

Peptide Array, SARS-Related Coronavirus 2 Non-Structural Protein 7 (NSP7)

Catalog No. NR-58701

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Product Description:

The 15-peptide array spans the non-structural protein 7 (NSP7) of the WIV04 strain of severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2; GenPept: [QHR63259](#)). Peptides are 13- or 15-mers, with 10 amino acid overlaps.

Lot: 70057718

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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 and figures below.

Table 1: Peptide Analysis

Peptide	Date of Manufacturing	Length	Sequence	Molecular Weight (amu)	Purity by HPLC ^{1,2}	Peptide Content ³
1 of 15	12/6/2022	15	1-SKMSDVKCTSVVLLS-15	1596.87	81.2%	78.9%
2 of 15	12/6/2022	15	6-VKCTSVVLLSVLQQL-20	1630.05	85.2%	80.0%
3 of 15	12/6/2022	15	11-VVLLSVLQQLRVES-25	1670.03	93.8%	90.4%
4 of 15	12/8/2022	15	16-VLQQLRVESSSKLWA-30	1744.10	94.3%	70.8%
5 of 15	11/16/2022	15	21-RVESSSKLWAQCVQL-35	1733.93	80.3%	81.5%
6 of 15	11/16/2022	15	26-SKLWAQCVQLHNDIL-40	1768.06	100.0%	74.2%
7 of 15	10/25/2022	15	31-QCVQLHNDILLAKDT-45	1711.18	98.7%	83.7%
8 of 15	11/16/2022	15	36-HNDILLAKDTTEAFE-50	1717.04	95.2%	77.0%
9 of 15	10/17/2022	15	41-LAKDTTEAFEKVMVSL-55	1682.96	100.0%	82.0%
10 of 15	12/6/2022	15	46-TEAFEKVMVSLSVLL-60	1680.87	93.7%	77.6%
11 of 15	12/9/2022	15	51-KMVSLSVLLSMQGA-65	1576.94	84.4%	75.5%
12 of 15	12/8/2022	15	56-LSVLLSMQGAVDINK-70	1588.90	80.0%	90.7%
13 of 15	12/8/2022	15	61-SMQGAVDINKLCEEM-75	1667.80	99.3%	89.0%
14 of 15	12/6/2022	15	66-VDINKLCEEMLDNRA-80	1762.95	91.0%	85.3%
15 of 15	10/29/2022	13	71-LCEEMLDNRATLQ-83	1535.82	96.8%	82.8%

¹Percent full-length peptide. HPLC peaks for both target and pyroglutamyl (pGlu) forms of Peptide 7 were counted for final purity.

²HPLC analysis is inconclusive for Peptide 12 due to the hydrophobic nature of the sequence so purity instead is based on mass spectral analysis. Peptide was unable to be purified on a column due to high hydrophobicity and poor solubility, and all material was dialyzed.

³Remainder is salt and water

Figure 1: Amino Acid Analysis⁴

Peptide		Ala (A)	Arg (R)	Asx (N,D)	Glx (Q,E)	Gly (G)	His (H)	Ile (I)	Leu (L)	Lys (K)	Phe (F)	Pro (P)	Tyr (Y)	Val (V)
1 of 15	Expected			1.00					2.00	2.00				3.00
	Actual			0.97					2.13	1.95				2.97
2 of 15	Expected				2.00				4.00	1.00				4.00
	Actual				2.04				4.18	0.96				3.92

