	Water	
24 of 94	1 mg/mL	20% acetonitrile in water	pH 6
25 of 94	1 mg/mL	Water	
26 of 94	1 mg/mL	Water	
27 of 94	1 mg/mL	20% acetonitrile in water	pH 6
28 of 94	1 mg/mL	Water	
29 of 94	1 mg/mL	10% acetonitrile in water	pH 6
30 of 94	1 mg/mL	Water	
31 of 94	1 mg/mL	Water	
32 of 94	1 mg/mL	Water	
33 of 94	1 mg/mL	Water	
34 of 94	1 mg/mL	Water	
35 of 94	1 mg/mL	Water	
36 of 94	1 mg/mL	Water	
37 of 94	1 mg/mL	Water	
38 of 94	1 mg/mL	Water	
39 of 94	1 mg/mL	Water	
40 of 94	1 mg/mL	Water	
41 of 94	1 mg/mL	5% ammonium hydroxide in water	pH 11
42 of 94	1 mg/mL	5% ammonium hydroxide in water	pH 11
43 of 94	1 mg/mL	Water	
44 of 94	1 mg/mL	5% ammonium hydroxide in water	pH 11
45 of 94	1 mg/mL	5% ammonium hydroxide in water	pH 11
46 of 94	1 mg/mL	5% ammonium hydroxide in water	pH 11
47 of 94	1 mg/mL	Water	
48 of 94	1 mg/mL	Water	
49 of 94	1 mg/mL	Water	
50 of 94	1 mg/mL	Water	

Table 2			
Peptide	**Solubility**	**Solvent**	**Reconstitution pH, if required**
51 of 94	1 mg/mL	Water	
52 of 94	1 mg/mL	Water	
53 of 94	1 mg/mL	Water	
54 of 94	1 mg/mL	Water	
55 of 94	1 mg/mL	20% acetonitrile in water	pH 6
56 of 94	1 mg/mL	Water	
57 of 94	1 mg/mL	Water	
58 of 94	1 mg/mL	40% acetonitrile in water	pH 6
59 of 94	1 mg/mL	0.02% ammonia and 30% acetonitrile in water	pH 8
60 of 94	1 mg/mL	30% acetonitrile in water	pH 6
61 of 94	1 mg/mL	Water	
62 of 94	1 mg/mL	Water	
63 of 94	1 mg/mL	Water	
64 of 94	1 mg/mL	2% formic acid and 20% acetonitrile in water	pH 3
65 of 94	1 mg/mL	Water	
66 of 94	1 mg/mL	Water	
67 of 94	1 mg/mL	20% acetonitrile in water	pH 6
68 of 94	1 mg/mL	Water	
69 of 94	1 mg/mL	Water	
70 of 94	1 mg/mL	Water	
71 of 94	1 mg/mL	Water	
72 of 94	1 mg/mL	Water	
73 of 94	1 mg/mL	5% ammonium hydroxide in water	pH 11
74 of 94	1 mg/mL	40% acetonitrile in water	pH 6
75 of 94	1 mg/mL	30% acetonitrile in water	pH 6
76 of 94	1 mg/mL	Water	
77 of 94	1 mg/mL	Water	
78 of 94	1 mg/mL	Water	
79 of 94	1 mg/mL	Water	
80 of 94	1 mg/mL	Water	
81 of 94	1 mg/mL	Water	
82 of 94	1 mg/mL	20% acetonitrile in water	pH 6
83 of 94	1 mg/mL	10% acetonitrile in water	pH 6
84 of 94	1 mg/mL	Water	
85 of 94	1 mg/mL	Water	
86 of 94	1 mg/mL	Water	
87 of 94	1 mg/mL	Water	
88 of 94	1 mg/mL	5% ammonium hydroxide in water	pH 11
89 of 94	1 mg/mL	0.02% ammonia and 30% acetonitrile in water	pH 8
90 of 94	1 mg/mL	5% ammonium hydroxide in water	pH 11
91 of 94	1 mg/mL	Formic acid	pH 1
92 of 94	1 mg/mL	Water	
93 of 94	1 mg/mL	0.02% ammonia and 30% acetonitrile in water	pH 8
94 of 94	1 mg/mL	Formic acid	pH 1