### Supplementary Table 2

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Protein** | **Target Sequence** | **Template Structures** | **Template Region** | **Template Sequence** | **Sequence Identity** | **Region** | **Coverage** |
| **PB2** | A/Aichi/2/1968 (H3N2) | 4wsbC | 1-482, 491-741 | A/little yellow-shouldered bat/Guatemala/060/2010  (H17N10) | 67% | 1-759 | 100% |
| **PB1** | 4wsbB | 1-194, 199-490, 492-647, 650-733, 736-754 | 79% | 1-757 | 100% |
| **PA** | 4wsbA | 1-185, 204-714 | 70% | 1-716 | 100% |
| **HA1** | 3hmgA | 1-225, 227-326 | A/Aichi/2/1968 (H3N2) | 100% | 1-328 | 100% |
| **HA2** | 3hmgB | 1-175 | 100% | 1-175 | 79% |
| **NP** | 4x9aA | 21-72, 92-202, 213-396, 403-428, 438-489 | A/Wilson-Smith/1933 (H1N1) | 91% | 21-498 | 96% |
| 3zdpB | 21-391, 408-498 | 92% |
| **NA** | 3tiaA | 82-469 | A/RI/5+/1957  (H2N2) | 88% | 81-469 | 83% |
| 2aepA | 82-469 | A/Memphis/31/98(H3N2) | 98% |
| **M1** | 1ea3 | 2-158 | A/Puerto Rico/8/1934 (H1N1) | 98% | 1-160 | 63% |
| 5cqeB | 1-159 | 98% |
| **M2** | 2ly0A | 22-49, 51-62 | A/Chiba/5/71  (H3N2) | 97% | 18-62 | 47% |
| 2n70A | 18-60 | A/Udorn/307/1972(H3N2) | 87% |
| **NS1** | 1ailA | 1-70 | A/Udorn/307/1972 (H3N2) | 90% | 1-230 | 97% |
| 4ophA | 2-37, 29-40, 42-203 | A/blue-winged teal/MN/993/1980 (H6N6) | 85% |
| 3d6rB | 83-202 | A/Duck/Alberta/60/1976 (H12N5) | 73% |
| 3ee9A | 84-205 | A/Udorn/307/1972(H3N2) | 94% |
| **NS2** | 1pd3 | 64-85, 87-103, 105-116 | A/Puerto Rico /8/1934(H1N1) | 96% | 63-116 | 45% |

Table S2: Overview of protein modeling for H3N2 protein

This table provides detailed information about the homology modeling of all H3N2 proteins.