

Peptide Array, *Mycobacterium tuberculosis* Antigen 85B

Catalog No. NR-34828

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Product Description: The 69-peptide array spans antigen 85B of the bacterium *Mycobacterium tuberculosis* ([UniProt: P0C5B9](#)). The initial 40-amino-acid signal peptide has been excluded; therefore the array starts from a mature N-terminus. Peptides are 13- or 15-mers, with 11 amino acid overlaps.

Lot: T6194-1 to T6194-69

Note: The lot numbers of the individual peptides are shown on the vial labels and in Table 1 below.

The following information applies to all peptides:

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

Peptide-specific information is shown in the two tables below.

| Table 1 | | | | | | | | |
|----------|----------|--------------|--------|------------------------|------------------------|----------------|-----------------------------|------------------------------|
| Peptide | Lot # | Date of Mfg. | Length | Sequence | Molecular Weight (amu) | Hydrophilicity | Purity by HPLC ^a | Peptide Content ^b |
| 1 of 69 | T6194-1 | 2/14/2012 | 15 | 1-FSRPGLPVEYLQVPS-15 | 1688.95 | 0.59 | 98.4% | 88.1% |
| 2 of 69 | T6194-2 | 2/14/2012 | 15 | 5-GLPVEYLQVPSPSMG-19 | 1573.83 | 0.62 | 91.4% | 87.3% |
| 3 of 69 | T6194-3 | 2/14/2012 | 15 | 9-EYLQVPSPSMGRDIK-23 | 1719.99 | 0.31 | 99.6% | 83.4% |
| 4 of 69 | T6194-4 | 2/14/2012 | 15 | 13-VPSPSMGRDIKVQFQ-27 | 1688.97 | 0.36 | 96.6% | 83.2% |
| 5 of 69 | T6194-5 | 2/14/2012 | 15 | 17-SMGRDIKVQFQSGGN-31 | 1623.80 | 0.22 | 90.4% | 82.6% |
| 6 of 69 | T6194-6 | 2/14/2012 | 15 | 21-DIKVQFQSGGNNSPA-35 | 1561.67 | 0.32 | 98.6% | 87.3% |
| 7 of 69 | T6194-7 | 2/14/2012 | 15 | 25-QFQSGGNNSPAVYLL-39 | 1594.74 | 0.61 | 96.1% | 87.5% |
| 8 of 69 | T6194-8 | 2/14/2012 | 15 | 29-GGNNSPAVYLLDGLR-43 | 1545.71 | 0.51 | 97.1% | 87.1% |
| 9 of 69 | T6194-9 | 2/14/2012 | 15 | 33-SPAVYLLDGLRAQDD-47 | 1632.81 | 0.34 | 94.9% | 87.7% |
| 10 of 69 | T6194-10 | 2/14/2012 | 15 | 37-YLLDGLRAQDDYNGW-51 | 1798.94 | 0.44 | 94.8% | 88.8% |
| 11 of 69 | T6194-11 | 2/14/2012 | 15 | 41-GLRAQDDYNGWDINT-55 | 1737.81 | 0.33 | 97.5% | 88.4% |
| 12 of 69 | T6194-12 | 2/14/2012 | 15 | 45-QDDYNGWDINTPAFE-59 | 1784.83 | 0.41 | 89.4% | 88.7% |
| 13 of 69 | T6194-13 | 2/14/2012 | 15 | 49-NGWDINTPAFEWYYQ-63 | 1904.05 | 0.72 | 90.2% | 89.3% |
| 14 of 69 | T6194-14 | 2/14/2012 | 15 | 53-INTPAFEWYYQSGLS-67 | 1775.96 | 0.69 | 92.9% | 88.6% |
| 15 of 69 | T6194-15 | 2/14/2012 | 15 | 57-AFEWYYQSGLSIVMP-71 | 1791.08 | 0.8 | 95.6% | 88.7% |
| 16 of 69 | T6194-16 | 2/14/2012 | 15 | 61-YYQSGLSIVMPVGGQ-75 | 1598.83 | 0.62 | 91.6% | 87.5% |
| 17 of 69 | T6194-17 | 2/14/2012 | 15 | 65-GLSIVMPVGGQSSFY-79 | 1541.78 | 0.69 | 93.1% | 87.1% |
| 18 of 69 | T6194-18 | 2/14/2012 | 15 | 69-VMPVGGQSSFYSDWY-83 | 1722.90 | 0.62 | 97.4% | 88.3% |
| 19 of 69 | T6194-19 | 2/14/2012 | 15 | 73-GGQSSFYSDWYSPAC-87 | 1654.75 | 0.49 | 98.5% | 87.9% |
| 20 of 69 | T6194-20 | 2/14/2012 | 15 | 77-SFYSDWYSPACGKAG-91 | 1638.81 | 0.46 | 96.1% | 87.8% |
| 21 of 69 | T6194-21 | 2/14/2012 | 15 | 81-DWYSPACGKAGCQTY-95 | 1649.85 | 0.46 | 97.9% | 87.9% |
| 22 of 69 | T6194-22 | 2/14/2012 | 15 | 85-PACGKAGCQTYKWET-99 | 1642.91 | 0.35 | 98.2% | 82.8% |
| 23 of 69 | T6194-23 | 2/14/2012 | 15 | 89-KAGCQTYKWETFLTS-103 | 1763.04 | 0.43 | 97.2% | 83.8% |
| 24 of 69 | T6194-24 | 2/14/2012 | 15 | 93-QTYKWETFLTSELPQ-107 | 1871.11 | 0.48 | 96.0% | 89.1% |
| 25 of 69 | T6194-25 | 2/14/2012 | 15 | 97-WETFLTSELPQWLSA-111 | 1808.06 | 0.76 | 93.8% | 88.8% |