Figure 1: Amino Acid Analysis (continued)⁴

Peptide		Ala (A)	Arg (R)	Asx (N,D)	Glx (Q,E)	Gly (G)	His (H)	Ile (I)	Leu (L)	Lys (K)	Phe (F)	Pro (P)	Tyr (Y)	Val (V)
3 of 15	Expected		1.00		3.00				4.00					4.00
	Actual		0.99		3.00				4.12					3.93
4 of 15	Expected	1.00	1.00		3.00				3.00	1.00				2.00
	Actual	1.04	0.80		2.64				3.58	1.05				2.05
5 of 15	Expected	1.00	1.00		3.00				2.00	1.00				2.00
	Actual	1.00	0.91		3.03				2.12	1.02				2.00
6 of 15	Expected	1.00		2.00	2.00		1.00	1.00	3.00	1.00				1.00
	Actual	0.98		2.04	1.99		1.03	0.96	2.93	0.96				1.07
7 of 15	Expected	1.00		3.00	2.00		1.00	1.00	3.00	1.00				1.00
	Actual	1.04		2.98	1.97		1.05	0.98	2.99	0.98				0.97
8 of 15	Expected	2.00		3.00	2.00		1.00	1.00	2.00	1.00	1.00			
	Actual	2.00		3.04	2.08		0.99	0.98	2.00	0.99	0.99			
9 of 15	Expected	2.00		1.00	2.00				2.00	2.00	1.00			1.00
	Actual	2.04		0.97	1.99				2.02	2.00	1.00			1.00
10 of 15	Expected	1.00			2.00				4.00	1.00	1.00			2.00
	Actual	1.04			1.95				4.10	1.01	0.95			2.02
11 of 15	Expected	1.00			1.00	1.00			4.00	1.00				2.00
	Actual	0.91			0.92	0.98			4.43	0.99				2.18
12 of 15	Expected	1.00		2.00	1.00	1.00		1.00	3.00	1.00				2.00
	Actual	1.01		2.00	0.97	1.00		1.02	3.06	0.98				1.99
13 of 15	Expected	1.00		2.00	3.00	1.00		1.00	1.00	1.00				1.00
	Actual	0.98		2.05	3.01	0.99		0.97	1.09	0.97				0.97
14 of 15	Expected	1.00	1.00	4.00	2.00			1.00	2.00	1.00				1.00
	Actual	0.98	0.95	4.02	2.03			0.99	2.10	1.01				1.00
15 of 15	Expected	1.00	1.00	2.00	3.00				3.00					
	Actual	0.97	0.95	2.21	2.93				2.99					

⁴Results were not reported for the following amino acids due to partial or complete destruction during hydrolysis: cysteine (C), methionine (M), serine (S), threonine (T) and tryptophan (W).

Table 2: Peptide Solubility

Peptide	Sequence	Solubility	Solvent
1 of 15	1-SKMSDVKCTSVVLLS-15	10 mg/mL	DMSO
2 of 15	6-VKCTSVVLLSVLQQL-20	10 mg/mL	DMSO
3 of 15	11-VVLLSVLQQLRVES-25	10 mg/mL	DMSO
4 of 15	16-VLQQLRVES-30	10 mg/mL	50% acetonitrile / 50% water
5 of 15	21-RVES-35	10 mg/mL	DMSO
6 of 15	26-SKLWAQCVQLHNDIL-40	10 mg/mL	50% acetonitrile / 50% water
7 of 15	31-QCVQLHNDILLAKDT-45	10 mg/mL	50% acetonitrile / 50% water
8 of 15	36-HNDILLAKDTTEAFE-50	10 mg/mL	50% acetonitrile / 50% water
9 of 15	41-LAKDTTEAFEKVMVSL-55	10 mg/mL	50% acetonitrile / 50% water
10 of 15	46-TEAFEKVMVSVLL-60	10 mg/mL	DMSO
11 of 15	51-KMVSVLLSMQGA-65	10 mg/mL	DMSO
12 of 15	56-LSVLLSMQGAVDINK-70	10 mg/mL	DMSO
13 of 15	61-SMQGAVDINKLCEEM-75	10 mg/mL	DMSO
14 of 15	66-VDINKLCEEMLDNRA-80	10 mg/mL	50% acetonitrile / 50% water
15 of 15	71-LCEEMLDNRATLQ-83	10 mg/mL	50% acetonitrile / 50% water

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