Peptide Array, Influenza Virus A/Thailand/4(SP-528)/2004 (H5N1) Hemagglutinin Protein

Catalog No. NR-2604

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Contributor:
BEI Resources

Manufacturer:
American Peptide Company Inc.

Product Description:
The 94-peptide array spans the hemagglutinin protein of the A/Thailand/4(SP-528)/2004 (H5N1) strain of influenza virus (GenPept: AAV34704).[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 dessicants 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/Thailand/4(SP-528)/2004 (H5N1) Hemagglutinin Protein, NR-2604."

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. Puthavathana, P., et al. "Molecular Characterization of the Complete Genome of Human Influenza H5N1 Virus Isolates from Thailand." J. Gen. Virol. 86 (2005): 423–433. PubMed: 15659762. GenPept: AAV34704.

Support Provided by NIAID

Peptide	Length	Sequence
1 of 94	17	1 MEKIVLLFAIVSLVKSD 17
2 of 94	17	7 LFAIVSLVKSDQICIGY 23
3 of 94	17	13 LVKSDQICIGYHANNST 29
4 of 94	17	19 ICIGYHANNSTEQVDTI 35
5 of 94	17	25 ANNSTEQVDTIMEKNVT 41
6 of 94	17	30 EQVDTIMEKNVTVTHAQ 46
7 of 94	17	36 MEKNVTVTHAQDILEKT 52
8 of 94	16	42 VTHAQDILEKTHNGKL 57
9 of 94	17	47 DILEKTHNGKLCDLDGV 63
10 of 94	17	53 HNGKLCDLDGVKPLILR 69
11 of 94	17	59 DLDGVKPLILRDCSVAG 75
12 of 94	17	65 PLILRDCSVAGWLLGNP 81
13 of 94	17	71 CSVAGWLLGNPMCDEFI 87
14 of 94	17	77 LLGNPMCDEFINVPEWS 93
15 of 94	17	83 CDEFINVPEWSYIVEKA 99
16 of 94	17	89 VPEWSYIVEKANPVNDL 105
17 of 94	17	95 IVEKANPVNDLCYPGDF 111
18 of 94	17	101 PVNDLCYPGDFNDYEEL 117
19 of 94	17	107 YPGDFNDYEELKHLLSR 123
20 of 94	17	113 DYEELKHLLSRINHFEK 129
21 of 94	17	119 HLLSRINHFEKIQIIPK 135
22 of 94	17	125 NHFEKIQIIPKSSWSSH 141
23 of 94	17	130 IQIIPKSSWSSHEASLG 146
24 of 94	17	136 SSWSSHEASLGVSSACP 152
25 of 94	17	142 EASLGVSSACPYQGKSS 158
26 of 94	17	148 SSACPYQGKSSFFRNVV 164
27 of 94	17	153 YQGKSSFFRNVVWLIKK 169
28 of 94	17	159 FFRNVVWLIKKNSTYPT 175
29 of 94	17	165 WLIKKNSTYPTIKRSYN 181
30 of 94	17	171 STYPTIKRSYNNTNQED 187

Peptide	Length	Sequence
31 of 94	17	177 KRSYNNTNQEDLLVLWG 193
32 of 94	17	183 TNQEDLLVLWGIHHPND 199
33 of 94	17	189 LVLWGIHHPNDAAEQTK 205
34 of 94	17	195 HHPNDAAEQTKLYQNPT 211
35 of 94	17	201 AEQTKLYQNPTTYISVG 217
36 of 94	17	207 YQNPTTYISVGTSTLNQ 223
37 of 94	17	213 YISVGTSTLNQRLVPRI 229
38 of 94	17	219 STLNQRLVPRIATRSKV 235
39 of 94	17	225 LVPRIATRSKVNGQSGR 241
40 of 94	17	231 TRSKVNGQSGRMEFFWT 247
41 of 94	17	237 GQSGRMEFFWTILKPND 253
42 of 94	17	243 EFFWTILKPNDAINFES 259
43 of 94	17	249 LKPNDAINFESNGNFIA 265
44 of 94	17	255 INFESNGNFIAPEYAYK 271
45 of 94	17	261 GNFIAPEYAYKIVKKGD 277
46 of 94	17	267 EYAYKIVKKGDSTIMKS 283
47 of 94	17	273 VKKGDSTIMKSELEYGN 289
48 of 94	17	279 TIMKSELEYGNCNTKCQ 295
49 of 94	17	285 LEYGNCNTKCQTPMGAI 301
50 of 94	17	291 NTKCQTPMGAINSSMPF 307
51 of 94	17	297 PMGAINSSMPFHNIHPL 313
52 of 94	17	303 SSMPFHNIHPLTIGECP 319
53 of 94	17	309 NIHPLTIGECPKYVKSN 325
54 of 94	17	315 IGECPKYVKSNRLVLAT 331
55 of 94	17	321 YVKSNRLVLATGLRNSP 337
56 of 94	17	327 LVLATGLRNSPQRERRR 343
57 of 94	17	333 LRNSPQRERRRKKRGLF 349
58 of 94	17	339 RERRRKKRGLFGAIAGF 355
59 of 94	17	345 KRGLFGAIAGFIEGGWQ 361
60 of 94	17	351 AIAGFIEGGWQGMVDGW 367
61 of 94	17	357 EGGWQGMVDGWYGYHHS 373
62 of 94	17	363 MVDGWYGYHHSNEQGSG 379
63 of 94	17	369 GYHHSNEQGSGYAADKE 385
64 of 94	17	375 EQGSGYAADKESTQKAI 391
65 of 94	17	381 AADKESTQKAIDGVTNK 397
66 of 94	17	387 TQKAIDGVTNKVNSIID 403
67 of 94	17	393 GVTNKVNSIIDKMNTQF 409
68 of 94	17	399 NSIIDKMNTQFEAVGRE 415
69 of 94	17	405 MNTQFEAVGREFNNLER 421
70 of 94	17	411 AVGREFNNLERRIENLN 427