Certificate of Analysis for NR-34828

| Table 1 | | | | | | | | |
|----------|----------|--------------|--------|----------------------------|------------------------|----------------|-----------------------------|------------------------------|
| Peptide | Lot # | Date of Mfg. | Length | Sequence | Molecular Weight (amu) | Hydrophilicity | Purity by HPLC ^a | Peptide Content ^b |
| 26 of 69 | T6194-26 | 2/14/2012 | 15 | 101-LTSELPQWLSANRAV-115 | 1684.94 | 0.59 | 97.4% | 88.1% |
| 27 of 69 | T6194-27 | 2/14/2012 | 15 | 105-LPQWLSANRAVKPTG-119 | 1637.93 | 0.5 | 97.8% | 82.7% |
| 28 of 69 | T6194-28 | 2/14/2012 | 15 | 109-LSANRAVKPTGSAAI-123 | 1455.72 | 0.36 | 97.4% | 81.0% |
| 29 of 69 | T6194-29 | 2/14/2012 | 15 | 113-RAVKPTGSAAIGLSM-127 | 1458.78 | 0.39 | 88.4% | 81.0% |
| 30 of 69 | T6194-30 | 2/14/2012 | 15 | 117-PTGSAAIGLSMAGSS-131 | 1306.49 | 0.43 | 93.3% | 85.1% |
| 31 of 69 | T6194-31 | 2/14/2012 | 15 | 121-AAIGLSMAGSSAMIL-135 | 1392.74 | 0.71 | 90.6% | 85.9% |
| 32 of 69 | T6194-32 | 2/14/2012 | 15 | 125-LSMAGSSAMILAAYH-139 | 1522.85 | 0.66 | 97.0% | 87.0% |
| 33 of 69 | T6194-33 | 2/14/2012 | 15 | 129-GSSAMILAAYHPQQF-143 | 1620.88 | 0.58 | 97.9% | 87.7% |
| 34 of 69 | T6194-34 | 2/14/2012 | 15 | 133-MILAAYHPQQFIYAG-147 | 1723.06 | 0.77 | 98.1% | 88.3% |
| 35 of 69 | T6194-35 | 2/14/2012 | 15 | 137-AYHPQQFIYAGSLSA-151 | 1652.86 | 0.56 | 91.0% | 87.9% |
| 36 of 69 | T6194-36 | 2/14/2012 | 15 | 141-QQFIYAGSLSALLDP-155 | 1622.86 | 0.65 | 80.7% | 87.7% |
| 37 of 69 | T6194-37 | 2/14/2012 | 15 | 145-YAGSLSALLDPSQGM-159 | 1509.72 | 0.5 | 98.0% | 86.9% |
| 38 of 69 | T6194-38 | 2/14/2012 | 15 | 149-LSALLDPSQGMGPSL-163 | 1485.73 | 0.58 | 87.5% | 86.7% |
| 39 of 69 | T6194-39 | 2/14/2012 | 15 | 153-LDPSQGMGPSLIGLA-167 | 1455.70 | 0.59 | 91.2% | 86.5% |
| 40 of 69 | T6194-40 | 2/14/2012 | 15 | 157-QGMGPSLIGLAMGDA-171 | 1417.68 | 0.53 | 88.8% | 86.1% |
| 41 of 69 | T6194-41 | 2/14/2012 | 15 | 161-PSLIGLAMGDAGGYK-175 | 1449.71 | 0.46 | 98.1% | 86.4% |
| 42 of 69 | T6194-42 | 2/14/2012 | 15 | 165-GLAMGDAGGYKAADM-179 | 1427.66 | 0.26 | 96.4% | 86.2% |
| 43 of 69 | T6194-43 | 2/14/2012 | 15 | 169-GDAGGYKAADMWGPS-183 | 1482.63 | 0.23 | 96.6% | 86.7% |
| 44 of 69 | T6194-44 | 2/14/2012 | 15 | 173-GYKAADMWGPSSDPA-187 | 1552.73 | 0.28 | 92.1% | 87.2% |
| 45 of 69 | T6194-45 | 2/14/2012 | 15 | 177-ADMWGPSSDPAWERN-191 | 1718.86 | 0.34 | 91.9% | 88.3% |
