

Peptide Array, *Mycobacterium tuberculosis* CFP-10 Protein

Catalog No. NR-34825

This reagent is the tangible property of the U.S. Government.

For research use only. Not for human use.

Contributor:

BEI Resources

Manufacturer:

Bio-Synthesis, Inc.

Product Description:

The 22-peptide array spans the 10 kDa culture filtrate protein (CFP-10; ESAT-6-like esxB) of the bacterium *Mycobacterium tuberculosis* (UniProt: P0A566). Peptides are 15- or 16-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 5-6, 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* CFP-10 Protein, NR-34825.”

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.

Disclaimers:

You are authorized to use this product for research use only. It is not intended for human use.

Use of this product is subject to the terms and conditions of the BEI Resources Material Transfer Agreement (MTA). The MTA is available on our Web site at www.beiresources.org.

While BEI Resources uses reasonable efforts to include accurate and up-to-date information on this product sheet, neither ATCC® nor the U.S. Government makes any warranties or representations as to its accuracy. Citations from scientific literature and patents are provided for informational purposes only. Neither ATCC® nor the U.S. Government warrants that such information has been confirmed to be accurate.

This product is sent with the condition that you are responsible for its safe storage, handling, use and disposal. ATCC® and the U.S. Government are not liable for any damages or injuries arising from receipt and/or use of this product. While reasonable effort is made to ensure authenticity and reliability of materials on deposit, the U.S. Government, ATCC®, their suppliers and contributors to BEI Resources are not liable for damages arising from the misidentification or misrepresentation of products.

Use Restrictions:

This material is distributed for internal research, non-commercial purposes only. This material, its product or its derivatives may not be distributed to third parties. Except as performed under a U.S. Government contract, individuals contemplating commercial use of the material, its products or its derivatives must contact the contributor to determine if a license is required. U.S. Government contractors may need

a license before first commercial sale. This material may be subject to third party patent rights.

ATCC® is a trademark of the American Type Culture Collection.



Table 1		
Peptide	Length	Sequence
1 of 22	15	1-MAEMKTDAATLAQEA-15
2 of 22	15	5-KTDAATLAQEAGNFE-19
3 of 22	15	9-ATLAQEAGNFERISG-23
4 of 22	15	13-QEAGNFERISGDLKT-27
5 of 22	15	17-NFERISGDLKTQIDQ-31
6 of 22	15	21-ISGDLKTQIDQVEST-35
7 of 22	15	25-LKTQIDQVESTAGSL-39
8 of 22	15	29-IDQVESTAGSLQGQW-43
9 of 22	15	33-ESTAGSLQGQWRGAA-47
10 of 22	15	37-GSLQGQWRGAAAGTAA-51
11 of 22	15	41-GQWRGAAAGTAAQAAV-55
12 of 22	15	45-GAAGTAAQAAVRFQ-59
13 of 22	15	49-TAAQAAVRFQEAAN-63
14 of 22	15	53-AAVRFQEAANKQKQ-67
15 of 22	15	57-RFQEAANKQKQELDE-71
16 of 22	15	61-AANKQKQELDEISTN-75
17 of 22	15	65-QKQELDEISTNIRQA-79
18 of 22	15	69-LDEISTNIRQAGVQY-83
19 of 22	15	73-STNIRQAGVQYSRAD-87
20 of 22	15	77-RQAGVQYSRADEEQQ-91
21 of 22	15	81-VQYSRADEEQQALS-95
22 of 22	16	85-RADEEQQALSSQMGF-100

Table 2		
Peptide	Solubility	Solvent
1 of 22	1 mg/mL	30% formic acid in water
2 of 22	1 mg/mL	30% formic acid in water
3 of 22	1 mg/mL	30% formic acid in water
4 of 22	1 mg/mL	30% formic acid in water
5 of 22	1 mg/mL	30% formic acid in water
6 of 22	1 mg/mL	30% formic acid in water
7 of 22	1 mg/mL	30% formic acid in water
8 of 22	1 mg/mL	30% formic acid in water
9 of 22	1 mg/mL	30% formic acid in water
10 of 22	1 mg/mL	30% formic acid in water
11 of 22	1 mg/mL	70% acetonitrile and 30% formic acid in water
12 of 22	1 mg/mL	70% acetonitrile and 30% formic acid in water
13 of 22	1 mg/mL	70% acetonitrile and 30% formic acid in water
14 of 22	1 mg/mL	70% acetonitrile in water
15 of 22	1 mg/mL	70% acetonitrile in water
16 of 22	1 mg/mL	70% acetonitrile in water
17 of 22	1 mg/mL	70% acetonitrile and 30% formic acid in water
18 of 22	1 mg/mL	70% acetonitrile and 30% formic acid in water
19 of 22	1 mg/mL	70% acetonitrile and 30% formic acid in water
20 of 22	1 mg/mL	70% acetonitrile and 30% formic acid in water
21 of 22	1 mg/mL	70% acetonitrile and 30% formic acid in water
22 of 22	1 mg/mL	30% formic acid in water