

Peptide Array, *Mycobacterium tuberculosis* ESAT-6 Protein

Catalog No. NR-50711

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Product Description: The 21-peptide array spans the 6-kDa early secretory antigenic target (ESAT-6) protein of the bacterium *Mycobacterium tuberculosis* (UniProt: P0A564). Peptides are 15- or 16-mers, with 11 or 12 amino acid overlaps.

Lot: P50711-1 to P50711-21

The following information applies to all peptides:

- Appearance White lyophilized powder
- Mass spectral analysis Correct MW by MALDI or Electrospray
- Counter Ion Trifluoroacetate

Peptide-specific information is shown in the tables below.

Table 1						
Peptide	Date of Mfg.	Length	Sequence	Molecular Weight (amu)	Purity by HPLC ^a	Peptide Content ^b
1 of 21	4/13/2017	15	1-MTEQQWNFAGIEAAA-15	1667	98.6%	63.0%
2 of 21	4/12/2017	15	5-QWNFAGIEAAASAIQ-19	1577	88%	76.2%
3 of 21	4/7/2017	15	9-AGIEAAASAIQGNVT-23	1372	88%	79.9%
4 of 21	4/13/2017	15	13-AAASAIQGNVTSIHS-27	1427	80%	65.2%
5 of 21	4/7/2017	15	17-AIQGNVTSIHSLLDE-31	1597	91.9%	69.8%
6 of 21	4/7/2017	15	21-NVTSIHSLLDEGKQS-35	1628	92%	83.2%
7 of 21	4/7/2017	15	25-IHSLLDEGKQSLTKL-39	1682	90%	81.7%
8 of 21	4/17/2017	16	29-LDEGKQSLTKLAAAWG-44	1688	99.8%	74.9%
9 of 21	4/7/2017	15	33-KQSLTKLAAAWGGSG-47	1475	80%	82.4%
10 of 21	4/7/2017	15	37-TKLAAAWGGSGSEAY-51	1469	80%	84.5%
11 of 21	4/7/2017	15	41-AAWGGSGSEAYQGVQ-55	1468	92%	60.4%
12 of 21	4/7/2017	15	45-GSGSEAYQGVQKWD-59	1640	90%	77.9%
13 of 21	4/7/2017	15	49-EAYQGVQKWDATAT-63	1696	84%	72.3%
14 of 21	4/7/2017	15	53-GVQKWDATATELNN-67	1675	87%	81.6%
15 of 21	4/13/2017	15	57-KWDATATELNNALQN-71	1689	83.5%	74.0%
16 of 21	4/7/2017	15	61-TATELNNALQNLART-75	1630	85%	89.9%
17 of 21	4/7/2017	15	65-LNNALQNLARTISEA-79	1628	85%	80.2%
18 of 21	4/7/2017	15	69-LQNLARTISEAGQAM-83	1603	85%	67.1%
19 of 21	4/7/2017	15	73-ARTISEAGQAMASTE-87	1523	90%	86.4%
20 of 21	4/7/2017	15	77-SEAGQAMASTEGNVT-91	1453	81%	77.7%
21 of 21	4/14/2017	15	81-QAMASTEGNVTGMFA-95	1515	80%	80.6%