| 46 of 69 | T6194-46 | 2/14/2012 | 15 | 181-GPSSDPAWERNPTQ-195 | 1656.71 | 0.14 | 87.3% | 87.9% |
| 47 of 69 | T6194-47 | 2/14/2012 | 15 | 185-DPAWERNPTQQIPK-199 | 1794.97 | 0.18 | 94.6% | 84.0% |
| 48 of 69 | T6194-48 | 2/14/2012 | 15 | 189-ERNPTQQIPKLVAN-203 | 1722.93 | 0.27 | 93.8% | 83.4% |
| 49 of 69 | T6194-49 | 2/14/2012 | 15 | 193-PTQQIPKLVANNTRL-207 | 1692.99 | 0.5 | 91.5% | 83.2% |
| 50 of 69 | T6194-50 | 2/14/2012 | 15 | 197-IPKLVANNTRLWVYC-211 | 1790.17 | 0.86 | 85.4% | 84.0% |
| 51 of 69 | T6194-51 | 2/14/2012 | 15 | 201-VANNTRLWVYCGNGT-215 | 1667.86 | 0.7 | 89.6% | 88.0% |
| 52 of 69 | T6194-52 | 2/14/2012 | 15 | 205-TRLWVYCGNGTPNEL-219 | 1722.94 | 0.68 | 88.7% | 88.3% |
| 53 of 69 | T6194-53 | 2/14/2012 | 15 | 209-VYCGNGTPNELGGAN-223 | 1465.55 | 0.52 | 80.1% | 86.5% |
| 54 of 69 | T6194-54 | 2/14/2012 | 15 | 213-NGTPNELGGANIPAE-227 | 1453.54 | 0.42 | 92.9% | 86.4% |
| 55 of 69 | T6194-55 | 2/14/2012 | 15 | 217-NELGGANIPAEFLEN-231 | 1587.72 | 0.55 | 90.7% | 87.4% |
| 56 of 69 | T6194-56 | 2/14/2012 | 15 | 221-GANIPAEFLENFVRS-235 | 1663.87 | 0.57 | 86.3% | 87.9% |
| 57 of 69 | T6194-57 | 2/14/2012 | 15 | 225-PAEFLENFVRSSNLK-239 | 1750.99 | 0.47 | 90.4% | 83.7% |
| 58 of 69 | T6194-58 | 2/14/2012 | 15 | 229-LENFVRSSNLKFQDA-243 | 1767.97 | 0.4 | 85.3% | 83.8% |
| 59 of 69 | T6194-59 | 2/14/2012 | 15 | 233-VRSSNLKFQDAYNAA-247 | 1683.87 | 0.32 | 82.2% | 83.1% |
| 60 of 69 | T6194-60 | 2/14/2012 | 15 | 237-NLKFQDAYNAAGGHN-251 | 1619.73 | 0.36 | 80.1% | 82.6% |
| 61 of 69 | T6194-61 | 2/14/2012 | 15 | 241-QDAYNAAGGHNAVFN-255 | 1548.61 | 0.41 | 80.8% | 87.2% |
| 62 of 69 | T6194-62 | 2/14/2012 | 15 | 245-NAAGGHNAVFNFPPN-259 | 1526.64 | 0.65 | 85.7% | 87.0% |
| 63 of 69 | T6194-63 | 2/14/2012 | 15 | 249-GHNAVFNFPPNGTHS-263 | 1595.69 | 0.59 | 83.9% | 82.4% |
| 64 of 69 | T6194-64 | 2/14/2012 | 15 | 253-VNFPPNGTHSWEYW-267 | 1881.05 | 0.84 | 90.6% | 89.2% |
| 65 of 69 | T6194-65 | 2/14/2012 | 15 | 257-PPNGTHSWEYWG AQL-271 | 1742.89 | 0.6 | 94.5% | 88.4% |
| 66 of 69 | T6194-66 | 2/14/2012 | 15 | 261-THSWEYWG AQLNAMK-275 | 1822.07 | 0.54 | 93.3% | 84.2% |
| 67 of 69 | T6194-67 | 2/14/2012 | 15 | 265-EYWGAQLNAMKGD LQ-279 | 1723.95 | 0.41 | 94.1% | 88.3% |
| 68 of 69 | T6194-68 | 2/14/2012 | 15 | 269-AQLNAMKGD LQSS L G-283 | 1532.75 | 0.35 | 88.7% | 87.1% |
| 69 of 69 | T6194-69 | 2/14/2012 | 13 | 273-AMKGD LQSS L GAG-285 | 1234.41 | 0.25 | 81.7% | 84.4% |

