**Supplementary table 1**. Interactive residues among the complexes of NS1 of various dengue serotypes and TRAF6.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Main Chain-Main Chain Interaction** | | | | | | | | | | |
| DENV1  NS1 | TRAF6 |  | DENV2  NS1 | TRAF6 |  | DENV3  NS1 | TRAF6 |  | DENV4  NS1 | TRAF6 |
| 11 R | 247 F | 28 W | 275 Q | 9 K | 246 T | 1 D | 284 P |
| 162 I | 257 Q |  |  |  |  |  |  |
| **Main Chain- Side Chain Interaction** | | | | | | | | | | |
| DENV1  NS1 | TRAF6 |  | DENV2  NS1 | TRAF6 |  | DENV3  NS1 | TRAF6 |  | DENV4  NS1 | TRAF6 |
| 11 R | 234 D | 24 N | 275 Q | 3 | 264 E | 3 G | 291 E |
| 114 S | 298 T | 25 V | 275 Q | 9 K | 242 C | 16 G | 291 E |
| 115 W | 298 T | 26 H | 271 R | 9 K | 244 F | 17 S | 287 G |
| 117 S | 279 S | 27 T | 275 Q | 10 G | 246 T | 17 S | 291 E |
| 119 G | 288 Y | 30 E | 275 Q | 11 K | 243 T | 80 W | 246 T |
| 164 T | 279 S | 122 K | 287 G | 12 E | 248 G | 81 E | 246 T |
| 166 N | 279 S | 123 M | 291 E | 12 E | 249 C | 113 Y | 249 C |
| 161 G | 275 Q |  |  | 13 L | 257 H | 114 S | 247 P |
|  |  |  |  | 13 L | 249 C | 129 R | 241 P |
|  |  |  |  | 14 K | 248 G | 129 R | 242 C |
|  |  |  |  | 14 G | 249 C | 157 D | 275 Q |
|  |  |  |  | 16 K | 264 E | 158 Y | 279 S |
|  |  |  |  | 116 K | 283 I | 182 R | 276 A |
|  |  |  |  | 207 N | 239 P | 280 C | 39 T |
|  |  |  |  |  |  | 282 G | 39 T |
|  |  |  |  |  |  | 310 Q | 32 K |
| **Side Chain- Side Chain Interaction** | | | | | | | | | | |
| DENV1  NS1 | TRAF6 |  | DENV2  NS1 | TRAF6 |  | DENV3  NS1 | TRAF6 |  | DENV4  NS1 | TRAF6 |
| 11 R | 235 C | 8 W | 253 M | 1 D | 271 R | 17 S | 291 E |
| 116 K | 291 E | 30 E | 275 Q | 2 M | 260 R | 37 E | 275 Q |
| 120 K | 285 D | 33 K | 285 D | 4 C | 261 H | 41 R | 264 E |
| 122 K | 285 D | 122 K | 291 E | 12 E | 249 C | 110 D | 261 H |
|  |  | 123 M | 298 T | 14 K | 253 M | 114 S | 246 T |
|  |  | 324 R | 265 N | 15 C | 264 E | 115 W | 249 C |
|  |  | 324 R | 269 H | 166 N | 279 S | 115 W | 253 M |
|  |  |  |  |  |  | 117 T | 231 Y |
|  |  |  |  |  |  | 127 E | 235 C |
|  |  |  |  |  |  | 156 E | 275 Q |
|  |  |  |  |  |  | 157 D | 279 S |

**Supplementary table 2**. Interactive residues among the complexes of NS1 of various dengue serotypes and EIF4G1.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Main Chain-Main Chain Interaction** | | | | | | | | | | |
| DENV1  NS1 | EIF4G1 |  | DENV2  NS1 | EIF4G1 |  | DENV3  NS1 | EIF4G1 |  | DENV4  NS1 | EIF4G1 |
| 4 C | 1577 A | 158 Y | 1584 V | 4 C | 1594 K | 158 Y | 1588 S |
| 37 D | 1589 V | 158 Y | 1585 A | 4 C | 1595 w | 158 Y | 1590 T |
| 158 Y | 1585 A | 159 G | 1583 G | 6 I | 1595 w | 159 G | 1588 S |
|  |  | 160 F | 1583 G | 121 A | 1577 A |  |  |
