

Peptide Array, *Mycobacterium tuberculosis* Antigen 85A

Catalog No. NR-34827

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Contributor:

BEI Resources

Manufacturer:

Bio-Synthesis, Inc.

Product Description:

The 71-peptide array spans antigen 85A of the bacterium *Mycobacterium tuberculosis* (UniProt: P0A4V2). The initial 43-amino-acid signal peptide has been excluded; therefore the array starts from a mature N-terminus.¹ Peptides are 15-mers, with 11 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 -20°C 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).

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. Peptides that are not soluble in water can almost always be dissolved in DMSO. Once a peptide is in solution, the DMSO can be slowly diluted 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 -20°C or colder. For long-term storage, peptides should be re-lyophilized and stored at -20°C or colder. If long-term storage in solution is unavoidable, peptide solutions should be buffered to pH 5 to 6, aliquoted and stored at -20°C 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, *Mycobacterium tuberculosis* Antigen 85A, NR-34827.”

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/bmb15/index.htm.

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References:

1. Målen, H., F. S. Berven, K. E. Fladmark and H. G. Wiker. "Comprehensive Analysis of Exported Proteins from *Mycobacterium tuberculosis* H37Rv." *Proteomics* 7 (2007): 1702-1718. PubMed: 17443846.

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Table 1		
Peptide	Length	Sequence
1 of 71	15	1-FSRPGLPVEYLQVPS-15
2 of 71	15	5-GLPVEYLQVPSPSMG-19
3 of 71	15	9-EYLQVPSPSMGRDIK-23
4 of 71	15	13-VPSPSMGRDIKVQFQ-27
5 of 71	15	17-SMGRDIKVQFQSGGA-31
6 of 71	15	21-DIKVQFQSGGANSPA-35
7 of 71	15	25-QFQSGGANSPALYLL-39
8 of 71	15	29-GGANSPALYLLDGLR-43
9 of 71	15	33-SPALYLLDGLRAQDD-47
10 of 71	15	37-YLLDGLRAQDDFSGW-51
11 of 71	15	41-GLRAQDDFSGWDINT-55
12 of 71	15	45-QDDFSGWDINTPAFE-59
13 of 71	15	49-SGWDINTPAFEWYDQ-63
14 of 71	15	53-INTPAFEWYDQSGLS-67
15 of 71	15	57-AFEWYDQSGLSVVMP-71
16 of 71	15	61-YDQSGLSVVMPVGGQ-75
17 of 71	15	65-GLSVVMPVGGQSSFY-79
18 of 71	15	69-VMPVGGQSSFYSDWY-83
19 of 71	15	73-GGQSSFYSDWYQPAC-87
20 of 71	15	77-SFYSDWYQPACGKAG-91
21 of 71	15	81-DWYQPACGKAGCQTY-95
22 of 71	15	85-PACGKAGCQTYKWET-99
23 of 71	15	89-KAGCQTYKWETFLTS-103
24 of 71	15	93-QTYKWETFLTSELPG-107
25 of 71	15	97-WETFLTSELPGWLQA-111
26 of 71	15	101-LTSELPGWLQANRHV-115
27 of 71	15	105-LPGWLQANRHVKPTG-119
28 of 71	15	109-LQANRHVKPTGSAVV-123
29 of 71	15	113-RHVKPTGSAVVGLSM-127
30 of 71	15	117-PTGSAVVGLSMAASS-131
31 of 71	15	121-AVVGLSMAASSALTL-135
32 of 71	15	125-LSMAASSALTLAIYH-139
33 of 71	15	129-ASSALTLAIYHPQQF-143

Table 1		
Peptide	Length	Sequence
34 of 71	15	133-LTLAIYHPQQFVYAG-147
35 of 71	15	137-IYHPQQFVYAGAMSG-151
36 of 71	15	141-QQFVYAGAMSGLLDP-155
37 of 71	15	145-YAGAMSGLLDPSQAM-159
38 of 71	15	149-MSGLLDPSQAMGPTL-163
39 of 71	15	153-LDPSQAMGPTLIGLA-167
40 of 71	15	157-QAMGPTLIGLAMGDA-171
41 of 71	15	161-PTLIGLAMGDAGGYK-175
42 of 71	15	165-GLAMGDAGGYKASDM-179
43 of 71	15	169-GDAGGYKASDMWGP-183
44 of 71	15	173-GYKASDMWGPKEPA-187
45 of 71	15	177-SDMWGPKEPAWQRN-191
46 of 71	15	181-GPKEPAWQRNDPLL-195
47 of 71	15	185-DPAWQRNDPLLNVGK-199
48 of 71	15	189-QRNDPLLNVGKLIAN-203
49 of 71	15	193-PLLNVGKLIANNTRV-207
50 of 71	15	197-VGKLIANNTRVVVYC-211
51 of 71	15	201-IANNTRVVVYCGNGK-215
52 of 71	15	205-TRVVVYCGNGKPSDL-219
53 of 71	15	209-VYCGNGKPSDLGGNN-223
54 of 71	15	213-NGKPSDLGGNNLPAK-227
55 of 71	15	217-SDLGGNNLPAKFLEG-231
56 of 71	15	221-GNNLPAKFLEGFVRT-235
57 of 71	15	225-PAKFLEGFVRTSNIK-239
58 of 71	15	229-LEGFVRTSNIKFQDA-243
59 of 71	15	233-VRTSNIKFQDAYNAG-247
60 of 71	15	237-NIKFQDAYNAGGGHN-251
61 of 71	15	241-QDAYNAGGGHNGVFD-255
62 of 71	15	245-NAGGGHNGVDFPDS-259
63 of 71	15	249-GHNGVDFPDSGTHS-263
64 of 71	15	253-VDFPDSGTHSWEYW-267
65 of 71	15	257-PDSGTHSWEYWG AQL-271
66 of 71	15	261-THSWEYWG AQLNAMK-275
67 of 71	15	265-EYWGAQLNAMK PDLQ-279
68 of 71	15	269-AQLNAMK PDLQRALG-283
69 of 71	15	273-AMK PDLQRALGATPN-287
70 of 71	15	277-DLQRALGATPNTGPA-291
71 of 71	15	281-ALGATPNTGPAPQGA-295