^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 69 | Expected | | 1.00 | | | 2.00 | 1.00 | | | 2.00 | | | 1.00 | 3.00 | 2.00 | | | 1.00 | 2.00 |
| | Actual | | 1.04 | | | 2.03 | 1.04 | | | 1.93 | | | 0.91 | 3.03 | 1.79 | | | 0.89 | 2.00 |
| 2 of 69 | Expected | | | | | 2.00 | 2.00 | | | 2.00 | | 1.00 | | 3.00 | 2.00 | | | 1.00 | 2.00 |
| | Actual | | | | | 2.05 | 2.15 | | | 2.03 | | 1.00 | | 3.00 | 1.75 | | | 0.92 | 1.97 |
| 3 of 69 | Expected | | 1.00 | 1.00 | | 2.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | | 2.00 | 2.00 | | | 1.00 | 1.00 |
| | Actual | | 1.08 | 0.96 | | 1.98 | 1.09 | | 0.95 | 1.05 | 1.01 | 0.96 | | 2.00 | 1.84 | | | 0.90 | 1.00 |
| 4 of 69 | Expected | | 1.00 | 1.00 | | 2.00 | 1.00 | | 1.00 | | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | | | | 2.00 |
| | Actual | | 1.13 | 1.03 | | 2.07 | 1.13 | | 1.04 | | 0.95 | 1.11 | 1.00 | 2.05 | 1.85 | | | | 2.06 |
| 5 of 69 | Expected | | 1.00 | 2.00 | | 2.00 | 3.00 | | 1.00 | | 1.00 | 1.00 | 1.00 | | 2.00 | | | | 1.00 |
| | Actual | | 1.17 | 1.98 | | 2.08 | 3.03 | | 0.94 | | 0.87 | 1.06 | 0.96 | | 1.86 | | | | 1.00 |
| 6 of 69 | Expected | 1.00 | | 3.00 | | 2.00 | 2.00 | | 1.00 | | 1.00 | | 1.00 | 1.00 | 2.00 | | | | 1.00 |
| | Actual | 1.06 | | 2.90 | | 1.99 | 2.00 | | 1.00 | | 0.86 | | 1.01 | 1.01 | 1.77 | | | | 1.08 |
| 7 of 69 | Expected | 1.00 | | 2.00 | | 2.00 | 2.00 | | | 2.00 | | | 1.00 | 1.00 | 2.00 | | | 1.00 | 1.00 |
| | Actual | 1.01 | | 1.92 | | 2.03 | 2.04 | | | 2.09 | | | 1.00 | 1.06 | 1.85 | | | 0.96 | 1.06 |
| 8 of 69 | Expected | 1.00 | 1.00 | 3.00 | | | 3.00 | | | 3.00 | | | | 1.00 | 1.00 | | | 1.00 | 1.00 |
| | Actual | 1.05 | 1.10 | 3.00 | | | 3.12 | | | 3.09 | | | | 1.03 | 0.95 | | | 0.90 | 0.98 |
| 9 of 69 | Expected | 2.00 | 1.00 | 3.00 | | 1.00 | 1.00 | | | 3.00 | | | | 1.00 | 1.00 | | | 1.00 | 1.00 |
| | Actual | 1.99 | 1.09 | 2.91 | | 1.01 | 1.07 | | | 3.00 | | | | 1.05 | 0.91 | | | 0.87 | 0.97 |
| 10 of 69 | Expected | 1.00 | 1.00 | 4.00 | | 1.00 | 2.00 | | | 3.00 | | | | | | | 1.00 | 2.00 | |
| | Actual | 1.06 | 1.17 | 3.76 | | 1.04 | 2.08 | | | 3.16 | | | | | | | 0.00 ^a | 2.00 | |
| 11 of 69 | Expected | 1.00 | 1.00 | 5.00 | | 1.00 | 2.00 | | 1.00 | 1.00 | | | | | | 1.00 | 1.00 | 1.00 | |
| | Actual | 0.99 | 1.01 | 4.94 | | 1.04 | 2.06 | | 0.97 | 1.00 | | | | | | 1.03 | 0.00 ^a | 0.94 | |