|  |  |  |  | 160 F | 1588 S |  |  |
| **Main Chain- Side Chain Interaction** | | | | | | | | | | |
| DENV1  NS1 | EIF4G1 |  | DENV2  NS1 | EIF4G1 |  | DENV3  NS1 | EIF4G1 |  | DENV4  NS1 | EIF4G1 |
| 1 D | 1579 Q | 1 D | 1579 Q | 1 D | 1592 F | 3 G | 1594 K |
| 2 S | 1579 Q | 1 D | 1581 G | 7 N | 1606 N | 4 C | 1594 K |
| 8 W | 1567 F | 3 G | 1578 E | 11 K | 1604 D | 8 W | 1604 D |
| 11 R | 1554 A | 4 C | 1578 E | 11 K | 1605 H | 8 W | 1605 H |
| 18 G | 1582 K | 16 G | 1578 E | 26 H | 1597 R | 11 R | 1606 N |
| 116 K | 1593 F | 20 F | 1580 Q | 113 Y | 1579 Q | 32 Y | 1592 F |
| 120 K | 1591 A | 22 T | 1580 Q | 116 k | 1581 G | 38 S | 1584 V |
| 157 D | 1584 V | 32 Y | 1580 Q | 118 W | 1579 Q | 113 Y | 1582 K |
| 168 W | 1585 A | 37 E | 1587 K | 123 I | 1574 K | 113 Y | 1583 G |
| 182 R | 1582 K | 113 Y | 1590 T | 161 G | 1590 T | 115 W | 1579 Q |
|  |  | 113 Y | 1591 A |  |  | 157 D | 1588 S |
|  |  | 122 K | 1589 V |  |  | 159 G | 1590 T |
|  |  | 162 V | 1579 Q |  |  | 160 F | 1590 T |
|  |  | 165 T | 1580 Q |  |  |  |  |
|  |  | 168 W | 1585 A |  |  |  |  |
| **Side Chain- Side Chain Interaction** | | | | | | | | | | |
| DENV1  NS1 | EIF4G1 |  | DENV2  NS1 | EIF4G1 |  | DENV3  NS1 | EIF4G1 |  | DENV4  NS1 | EIF4G1 |
| 1 D | 1582 | 11 K | 1554 D | 8 W | 1598 E | 77 Y | 1579 Q |
| 11 R | 1554 D | 22 T | 1580 Q | 11 K | 1604 D | 81 E | 1579 Q |
| 11 R | 1558 D | 24 N | 1580 Q |  |  | 122 K | 1579 Q |
| 22 T | 1580 Q | 37 E | 1587 K |  |  | 156 E | 1587 K |
| 24 E | 1580 Q |  |  |  |  | 157 D | 1587 K |
| 32 Y | 1580 Q |  |  |  |  |  |  |
| 185 S | 1580 Q |  |  |  |  |  |  |
| 192 K | 1564 D |  |  |  |  |  |  |  |  |  |

**Supplementary table 3**. Interactive residues among the complexes of NS1 of various dengue serotypes and SRFBP1.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Main Chain-Main Chain Interaction** | | | | | | | | | | |
| DENV1  NS1 | SRFBP1 |  | DENV2  NS1 | SRFBP1 |  | DENV3  NS1 | SRFBP1 |  | DENV4  NS1 | SRFBP1 |
| 115 W | 104A | 1 D | 82I | 160 F | 89 K | 4C | 140S |
|  |  | 2S | 82I |  |  | 23 D | 150Y |
| **Main Chain- Side Chain Interaction** | | | | | | | | | | |
| DENV1  NS1 | SRFBP1 |  | DENV2  NS1 | SRFBP1 |  | DENV3  NS1 | SRFBP1 |  | DENV4  NS1 | SRFBP1 |
| 2 S | 84 F | 1 D | 84 F | 112 K | 148 T | 8 W | 147 N |
| 2 S | 85 E | 2 S | 80 D | 113 Y | 150 Y | 14 K | 141 E |
| 3 G | 85 E | 2 S | 82 I | 115 W | 132 E | 33 K | 80 D |
| 17 S | 130 V | 2 S | 83 N | 116 K | 130 V | 116 K | 66 K |
| 17 S | 132 E | 3 G | 83 N | 116 K | 131 A | 118 W | 25 V |
| 113 Y | 108 L | 10 N | 150 Y | 116 K | 132 E | 119 G | 21 K |
| 116 K | 54 R | 12 E | 150 Y | 117 T | 132 E | 160 F | 85 E |
| 116 K | 34 S | 14 K | 150 Y | 118 W | 132 E | 164 T | 82 I |
