

| OR                  |       |        | OR                      |       |           |
|---------------------|-------|--------|-------------------------|-------|-----------|
| Grantham's Distance |       |        | Grantham's Distance     |       |           |
| 22 AA               |       |        | 22 AA                   |       |           |
| ORF                 |       |        | ORF                     |       |           |
| h1A1                |       |        | h10J5                   |       |           |
| c1A1                | 0.00  | 3.01   | c10J5                   | 0.00  | 9.86      |
| m1A1                | 3.36  | 24.70  | h10J1                   | 8.61  | 121.54    |
| h1A2                | 6.36  | 65.03  | h10J3                   | 9.25  | 180.81    |
| MOR125-1            | 1.77  | 57.54  | MOR267-13               | 3.82  | 51.79     |
| h2W1                |       |        | h8D1                    |       |           |
| c2W1                | 0.00  | 6.25   | c8D1                    | 0.00  | 4.17      |
| m2W1                | 0.00  | 12.09  | m8D1                    | 0.00  | 21.88     |
| h2W3                | 8.09  | 191.25 | h8D2                    | 4.74  | 111.69    |
| h2W5                | 14.54 | 301.82 | h8D4                    | 11.45 | 144.01    |
| h51E1               |       |        | MOR171-22               |       |           |
| c51E1               | 0.00  | 1.32   | MOR171-9                | 1.18  | 63.31     |
| m51E1               | 0.00  | 16.87  | h2B11                   |       |           |
| h51E2               | 5.38  | 156.77 | c2B11                   | 0.00  | 4.42      |
| MOR18-1             | 0.00  | 23.61  | m2B11                   | 0.00  | 16.26     |
| h8K3                |       |        | h2B2                    |       |           |
| c8K3                | 0.00  | 0.00   | h2B3                    | 9.09  | 165.99    |
| m8K3                | 0.45  | 29.25  | h2B6                    | 11.15 | 161.88    |
| h8K1                | 13.42 | 131.18 | h2B8                    | 18.22 | 166.54    |
| h8K5                | 18.12 | 110.02 | h2B8                    | 13.52 | 168.57    |
| h10G3               |       |        | h56A4                   |       |           |
| c10G3               | 0.00  | 2.00   | c56A4                   | 0.00  | 5.44      |
| m10G3               | 0.00  | 11.86  | m56A4                   | 0.20  | 50.18     |
| h10G4               | 7.33  | 182.58 | h56A5                   | 2.86  | 49.87     |
| h10G6               | 6.24  | 182.30 | h56A1                   | 3.05  | 50.45     |
| h10G7               | 10.98 | 182.62 | h56A3                   | 3.45  | 79.67     |
| h10G8               | 13.09 | 206.50 | h5P3                    |       |           |
| h10G9               | 7.76  | 185.68 | c5P3                    | 0.00  | 0.00      |
| MOR223-5            | 0.00  | 50.04  | h5P2                    | 7.49  | 155.53    |
| h10G7               |       |        | MOR204-6                | 1.14  | 95.24     |
| c10G7               | 0.00  | 15.03  | h2J2                    |       |           |
| m10G7               | 1.01  | 29.13  | c2J2                    | 0.00  | 28.58     |
| h10G3               | 10.98 | 182.62 | h2J1                    | 1.76  | 46.82     |
| h10G4               | 3.70  | 44.58  | h2J3                    | 3.03  | 60.48     |
| h10G6               | 10.40 | 211.17 | MOR256-18               | 2.34  | 84.52     |
| h10G8               | 2.10  | 47.74  | h2J3                    |       |           |
| h10G9               | 4.13  | 38.86  | c2J3                    | 0.00  | 6.95      |
| MOR223-3            | 0.00  | 49.74  | m2J3                    | 0.00  | 12.22     |
| h5K1                |       |        | h2J1                    | 1.27  | 54.07     |
| c5K1                | 0.00  | 6.56   | h2J2                    | 3.03  | 60.48     |
| m5K1                | 0.00  | 9.21   | MOR256-18               | 1.85  | 79.32     |
| h5K2                | 1.86  | 22.63  | Wilcoxon Rank Sum       |       |           |
| h5K3                | 9.61  | 82.43  | z                       |       |           |
| h5K4                | 6.14  | 96.32  | p                       |       |           |
| MOR184-3            | 0.58  | 50.42  | Orthologs vs Paralogs   |       |           |
| h2A25               |       |        | 22AA                    | -6.61 | <0.0001** |
| c2A25               | 0.00  | 2.35   | ORF                     | -7.35 | <0.0001** |
| m2A25               | 3.82  | 28.96  | Response vs No Response |       |           |
| h2A2                | 17.14 | 162.66 | Orthologs               |       |           |
| h2A4                | 14.01 | 106.30 | 22AA                    | 1.22  | 0.22      |
| h2A5                | 12.51 | 142.78 | ORF                     |       |           |
| h2A7                | 14.01 | 105.36 | 0.89                    | 0.37  |           |
| h2A12               | 15.22 | 145.50 | Paralogs                |       |           |
| h2A14               | 16.71 | 159.47 | 22AA                    | -3.54 | <0.0004** |
| h2A42               | 16.89 | 121.81 | ORF                     |       |           |
| MOR261-1            | 5.42  | 75.03  | -1.47                   | 0.14  |           |