| 12 of 69 | Expected | 1.00 | | 5.00 | | 2.00 | 1.00 | | 1.00 | | | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | |
| | Actual | 1.00 | | 4.89 | | 2.13 | 1.00 | | 1.02 | | | | 0.90 | 1.03 | | 0.97 | 0.00 ^a | 0.93 | |
| 13 of 69 | Expected | 1.00 | | 3.00 | | 2.00 | 1.00 | | 1.00 | | | | 1.00 | 1.00 | | 1.00 | 2.00 | 2.00 | |
| | Actual | 0.97 | | 2.95 | | 2.17 | 1.02 | | 1.06 | | | | 1.00 | 1.04 | | 0.95 | 0.00 ^a | 1.88 | |
| 14 of 69 | Expected | 1.00 | | 1.00 | | 2.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 1.00 | 2.00 | 1.00 | 1.00 | 2.00 | |
| | Actual | 1.06 | | 1.07 | | 2.02 | 0.95 | | 1.04 | 0.88 | | | 1.00 | 1.09 | 1.66 | 1.03 | 0.00 ^a | 1.78 | |
| 15 of 69 | Expected | 1.00 | | | | 2.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 2.00 | | 1.00 | 2.00 | 1.00 |
| | Actual | 0.86 | | | | 2.03 | 1.14 | | 0.70 ^b | 1.00 | | 1.03 | 0.82 | 1.08 | 1.96 | | 0.00 ^a | 1.82 | 0.69 ^b |
| 16 of 69 | Expected | | | | | 2.00 | 3.00 | | 1.00 | 1.00 | | 1.00 | | 1.00 | 2.00 | | | 2.00 | 2.00 |
| | Actual | | | | | 2.16 | 3.11 | | 0.64 ^b | 1.04 | | 1.03 | | 1.00 | 1.83 | | | 1.85 | 1.59 ^b |
| 17 of 69 | Expected | | | | | 1.00 | 3.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 3.00 | | | 1.00 | 2.00 |
| | Actual | | | | | 0.98 | 3.11 | | 0.75 ^b | 1.01 | | 1.06 | 1.00 | 1.05 | 2.77 | | | 0.97 | 1.70 ^b |
| 18 of 69 | Expected | | | 1.00 | | 1.00 | 2.00 | | | | | 1.00 | 1.00 | 1.00 | 3.00 | | 1.00 | 2.00 | 2.00 |
| | Actual | | | 0.96 | | 1.10 | 2.28 | | | | | 1.16 | 1.00 | 1.18 | 2.99 | | 0.00 ^a | 1.94 | 1.95 |
| 19 of 69 | Expected | 1.00 | | 1.00 | 1.00 | 1.00 | 2.00 | | | | | | 1.00 | 1.00 | 4.00 | | 1.00 | 2.00 | |
| | Actual | 1.04 | | 0.86 | 0.51 ^c | 1.04 | 2.28 | | | | | | 1.00 | 1.10 | 3.89 | | 0.00 ^a | 1.96 | |
| 20 of 69 | Expected | 2.00 | | 1.00 | 1.00 | | 2.00 | | | | 1.00 | | 1.00 | 1.00 | 3.00 | | 1.00 | 2.00 | |
| | Actual | 2.07 | | 0.94 | 0.55 ^c | | 2.06 | | | | 1.10 | | 1.00 | 1.08 | 2.93 | | 0.00 ^a | 1.96 | |
| 21 of 69 | Expected | 2.00 | | 1.00 | 2.00 | 1.00 | 2.00 | | | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | |
| | Actual | 1.94 | | 0.81 | 0.75 ^c | 1.10 | 2.06 | | | | 1.00 | | | 1.10 | 0.97 | 1.04 | 0.00 ^a | 2.06 | |
| 22 of 69 | Expected | 2.00 | | | 2.00 | 2.00 | 2.00 | | | | 2.00 | | | 1.00 | | 2.00 | 1.00 | 1.00 | |
| | Actual | 1.86 | | | 0.76 ^c | 2.06 | 2.18 | | | | 1.82 | | | 1.05 | | 2.00 | 0.00 ^a | 1.06 | |