| 117 S | 54 R | 113 Y | 102 R | 157 D | 72 I |  |  |
| 119 G | 102 R | 114 S | 102 R | 159 G | 90 K |  |  |
| 120 K | 101 A | 114 S | 103 L | 160 F | 89 K |  |  |
| 158 Y | 124 K | 115 W | 54 R | 161 G | 94 T |  |  |
| 186 A | 136 S | 117 T | 54 R | 161 G | 98 R |  |  |
|  |  | 160 F | 94 T | 164 T | 89 K |  |  |
|  |  | 161 G | 89 K |  |  |  |  |
|  |  |  | 162 V | 89 K |  |  |  |  |  |  |
|  |  |  | 163 F | 89 K |  |  |  |  |  |  |
|  |  |  | 186 A | 134 E |  |  |  |  |  |  |
|  |  |  | 189 K | 150 Y |  |  |  |  |  |  |
| **Side Chain- Side Chain Interaction** | | | | | | | | | | |
| DENV1  NS1 | SRFBP1 |  | DENV2  NS1 | SRFBP1 |  | DENV3  NS1 | SRFBP1 |  | DENV4  NS1 | SRFBP1 |
| 2 S | 83 N | 1 D | 83 N | 1 D | 69 K | 4 K | 141 E |
| 2 S | 85 E | 32 Y | 85 E | 2 M | 29 R | 33 K | 80 D |
| 9 K | 141 E | 81 E | 102 R | 31 Q | 67 E | 33 K | 81 D |
| 35 Q | 98 R | 122 K | 60 E | 37 D | 83 N | 35 Q | 81 D |
| 110 E | 110 K | 123 M | 53 R | 37 D | 86 K | 74 E | 76 S |
| 156 E | 117 K | 157 D | 93 S | 156 E | 75 K | 81 E | 69 K |
| 157 D | 124 K | 229 H | 134 E | 157 D | 75 K | 115 W | 63 H |
|  |  | 254 H | 140 S | 157 D | 76 S | 122 K | 71 D |
|  |  |  |  | 157 D | 86 K | 166 N | 83 N |
|  |  |  |  | 165 T | 67 E |  |  |
|  |  |  |  | 166 N | 89 K |  |  |

**Supplementary table 4**. Interactive residues among the complexes of NS1 of various dengue serotypes and FGB.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Main Chain-Main Chain Interaction** | | | | | | | | | | |
| DENV1  NS1 | FGB |  | DENV2  NS1 | FGB |  | DENV3  NS1 | FGB |  | DENV4  NS1 | FGB |
| 15 C | 41 F | 1 D | 49 L | 17 S | 51 K | 15 C | 41 F |
| 15 C | 42 S | 18 G | 49 L | 18 G | 49 L | 15 C | 42 S |
| 113 Y | 67 S | 19 I | 47 R | 113 Y | 96 L | 17 S | 44 R |
| 114 S | 69 G | 161 G | 62 A |  |  | 17 S | 42 S |
| 160 F | 59 L |  |  |  |  | 160 F | 59 L |
|  |  |  |  |  |  | 188 I | 45 G |
| **Main Chain- Side Chain Interaction** | | | | | | | | | | |
| DENV1  NS1 | FGB |  | DENV2  NS1 | FGB |  | DENV3  NS1 | FGB |  | DENV4  NS1 | FGB |
| 14 K | 42 S | 1 D | 50 D | 1 D | 55 E | 5 V | 44 R |
| 15 C | 42 S | 2 S | 50 D | 9 K | 44 R | 6 V | 44 R |
| 16 G | 42 S | 13 L | 42 S | 14 K | 46 H | 14 K | 44 R |
| 85 K | 94 E | 80 S | 95 C | 17 S | 50 D | 15 C | 42 S |
| 113 Y | 67 S | 81 E | 95 C | 80 W | 111 Q | 113 Y | 65 P |
| 116 K | 67 S | 83 E | 95 C | 82 N | 108 T | 113 Y | 66 I |
| 157 D | 56 A | 83 E | 105 L | 113 Y | 94 G | 156 E | 54 E |
| 186 A | 47 R | 189 K | 45 G |  |  | 157 D | 56 A |
|  |  | 186 A | 47 R |  |  | 228 T | 47 R |
|  |  |  |  |  |  | 230 T | 47 R |
| **Side Chain- Side Chain Interaction** | | | | | | | | | | |
