**S1 Table**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| L-chain | A-VP2 | B-VP3 | H-chain | A-VP2 | B-VP3 |
| Y31 |  | K150 | T28 |  | Q246 |
| R45 |  | S69 | N30 |  | Q246 |
| Y48 |  | S71 | N31 |  | Q75 |
|  |  | V72 |  |  | V78 |
| S51 | R67 |  |  |  | T145 |
| K52 | S65 | V72 | Y32 |  | Q74 |
|  | R67 | R209 |  |  | Q75 |
|  | S201 |  | N52 |  | D143 |
| L53 | R67 | R209 |  |  | T145 |
| S55 |  | A68 | S53 |  | T145 |
|  |  | S69 | T54 |  | D143 |
|  |  | R209 | S56 |  | D143 |
| D59 | T71 |  | Y57 |  | D143 |
|  | A198 |  | R98 |  | Q74 |
|  |  |  | D101 |  | S71 |
|  |  |  |  |  | V72 |
|  |  |  |  |  | G73 |
|  |  |  |  |  | Q74 |
|  |  |  |  |  | T145 |
|  |  |  |  |  | I147 |
|  |  |  |  |  | T148 |
|  |  |  |  |  | L149 |
|  |  |  | T102 |  | V72 |
|  |  |  |  |  | T148 |
|  |  |  |  |  | L149 |
|  |  |  | F103 | S65 | V72 |
|  |  |  |  |  | T148 |
|  |  |  |  |  | L149 |
|  |  |  |  |  | K150 |
|  |  |  | Sl04 |  | T148 |
|  |  |  |  |  | K150 |
|  |  |  | D105 |  | T148 |
|  |  |  | Y106 |  | G146 |
|  |  |  |  |  | T148 |