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) |
|----------|----------|---------|---------|-----------|-------------------|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-------------------|---------|---------|
| 23 of 69 | Expected | 1.00 | | | 1.00 | 2.00 | 1.00 | | | 1.00 | 2.00 | | 1.00 | | 1.00 | 3.00 | 1.00 | 1.00 | |
| | Actual | 0.97 | | | 0.51 ^c | 2.04 | 1.18 | | | 0.96 | 1.92 | | 1.00 | | 0.97 | 2.96 | 0.00 ^a | 1.00 | |
| 24 of 69 | Expected | | | | | 4.00 | | | | 2.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 3.00 | 1.00 | 1.00 | |
| | Actual | | | | | 4.12 | | | | 1.98 | 1.06 | | 1.00 | 1.05 | 0.82 | 2.77 | 0.00 ^a | 0.95 | |
| 25 of 69 | Expected | 1.00 | | | | 3.00 | | | | 3.00 | | | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | | |
| | Actual | 1.08 | | | | 3.10 | | | | 3.00 | | | 1.04 | 1.10 | 1.83 | 1.95 | 0.00 ^a | | |
| 26 of 69 | Expected | 2.00 | 1.00 | 1.00 | | 2.00 | | | | 3.00 | | | | 1.00 | 2.00 | 1.00 | 1.00 | | 1.00 |
| | Actual | 2.03 | 1.12 | 0.97 | | 2.05 | | | | 3.00 | | | | 1.09 | 1.99 | 1.09 | 0.00 ^a | | 1.08 |
| 27 of 69 | Expected | 2.00 | 1.00 | 1.00 | | 1.00 | 1.00 | | | 2.00 | 1.00 | | | 2.00 | 1.00 | 1.00 | 1.00 | | 1.00 |
| | Actual | 1.97 | 1.09 | 0.91 | | 1.05 | 1.21 | | | 2.00 | 0.94 | | | 2.28 | 0.98 | 1.10 | 0.00 ^a | | 1.01 |
| 28 of 69 | Expected | 4.00 | 1.00 | 1.00 | | | 1.00 | | 1.00 | 1.00 | 1.00 | | | 1.00 | 2.00 | 1.00 | | | 1.00 |
| | Actual | 3.85 | 1.05 | 0.87 | | | 1.14 | | 0.99 | 1.00 | 0.91 | | | 1.05 | 1.84 | 1.04 | | | 0.95 |
| 29 of 69 | Expected | 3.00 | 1.00 | | | | 2.00 | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 2.00 | 1.00 | | | 1.00 |
| | Actual | 2.71 | 1.07 | | | | 2.27 | | 0.97 | 1.00 | 0.83 | 1.02 | | 1.02 | 1.90 | 1.05 | | | 0.88 |
| 30 of 69 | Expected | 3.00 | | | | | 3.00 | | 1.00 | 1.00 | | 1.00 | | 1.00 | 4.00 | 1.00 | | | |
| | Actual | 2.74 | | | | | 3.12 | | 1.00 | 1.05 | | 1.03 | | 1.06 | 3.70 | 0.98 | | | |
| 31 of 69 | Expected | 4.00 | | | | | 2.00 | | 2.00 | 2.00 | | 2.00 | | | 3.00 | | | | |
| | Actual | 4.00 | | | | | 2.23 | | 1.92 | 2.00 | | 1.82 | | | 2.91 | | | | |
| 32 of 69 | Expected | 4.00 | | | | | 1.00 | 1.00 | 1.00 | 2.00 | | 2.00 | | | 3.00 | | | | 1.00 |
| | Actual | 4.02 | | | | | 1.10 | 1.16 | 0.95 | 2.00 | | 1.99 | | | 3.03 | | | | 0.85 |
| 33 of 69 | Expected | 3.00 | | | | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 2.00 | | | | 1.00 |
| | Actual | 3.00 | | | | 1.92 | 0.90 | 1.14 | 0.94 | 0.98 | | 1.00 | 1.01 | 1.14 | 1.82 | | | | 0.97 |
| 34 of 69 | Expected | 3.00 | | | | 2.00 | 1.00 | 1.00 | 2.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | | | | 2.00 |
| | Actual | 3.00 | | | | 2.07 | 1.10 | 1.09 | 1.65 | 0.93 | | 0.97 | 0.95 | 1.05 | | | | | 1.78 |
| 35 of 69 | Expected | 3.00 | | | | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | 2.00 | | | | 2.00 |
| | Actual | 3.03 | | | | 1.90 | 1.09 | 1.14 | 0.84 | 1.01 | | | 1.00 | 1.00 | 1.81 | | | | 1.85 |
| 36 of 69 | Expected | 2.00 | | 1.00 | | 2.00 | 1.00 | | 1.00 | 3.00 | | | 1.00 | 1.00 | 2.00 | | | | 1.00 |
| | Actual | 2.13 | | 0.95 | | 2.00 | 1.17 | | 0.92 | 3.17 | | | 0.89 | 1.08 | 2.10 | | | | 0.88 |
| 37 of 69 | Expected | 2.00 | | 1.00 | | 1.00 | 2.00 | | | 3.00 | | 1.00 | | 1.00 | 3.00 | | | | 1.00 |
| | Actual | 2.12 | | 1.00 | | 1.10 | 2.29 | | | 3.00 | | 0.98 | | 1.06 | 3.05 | | | | 0.97 |
| 38 of 69 | Expected | 1.00 | | 1.00 | | 1.00 | 2.00 | | | 4.00 | | 1.00 | | 2.00 | 3.00 | | | | |
| | Actual | 1.00 | | 0.78 | | 1.04 | 2.26 | | | 3.83 | | 0.96 | | 2.09 | 2.97 | | | | |
| 39 of 69 | Expected | 1.00 | | 1.00 | | 1.00 | 3.00 | | 1.00 | 3.00 | | 1.00 | | 2.00 | 2.00 | | | | |
| | Actual | 1.00 | | 0.84 | | 0.94 | 2.95 | | 0.84 | 2.67 | | 1.04 | | 2.12 | 2.00 | | | | |
| 40 of 69 | Expected | 2.00 | | 1.00 | | 1.00 | 4.00 | | 1.00 | 2.00 | | 2.00 | | 1.00 | 1.00 | | | | |
| | Actual | 2.00 | | 0.86 | | 0.99 | 4.10 | | 0.91 | 1.90 | | 2.08 | | 1.11 | 1.02 | | | | |
| 41 of 69 | Expected | 2.00 | | 1.00 | | | 4.00 | | 1.00 | 2.00 | 1.00 | 1.00 | | 1.00 | 1.00 | | | | 1.00 |
| | Actual | 2.00 | | 0.99 | | | 4.12 | | 0.96 | 2.00 | 0.99 | 0.98 | | 1.05 | 1.05 | | | | 0.95 |
| 42 of 69 | Expected | 4.00 | | 2.00 | | | 4.00 | | | 1.00 | 1.00 | 2.00 | | | | | | | 1.00 |
| | Actual | 4.14 | | 2.08 | | | 4.03 | | | 1.00 | 1.05 | 1.92 | | | | | | | 0.93 |
| 43 of 69 | Expected | 3.00 | | 2.00 | | | 4.00 | | | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| | Actual | 3.01 | | 1.93 | | | 4.01 | | | | 1.00 | 0.97 | | 1.06 | 1.06 | | 0.00 ^a | 0.94 | |
| 44 of 69 | Expected | 3.00 | | 2.00 | | | 2.00 | | | | 1.00 | 1.00 | | 2.00 | 2.00 | | 1.00 | 1.00 | |
| | Actual | 2.96 | | 1.90 | | | 2.26 | | | | 1.00 | 0.94 | | 1.94 | 1.89 | | 0.00 ^a | 0.91 | |
| 45 of 69 | Expected | 2.00 | 1.00 | 3.00 | | 1.00 | 1.00 | | | | | 1.00 | | 2.00 | 2.00 | | 2.00 | | |
| | Actual | 1.89 | 1.06 | 2.77 | | 0.97 | 1.05 | | | | | 0.88 | | 2.00 | 1.81 | | 0.00 ^a | | |