| DENV1  NS1 | FGB |  | DENV2  NS1 | FGB |  | DENV3  NS1 | FGB |  | DENV4  NS1 | FGB |
| 7 N | 44 R | 2 S | 50 D | 1 D | 51 K | 156 E | 51 K |
| 12 E | 44 R | 10 N | 44 R | 7 N | 46 H | 182 R | 55 E |
| 182 R | 55 E | 17 S | 50 D | 12 E | 42 S |  |  |
| 190 D | 44 R | 83 E | 95 C | 14 K | 46 H |  |  |
|  |  | 127 E | 111 Q | 85 K | 114 E |  |  |
|  |  | 127 E | 111 Q | 189 K | 46 H |  |  |
|  |  | 190 D | 44 R | 190 D | 44 R |  |  |

**Supplementary table 5**. Interactive residues among the complexes of NS1 of various dengue serotypes and PAIP1.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Main Chain-Main Chain Interaction** | | | | | | | | | | |
| DENV1  NS1 | PAIP1 |  | DENV2  NS1 | PAIP1 |  | DENV3  NS1 | PAIP1 |  | DENV4  NS1 | PAIP1 |
| 17 S | 435 D | 23 D | 399 M | 11 K | 390 T | 2 M | 428 E |
|  |  | 117 T | 456 D |  |  | 3 G | 428 E |
|  |  |  |  |  |  | 160 F | 422 K |
| **Main Chain- Side Chain Interaction** | | | | | | | | | | |
| DENV1  NS1 | PAIP1 |  | DENV2  NS1 | PAIP1 |  | DENV3  NS1 | PAIP1 |  | DENV4  NS1 | PAIP1 |
| 1 D | 467 E | 2 S | 397 Y | 1 D | 410 V | 1 D | 428 E |
| 2 S | 434 P | 23 D | 400 N | 2 M | 403 T | 15 C | 447 G |
| 37 D | 407 S | 32 Y | 401 E | 4 C | 397 Y | 70 Q | 479 Q |
| 38 S | 406 T | 116 K | 457 E | 4 C | 396 N | 114 S | 396 N |
| 74 E | 409 G | 162 V | 413 T | 11 K | 390 T | 115 W | 396 N |
| 114 S | 396 N | 164 T | 403 T | 22 T | 408 D | 115 W | 402 P |
| 116 K | 416 N | 165 T | 403 T | 32 Y | 409 G | 117 T | 406 T |
|  |  |  |  | 160 F | 475 R | 119 G | 406 T |
|  |  |  |  | 161 G | 405 Y | 122 K | 406 T |
|  |  |  |  | 162 V | 405 Y | 162 M | 466 Y |
|  |  |  |  |  |  | 163 F | 466 Y |
|  |  |  |  |  |  | 164 T | 466 Y |
|  |  |  |  |  |  | 164 T | 466 Y |
| **Side Chain- Side Chain Interaction** | | | | | | | | | | |
| DENV1  NS1 | PAIP1 |  | DENV2  NS1 | PAIP1 |  | DENV3  NS1 | PAIP1 |  | DENV4  NS1 | PAIP1 |
| 2 S | 467 E | 24 N | 400 N | 2 M | 403 T | 2 M | 429 R |
| 32 Y | 468 K | 31 Q | 400 N | 31 Q | 407 S | 32 Y | 424 Q |
| 40 K | 408 D | 32 Y | 400 N | 31 Q | 407 S | 73 N | 477 R |
| 112 K | 394 D | 114 S | 459 D | 41 R | 464 E | 74 E | 476 K |
| 115 W | 394 D | 116 K | 455 D | 116 K | 467 E | 81 E | 405 Y |
| 120 K | 408 D | 120 K | 461 E | 156 E | 468 K | 164 T | 466 Y |
| 156 E | 475 R | 165 T | 403 T | 157 D | 468 K |  | 164 T | 479 Q |
|  |  |  |  | 166 N | 472 E |  | 164 T | 479 Q |
|  |  |  |  | 168 W | 472 E |  |  |  |

**Supplementary table 6**. Interactive residues among the complexes of NS1 of various dengue serotypes and PTBP1.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Main Chain-Main Chain Interaction** | | | | | | | | | | |
| DENV1  NS1 | PTBP1 |  | DENV2  NS1 | PTBP1 |  | DENV3  NS1 | PTBP1 |  | DENV4  NS1 | PTBP1 |