Table 2		
Peptide	Solubility	Solvent
1 of 71	1 mg/mL	0.05% trifluoroacetic acid in water
2 of 71	1 mg/mL	0.05% trifluoroacetic acid in water
3 of 71	1 mg/mL	0.05% trifluoroacetic acid in water
4 of 71	1 mg/mL	0.05% trifluoroacetic acid in water
5 of 71	1 mg/mL	100% DMSO
6 of 71	1 mg/mL	0.05% trifluoroacetic acid in water
7 of 71	1 mg/mL	50% acetonitrile and 0.05% trifluoroacetic acid in water
8 of 71	1 mg/mL	0.05% trifluoroacetic acid in water
9 of 71	1 mg/mL	0.05% trifluoroacetic acid in water
10 of 71	1 mg/mL	0.05% trifluoroacetic acid in water
11 of 71	1 mg/mL	50% acetonitrile and 0.05% trifluoroacetic acid in water
12 of 71	1 mg/mL	100% DMSO
13 of 71	1 mg/mL	0.05% trifluoroacetic acid in water
14 of 71	1 mg/mL	50% acetonitrile and 0.05% trifluoroacetic acid in water
15 of 71	1 mg/mL	70% acetonitrile in water
16 of 71	1 mg/mL	70% acetonitrile in water
17 of 71	1 mg/mL	70% acetonitrile and 30% formic acid in water
18 of 71	1 mg/mL	70% acetonitrile and 30% formic acid in water
19 of 71	1 mg/mL	70% acetonitrile and 30% formic acid in water
20 of 71	1 mg/mL	70% acetonitrile in water
21 of 71	1 mg/mL	70% acetonitrile in water
22 of 71	1 mg/mL	70% acetonitrile and 30% formic acid in water
23 of 71	1 mg/mL	70% acetonitrile and 30% formic acid in water
24 of 71	1 mg/mL	70% acetonitrile and 30% formic acid in water
25 of 71	1 mg/mL	70% acetonitrile and 30% formic acid in water
26 of 71	1 mg/mL	70% acetonitrile in water
27 of 71	1 mg/mL	70% acetonitrile in water
28 of 71	1 mg/mL	70% acetonitrile in water
29 of 71	1 mg/mL	70% acetonitrile and 30% formic acid in water
30 of 71	1 mg/mL	100% DMSO
31 of 71	1 mg/mL	70% acetonitrile and 30% formic acid in water
32 of 71	1 mg/mL	70% acetonitrile and 30% formic acid in water
33 of 71	1 mg/mL	0.05% trifluoroacetic acid in water
34 of 71	1 mg/mL	70% acetonitrile in water
35 of 71	1 mg/mL	70% acetonitrile in water
36 of 71	1 mg/mL	70% acetonitrile in water
37 of 71	1 mg/mL	0.05% trifluoroacetic acid in water
38 of 71	1 mg/mL	70% acetonitrile in water
39 of 71	1 mg/mL	0.05% trifluoroacetic acid in water
40 of 71	1 mg/mL	0.05% trifluoroacetic acid in water

Table 2		
Peptide	Solubility	Solvent
41 of 71	1 mg/mL	70% acetonitrile in water
42 of 71	1 mg/mL	0.05% trifluoroacetic acid in water
43 of 71	1 mg/mL	30% acetonitrile in water
44 of 71	1 mg/mL	0.05% trifluoroacetic acid in water
45 of 71	1 mg/mL	0.05% trifluoroacetic acid in water
46 of 71	1 mg/mL	0.05% trifluoroacetic acid in water
47 of 71	1 mg/mL	Water
48 of 71	1 mg/mL	Water
49 of 71	1 mg/mL	50% acetic acid in water
50 of 71	1 mg/mL	30% formic acid in water
51 of 71	1 mg/mL	30% formic acid in water
52 of 71	1 mg/mL	Water
53 of 71	1 mg/mL	Water
54 of 71	1 mg/mL	Water
55 of 71	1 mg/mL	Water
56 of 71	1 mg/mL	Water
57 of 71	1 mg/mL	30% formic acid in water
58 of 71	1 mg/mL	0.05% trifluoroacetic acid in water
59 of 71	1 mg/mL	70% acetonitrile in water
60 of 71	1 mg/mL	0.05% trifluoroacetic acid in water
61 of 71	1 mg/mL	70% acetonitrile in water
62 of 71	1 mg/mL	0.05% trifluoroacetic acid in water
63 of 71	1 mg/mL	0.05% trifluoroacetic acid in water
64 of 71	1 mg/mL	0.05% trifluoroacetic acid in water
65 of 71	1 mg/mL	70% acetonitrile in water
66 of 71	1 mg/mL	0.05% trifluoroacetic acid in water
67 of 71	1 mg/mL	70% acetonitrile in water
68 of 71	1 mg/mL	70% acetonitrile in water
69 of 71	1 mg/mL	70% acetonitrile in water
70 of 71	1 mg/mL	70% acetonitrile in water
71 of 71	1 mg/mL	70% acetonitrile in water