^a% full-length
^bRemainder is salt and water

Table 2 - Amino Acid Analysis

Peptide		Ala (A)	Arg (R)	Asx (N,D)	Cys (C)	Glx (Q,E)	Gly (G)	His (H)	Ile (I)	Leu (L)	Lys (K)	Met (M)	Phe (F)	Pro (P)	Ser (S)	Thr (T)	Trp (W)	Tyr (Y)	Val (V)
1 of 21	Expected	4.00		1.00		4.00	1.00		1.00			1.00	1.00			1.00	1.00		
	Actual	3.79		1.06		3.82	1.03		0.99			0.00 ^a	1.08			0.94	0.00 ^b		
2 of 21	Expected	5.00		1.00		3.00	1.00		2.00				1.00		1.00		1.00		
	Actual	4.82		1.01		2.96	1.08		1.98				1.04		0.98		0.00 ^b		
3 of 21	Expected	5.00		1.00		2.00	2.00		2.00						1.00	1.00			1.00
	Actual	4.96		1.03		2.01	2.11		2.06						0.96	0.94			1.03
4 of 21	Expected	4.00		1.00		1.00	1.00	1.00	2.00						3.00	1.00			1.00
	Actual	3.91		1.03		1.02	1.06	1.03	1.99						2.82	0.97			1.03
5 of 21	Expected	1.00		2.00		2.00	1.00	1.00	2.00	2.00					2.00	1.00			1.00
	Actual	1.02		1.97		1.88	1.03	1.01	1.98	2.03					1.30 ^c	0.77 ^c			1.00
6 of 21	Expected			2.00		2.00	1.00	1.00	1.00	2.00	1.00				3.00	1.00			1.00
	Actual			1.91		1.94	1.05	1.02	0.99	2.02	1.01				1.80 ^c	0.76 ^c			1.00
7 of 21	Expected			1.00		2.00	1.00	1.00	1.00	4.00	2.00				2.00	1.00			
	Actual			1.02		2.03	1.04	0.81	0.79	4.07	2.10				1.89	0.97			
8 of 21	Expected	3.00		1.00		2.00	2.00			3.00	2.00				1.00	1.00	1.00		
	Actual	2.95		1.01		2.03	2.07			3.09	2.05				0.96 ^c	0.98 ^c	0.00 ^b		
9 of 21	Expected	3.00				1.00	3.00			2.00	2.00				2.00	1.00	1.00		
	Actual	3.00				1.00	3.06			2.09	2.09				1.89	0.99	0.00 ^b		
10 of 21	Expected	4.00				1.00	3.00			1.00	1.00				2.00	1.00	1.00	1.00	
	Actual	3.96				1.02	3.11			1.06	1.04				1.95	0.99	0.00 ^b	0.95	
11 of 21	Expected	3.00				3.00	4.00								2.00		1.00	1.00	1.00
	Actual	3.07				3.05	4.31								2.03		0.00 ^b	1.00	0.91
12 of 21	Expected	1.00		1.00		4.00	3.00				1.00				2.00		1.00	1.00	1.00
	Actual	1.01		1.01		4.08	3.15				1.02				1.88		0.00 ^b	0.94	1.06
13 of 21	Expected	3.00		1.00		4.00	1.00				1.00					2.00	1.00	1.00	1.00
	Actual	2.90		1.02		4.09	1.02				1.04					1.88	0.00 ^b	0.99	1.39
14 of 21	Expected	2.00		3.00		3.00	1.00			1.00	1.00					2.00	1.00		1.00
	Actual	1.96		2.91		3.07	1.02			1.01	1.04					1.93	0.00 ^b		1.00
15 of 21	Expected	3.00		4.00		2.00				2.00	1.00					2.00	1.00		
	Actual	2.97		3.94		2.03				2.06	1.00					1.96	0.00 ^b		
16 of 21	Expected	3.00	1.00	3.00		2.00				3.00						3.00			
	Actual	2.91	1.11	3.06		2.02				3.08						2.87			
17 of 21	Expected	3.00	1.00	3.00		2.00			1.00	3.00					1.00	1.00			
	Actual	2.91	1.15	2.86		1.96			1.02	3.11					0.66 ^c	0.80 ^c			
18 of 21	Expected	3.00	1.00	1.00		3.00	1.00		1.00	2.00		1.00			1.00	1.00			
	Actual	2.92	1.09	1.01		2.99	1.02		1.00	2.01		0.00 ^a			0.57 ^c	0.73 ^c			
19 of 21	Expected	4.00	1.00			3.00	1.00		1.00			1.00			2.00	2.00			
	Actual	3.92	1.07			3.02	1.04		1.01			0.00 ^a			1.24 ^c	1.57 ^c			
20 of 21	Expected	3.00		1.00		3.00	2.00					1.00			2.00	2.00			1.00
	Actual	1.65		1.05		3.04	2.12					0.00 ^a			1.24 ^c	1.63 ^c			1.07
21 of 21	Expected	3.00		1.00		2.00	2.00					2.00	1.00		1.00	2.00			1.00
	Actual	2.85		1.00		1.64	2.06					0.00 ^a	0.99		0.57 ^c	1.59 ^c			1.03

^aMet was completely destroyed during hydrolysis.

^bTrp was completely destroyed during hydrolysis.

^cThis peptide required extended hydrolysis, which degrades Ser and Thr.

Peptide	Sequence	Solubility	Solvent
1 of 21	1-MTEQQWNFAGIEAAA-15	5 mg/mL	100% dimethylsulfoxide (DMSO)
2 of 21	5-QWNFAGIEAAASAIQ-19	5 mg/mL	100% DMSO
3 of 21	9-AGIEAAASAIQGNVT-23	5 mg/mL	50% acetonitrile / 50% water
4 of 21	13-AAASAIQGNVTSIHS-27	5 mg/mL	50% acetonitrile / 50% water
5 of 21	17-AIQGNVTSIHSLLDE-31	5 mg/mL	50% acetonitrile / 50% water
6 of 21	21-NVTSIHSLLDEGKQS-35	5 mg/mL	50% acetonitrile / 50% water
7 of 21	25-IHSLLDEGKQSLTKL-39	5 mg/mL	50% acetonitrile / 50% water
8 of 21	29-LDEGKQSLTKLAAAWG-44	5 mg/mL	50% acetonitrile / 50% water
9 of 21	33-KQSLTKLAAAWGGSG-47	5 mg/mL	50% acetonitrile / 50% water
10 of 21	37-TKLAAAWGGSGSEAY-51	5 mg/mL	50% acetonitrile / 50% water
11 of 21	41-AAWGGSGSEAYQGVQ-55	5 mg/mL	100% DMSO
12 of 21	45-GSGSEAYQGVQKWD-59	5 mg/mL	50% acetonitrile / 50% water
13 of 21	49-EAYQGVQKWDATAT-63	5 mg/mL	50% acetonitrile / 50% water
14 of 21	53-GVQKWDATATELNN-67	5 mg/mL	50% acetonitrile / 50% water
15 of 21	57-KWDATATELNNALQN-71	5 mg/mL	50% acetonitrile / 50% water
16 of 21	61-TATELNNALQNLART-75	5 mg/mL	50% acetonitrile / 50% water
17 of 21	65-LNNALQNLARTISEA-79	5 mg/mL	50% acetonitrile / 50% water
18 of 21	69-LQNLARTISEAGQAM-83	5 mg/mL	50% acetonitrile / 50% water
19 of 21	73-ARTISEAGQAMASTE-87	5 mg/mL	50% acetonitrile / 50% water
20 of 21	77-SEAGQAMASTEGNVT-91	5 mg/mL	100% DMSO
21 of 21	81-QAMASTEGNVTGMFA-95	5 mg/mL	100% DMSO

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