| 17 S | 325 L | 115 W | 330 V | 158 Y | 322 A | 186 A | 309 A |
|  |  | 188 I | 308 Y |  |  |  |  |
| **Main Chain- Side Chain Interaction** | | | | | | | | | | |
| DENV1  NS1 | PTBP1 |  | DENV2  NS1 | PTBP1 |  | DENV3  NS1 | PTBP1 |  | DENV4  NS1 | PTBP1 |
| 7 N | 320 P | 10 N | 303 I | 1 D | 325 L | 11 R | 298 G |
| 11 R | 318 A | 11 K | 299 A | 2 M | 326 S | 11 R | 299 A |
| 28 W | 39 A | 11 K | 301 G | 28 W | 333 A | 113 Y | 324 G |
| 118 W | 23 C | 113 Y | 326 S | 109 M | 313 F | 157 T | 316 T |
| 189 K | 320 P | 114 S | 328 P | 116 K | 317 F | 157 T | 317 F |
| 189 K | 321 Q | 116 K | 330 V | 157 D | 322 A | 182 R | 311 A |
|  |  | 116 K | 332 G | 158 Y | 321 Q | 182 R | 312 G |
|  |  | 116 K | 345 A | 159 G | 321 Q | 182 R | 313 F |
|  |  | 116 K | 329 N |  |  |  |  |
|  |  | 189 K | 305 A |  |  |  |  |
| **Side Chain- Side Chain Interaction** | | | | | | | | | | |
| DENV1  NS1 | PTBP1 |  | DENV2  NS1 | PTBP1 |  | DENV3  NS1 | PTBP1 |  | DENV4  NS1 | PTBP1 |
| 28 W | 40 N | Not | found | 157 D | 321 Q | 29 T | 43 D |
| 31 Q | 40 N |  |  |  |  | 118 W | 329 N |
| 112 K | 18 E |  |  |  |  |  |  |
| 114 S | 18 E |  |  |  |  |  |  |
| 115 W | 18 E |  |  |  |  |  |  |

**Supplementary table 7**. Interactive residues among the complexes of NS1 of various dengue serotypes and TCF7L2.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Main Chain-Main Chain Interaction** | | | | | | | | | | |
| DENV1  NS1 | TCF7L2 |  | DENV2  NS1 | TCF7L2 |  | DENV3  NS1 | TCF7L2 |  | DENV4  NS1 | TCF7L2 |
| 30 E | 501 P | 23 D | 419 A | not | found | 1 D | 422 V |
| 123 I | 398 K | 30 E | 501 P |  |  | 1 D | 425 C |
| 162 I | 405 K |  |  |  |  | 1 D | 426 T |
|  |  |  |  |  |  | 2 M | 426 T |
|  |  |  |  |  |  | 158 Y | 418 R |
|  |  |  |  |  |  |  |  |  | 160 F | 414 M |
| **Main Chain- Side Chain Interaction** | | | | | | | | | | |
| DENV1  NS1 | TCF7L2 |  | DENV2  NS1 | TCF7L2 |  | DENV3  NS1 | TCF7L2 |  | DENV4  NS1 | TCF7L2 |
| 2 K | 451 S | 2 S | 416 E | 1 D | 490 E | 4 C | 386 S |
| 3 G | 448 E | 3 G | 448 E | 2 M | 492 N | 31 Q | 501 P |
| 4 C | 440 R | 4 C | 413 Y | 4 C | 472 A | 73 N | 465 Q |
| 16 G | 448 E | 4 C | 443 A | 4 C | 491 T | 73 N | 466 L |
| 21 V | 420 K | 15 C | 443 A | 5 V | 476 Y | 74 E | 465 Q |
| 22 T | 420 K | 16 G | 448 E | 14 K | 476 Y | 113 Y | 457 R |
| 28 W | 428 K | 21 I | 420 K | 15 C | 471 S | 157 D | 419 A |
| 29 T | 500 N | 26 H | 428 K | 15 C | 472 A | 162 M | 495 S |
| 29 T | 501 P | 28 W | 428 K | 15 C | 473 A | 168 W | 415 K |
| 119 K | 400 K | 29 T | 500 N | 18 G | 490 E |  |  |
|  |  | 29 T | 501 P | 19 I | 490 E |  |  |
|  |  | 30 E | 500 N | 21 V | 487 Q |  |  |