| 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) |
| 46 of 69 | Expected | 1.00 | 1.00 | 3.00 | | 2.00 | 1.00 | | | | | | | 3.00 | 2.00 | 1.00 | 1.00 | | |
| | Actual | 0.98 | 1.00 | 2.84 | | 2.03 | 1.11 | | | | | | | 3.00 | 1.62 | 0.99 | 0.00 ^a | | |
| 47 of 69 | Expected | 1.00 | 1.00 | 3.00 | | 3.00 | | | 1.00 | | 1.00 | | | 3.00 | | 1.00 | 1.00 | | |
| | Actual | 0.97 | 1.05 | 2.91 | | 3.10 | | | 0.96 | | 1.00 | | | 3.00 | | 1.08 | 0.00 ^a | | |
| 48 of 69 | Expected | 1.00 | 1.00 | 3.00 | | 3.00 | | | 1.00 | 1.00 | 1.00 | | | 2.00 | | 1.00 | | | 1.00 |
| | Actual | 1.01 | 1.07 | 3.06 | | 2.99 | | | 0.97 | 1.00 | 1.07 | | | 2.09 | | 1.11 | | | 1.01 |
| 49 of 69 | Expected | 1.00 | 1.00 | 2.00 | | 2.00 | | | 1.00 | 2.00 | 1.00 | | | 2.00 | | 2.00 | | | 1.00 |
| | Actual | 1.04 | 0.96 | 1.82 | | 2.00 | | | 0.91 | 1.91 | 0.95 | | | 2.00 | | 2.01 | | | 1.00 |
| 50 of 69 | Expected | 1.00 | 1.00 | 2.00 | 1.00 | | | | 1.00 | 2.00 | 1.00 | | | 1.00 | | 1.00 | 1.00 | 1.00 | 2.00 |
| | Actual | 0.95 | 1.03 | 2.19 | 0.52 ^c | | | | 1.01 | 2.00 | 0.99 | | | 1.02 | | 1.01 | 0.00 ^a | 0.86 | 1.81 |
| 51 of 69 | Expected | 1.00 | 1.00 | 3.00 | 1.00 | | 2.00 | | | 1.00 | | | | | | 2.00 | 1.00 | 1.00 | 2.00 |
| | Actual | 0.95 | 0.95 | 2.97 | 0.31 ^c | | 2.11 | | | 1.00 | | | | | | 1.97 | 0.00 ^a | 0.84 | 1.68 |
| 52 of 69 | Expected | | 1.00 | 2.00 | 1.00 | 1.00 | 2.00 | | | 2.00 | | | | 1.00 | | 2.00 | 1.00 | 1.00 | 1.00 |
| | Actual | | 1.00 | 2.04 | 0.39 ^c | 1.05 | 2.01 | | | 1.92 | | | | 0.95 | | 1.98 | 0.00 ^a | 0.83 | 0.86 |
| 53 of 69 | Expected | 1.00 | | 3.00 | 1.00 | 1.00 | 4.00 | | | 1.00 | | | | 1.00 | | 1.00 | | 1.00 | 1.00 |
| | Actual | 0.96 | | 3.00 | 0.38 ^c | 1.08 | 4.13 | | | 1.11 | | | | 1.00 | | 1.00 | | 0.99 | 0.83 |
| 54 of 69 | Expected | 2.00 | | 3.00 | | 2.00 | 3.00 | | 1.00 | 1.00 | | | | 2.00 | | 1.00 | | | |
| | Actual | 1.98 | | 3.00 | | 2.17 | 3.13 | | 0.94 | 1.00 | | | | 2.03 | | 1.01 | | | |
| 55 of 69 | Expected | 2.00 | | 3.00 | | 3.00 | 2.00 | | 1.00 | 2.00 | | | 1.00 | 1.00 | | | | | |
| | Actual | 1.90 | | 3.00 | | 3.18 | 2.07 | | 0.90 | 1.85 | | | 0.92 | 0.96 | | | | | |
| 56 of 69 | Expected | 2.00 | 1.00 | 2.00 | | 2.00 | 1.00 | | 1.00 | 1.00 | | | 2.00 | 1.00 | 1.00 | | | | 1.00 |
| | Actual | 1.90 | 0.87 | 2.00 | | 2.13 | 0.99 | | 0.90 | 0.95 | | | 1.76 | 0.93 | 0.88 | | | | 0.86 |
| 57 of 69 | Expected | 1.00 | 1.00 | 2.00 | | 2.00 | | | | 2.00 | 1.00 | | 2.00 | 1.00 | 2.00 | | | | 1.00 |
| | Actual | 0.94 | 0.87 | 2.00 | | 2.10 | | | | 1.78 | 1.00 | | 1.73 | 0.96 | 1.92 | | | | 0.89 |
| 58 of 69 | Expected | 1.00 | 1.00 | 3.00 | | 2.00 | | | | 2.00 | 1.00 | | 2.00 | | 2.00 | | | | 1.00 |
| | Actual | 0.98 | 0.94 | 3.00 | | 2.06 | | | | 1.82 | 0.98 | | 1.78 | | 1.86 | | | | 0.91 |