Peptide	Length	Sequence
71 of 94	17	417 NNLERRIENLNKKMEDG 433
72 of 94	17	423 IENLNKKMEDGFLDVWT 439
73 of 94	17	429 KMEDGFLDVWTYNAELL 445
74 of 94	17	435 LDVWTYNAELLVLMENE 451
75 of 94	17	441 NAELLVLMENERTLDFH 457
76 of 94	17	447 LMENERTLDFHDSNVKN 463
77 of 94	17	453 TLDFHDSNVKNLYDKVR 469
78 of 94	17	459 SNVKNLYDKVRLQLRDN 475
79 of 94	17	465 YDKVRLQLRDNAKELGN 481
80 of 94	17	470 LQLRDNAKELGNGCFEF 486
81 of 94	17	476 AKELGNGCFEFYHKCDN 492
82 of 94	17	482 GCFEFYHKCDNECMESV 498
83 of 94	17	488 HKCDNECMESVRNGTYD 504
84 of 94	17	494 CMESVRNGTYDYPQYSE 510
85 of 94	17	500 NGTYDYPQYSEEARLKR 516
86 of 94	17	506 PQYSEEARLKREEISGV 522
87 of 94	17	512 ARLKREEISGVKLESIG 528
88 of 94	17	518 EISGVKLESIGIYQILS 534
89 of 94	17	524 LESIGIYQILSIYSTVA 540
90 of 94	17	530 YQILSIYSTVASSLALA 546
91 of 94	17	536 YSTVASSLALAIMVAGL 552
92 of 94	17	542 SLALAIMVAGLSLWMCS 558
93 of 94	16	548 MVAGLSLWMCSNGSLQ 563
94 of 94	16	553 SLWMCSNGSLQCRICI 568

Table 2			
Peptide	**Solubility**	**Solvent**	**Reconstitution pH, if required**
1 of 94	1 mg/mL	Formic acid	pH 1.0
2 of 94	1 mg/mL	Water	
3 of 94	1 mg/mL	Water	
4 of 94	1 mg/mL	5% ammonium hydroxide in water	pH 11.0
5 of 94	1 mg/mL	5% ammonium hydroxide in water	pH 11.0
6 of 94	1 mg/mL	Water	
7 of 94	1 mg/mL	Water	
8 of 94	1 mg/mL	Water	
9 of 94	1 mg/mL	Water	
10 of 94	1 mg/mL	Water	

Table 2			
Peptide	**Solubility**	**Solvent**	**Reconstitution pH, if required**
11 of 94	1 mg/mL	Water	
12 of 94	1 mg/mL	Water	
13 of 94	1 mg/mL	Water	
14 of 94	1 mg/mL	5% ammonium hydroxide in water	pH 11.0
15 of 94	1 mg/mL	5% ammonium hydroxide in water	pH 11.0
16 of 94	1 mg/mL	Water	
17 of 94	1 mg/mL	Water	
18 of 94	1 mg/mL	5% ammonium hydroxide in water	pH 11.0
19 of 94	1 mg/mL	Water	
20 of 94	1 mg/mL	Water	
21 of 94	1 mg/mL	Water	
22 of 94	1 mg/mL	Water	
23 of 94	1 mg/mL	Water	
24 of 94	1 mg/mL	Water	
25 of 94	1 mg/mL	Water	
26 of 94	1 mg/mL	Water	
27 of 94	1 mg/mL	Water	
28 of 94	1 mg/mL	Water	
29 of 94	1 mg/mL	Water	
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	Water	
42 of 94	1 mg/mL	5% ammonium hydroxide in water	pH 11.0
43 of 94	1 mg/mL	Water	
44 of 94	1 mg/mL	Water	
45 of 94	1 mg/mL	Water	
46 of 94	1 mg/mL	Water	
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	5% ammonium hydroxide in water	pH 11.0
56 of 94	1 mg/mL	Water	
57 of 94	1 mg/mL	Water	
58 of 94	1 mg/mL	Water	
59 of 94	1 mg/mL	Water	
60 of 94	1 mg/mL	5% ammonium hydroxide in water	pH 11.0
61 of 94	1 mg/mL	5% ammonium hydroxide in water	pH 11.0
62 of 94	1 mg/mL	Water	
63 of 94	1 mg/mL	Water	
64 of 94	1 mg/mL	Water	
65 of 94	1 mg/mL	Water	
66 of 94	1 mg/mL	Water	
67 of 94	1 mg/mL	Water	
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	Water	
74 of 94	1 mg/mL	5% ammonium hydroxide in water	pH 11.0
75 of 94	1 mg/mL	5% ammonium hydroxide in water	pH 11.0
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	5% ammonium hydroxide in water	pH 11.0
83 of 94	1 mg/mL	Water	
84 of 94	1 mg/mL	5% ammonium hydroxide in water	pH 11.0
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 11.0
89 of 94	1 mg/mL	50% formic acid and 50% acetonitrile	pH 1.0
90 of 94	1 mg/mL	50% formic acid and 50% acetonitrile	pH 1.0

Table 2			
Peptide	**Solubility**	**Solvent**	**Reconstitution pH, if required**
91 of 94	1 mg/mL	5% ammonium hydroxide in acetonitrile	pH 10.0
92 of 94	1 mg/mL	5% ammonium hydroxide in acetonitrile	pH 10.0
93 of 94	1 mg/mL	5% ammonium hydroxide in water	pH 11.0
94 of 94	1 mg/mL	5% ammonium hydroxide in water	pH 11.0

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