| 59 of 69 | Expected | 3.00 | 1.00 | 3.00 | | 1.00 | | | | 1.00 | 1.00 | | 1.00 | | 2.00 | | | 1.00 | 1.00 |
| | Actual | 3.00 | 0.89 | 3.10 | | 1.09 | | | | 0.97 | 1.13 | | 0.97 | | 1.90 | | | 0.96 | 0.93 |
| 60 of 69 | Expected | 3.00 | | 4.00 | | 1.00 | 2.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | | | 1.00 | |
| | Actual | 2.94 | | 4.00 | | 1.09 | 1.98 | 1.02 | | 0.95 | 1.00 | | 0.94 | | | | | 0.93 | |
| 61 of 69 | Expected | 4.00 | | 4.00 | | 1.00 | 2.00 | 1.00 | | | | | 1.00 | | | | | 1.00 | 1.00 |
| | Actual | 3.89 | | 3.80 | | 0.95 | 2.03 | 1.00 | | | | | 0.83 | | | | | 1.00 | 0.88 |
| 62 of 69 | Expected | 3.00 | | 4.00 | | | 2.00 | 1.00 | | | | | 2.00 | 2.00 | | | | | 1.00 |
| | Actual | 3.00 | | 3.92 | | | 2.13 | 1.09 | | | | | 1.79 | 2.05 | | | | | 0.82 |
| 63 of 69 | Expected | 1.00 | | 3.00 | | | 2.00 | 2.00 | | | | | 2.00 | 2.00 | 1.00 | 1.00 | | | 1.00 |
| | Actual | 1.00 | | 3.14 | | | 2.00 | 1.98 | | | | | 1.76 | 2.00 | 0.91 | 0.85 | | | 0.88 |
| 64 of 69 | Expected | | | 2.00 | | 1.00 | 1.00 | 1.00 | | | | | 2.00 | 2.00 | 1.00 | 1.00 | 2.00 | 1.00 | 1.00 |
| | Actual | | | 1.88 | | 1.04 | 1.00 | 1.16 | | | | | 1.85 | 2.00 | 0.94 | 0.94 | 0.00 ^a | 0.87 | 0.77 |
| 65 of 69 | Expected | 1.00 | | 1.00 | | 2.00 | 2.00 | 1.00 | | 1.00 | | | | 2.00 | 1.00 | 1.00 | 2.00 | 1.00 | |
| | Actual | 1.00 | | 1.00 | | 2.11 | 2.06 | 1.08 | | 0.94 | | | | 1.93 | 0.94 | 0.95 | 0.00 ^a | 0.88 | |
| 66 of 69 | Expected | 2.00 | | 1.00 | | 2.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | 2.00 | 1.00 | |
| | Actual | 2.03 | | 1.00 | | 2.12 | 1.04 | 1.04 | | 0.92 | 1.00 | 0.89 | | | 0.95 | 0.98 | 0.00 ^a | 0.89 | |
| 67 of 69 | Expected | 2.00 | | 2.00 | | 3.00 | 2.00 | | | 2.00 | 1.00 | 1.00 | | | | | 1.00 | 1.00 | |
| | Actual | 1.97 | | 2.00 | | 3.04 | 2.11 | | | 1.89 | 1.01 | 0.95 | | | | | 0.00 ^a | 0.90 | |

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) |
|----------|----------|------------|------------|--------------|------------|--------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 68 of 69 | Expected | 2.00 | | 2.00 | | 2.00 | 2.00 | | | 3.00 | 1.00 | 1.00 | | | 2.00 | | | | |
| | Actual | 1.96 | | 1.95 | | 2.14 | 2.19 | | | 2.77 | 1.00 | 0.92 | | | 1.98 | | | | |
| 69 of 69 | Expected | 2.00 | | 1.00 | | 1.00 | 3.00 | | | 2.00 | 1.00 | 1.00 | | | 2.00 | | | | |
| | Actual | 1.88 | | 1.00 | | 1.07 | 3.17 | | | 1.80 | 0.98 | 0.91 | | | 1.87 | | | | |

^aTrp was completely destroyed during hydrolysis
^bVal-Ile, Val-Val, Ile-Ile and/or Ile-Val bonds were only partially destroyed during hydrolysis
^cCys was partially destroyed during hydrolysis

Date: 17 MAY 2012

Signature: *Dorothy C. Young*

Title: Technical Manager, BEI Authentication or designee

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