|  |  | 119 G | 400 K | 32 Y | 488 P |  |  |
|  |  | 159 G | 415 K | 36 A | 442 H |  |  |
|  |  |  |  | 37 D | 442 H |  |  |
|  |  |  |  | 116 K | 443 A |  |  |
|  |  |  |  | 158 Y | 441 W |  |  |
|  |  |  |  | 162 V | 435 Q |  |  |
|  |  |  |  | 163 F | 435 Q |  |  |
|  |  |  |  | 163 F | 486 K |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| **Side Chain- Side Chain Interaction** | | | | | | | | | | |
| DENV1  NS1 | TCF7L2 |  | DENV2  NS1 | TCF7L2 |  | DENV3  NS1 | TCF7L2 |  | DENV4  NS1 | TCF7L2 |
| 1 D | 451 K | 31 Q | 418 R | 1 D | 460 R | 1 D | 428 K |
| 8 W | 424 E |  |  | 28 W | 485 D | 4 C | 386 S |
| 29 T | 500 N |  |  | 156 E | 446 R | 31 Q | 500 N |
| 31 Q | 418 R |  |  | 157 D | 449 Q | 32 Y | 418 R |
| 32 Y | 415 K |  |  | 157 D | 441 W | 81 E | 465 Q |
| 122 K | 395 E |  |  | 157 D | 453 Y | 113 Y | 458 K |
| 166 N | 404 K |  |  |  |  | 157 D | 420 K |

**Supplementary table 8**. Interactive residues among the complexes of NS1 of various dengue serotypes and NF-kB.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Main Chain-Main Chain Interaction** | | | | | | | | | | |
| DENV1  NS1 | NF-kB |  | DENV2  NS1 | NF-kB |  | DENV3  NS1 | NF-kB |  | DENV4  NS1 | NF-kB |
| 119 G | 55 Y | 113 Y | 781 G | 1 D | 614 G | 4 C | 647 K |
| 117 S | 57 E |  |  | 1 D | 615 S | 115 | 773 G |
| **Main Chain- Side Chain Interaction** | | | | | | | | | | |
| DENV1  NS1 | NF-kB |  | DENV2  NS1 | NF-kB |  | DENV3  NS1 | NF-kB |  | DENV4  NS1 | NF-kB |
| 37 D | 30 R | 1 D | 612 K | 1 D | 613 A | 1 D | 825 K |
| 115 W | 52 R | 1 D | 613 A | 1 D | 614 G | 2 M | 647 K |
| 116 K | 58 G | 2 S | 614G | 4 C | 607 R | 4 C | 644 Q |
| 116 K | 59 D | 4 R | 607 R | 22 T | 605 E | 13 L | 617 R |
| 116 K | 61 N | 6 V | 605 E | 32 Y | 609 V | 32 Y | 826 V |
| 119 G | 52 R | 21 A | 608 S | 115 W | 713 Q | 81 E | 773 G |
| 120 K | 64 D | 22 T | 609 V | 158 Y | 611 R | 116 K | 774 D |
| 120 K | 65 D | 23 D | 604 M | 159 Y | 611 R | 160 F | 819 R |
| 122 K | 67 G | 26 Q | 600 Q |  |  | 161 G | 766 W |
| 162 I | 25 E | 108 P | 758 N |  |  | 165 T | 826 V |
| 166 N | 26 V | 110 E | 763 Y |  |  |  |  |
| 160 F | 29 S | 114 S | 780 E |  |  |  |  |
|  |  | 115 W | 779 R |  |  |  |  |
|  |  | 116 K | 768 Y |  |  |  |  |
|  |  | 117 T | 779 R |  |  |  |  |
|  |  | 158 Q | 611 R |  |  |  |  |
|  |  | 159 G | 643 Q |  |  |  |  |
|  |  | 160 F | 647 K |  |  |  |  |
|  |  | 164 T | 647 K |  |  |  |  |
| **Side Chain- Side Chain Interaction** | | | | | | | | | | |
| DENV1  NS1 | NF-kB |  | DENV2  NS1 | NF-kB |  | DENV3  NS1 | NF-kB |  | DENV4  NS1 | NF-kB |
| 1 D | 7 Q | 8 W | 602 Q | 23 N | 603 S | 4 C | 617 R |
| 35 Q | 66 S | 22 T | 608 S | 31 q | 608 S | 15 C | 617 R |
| 37 D | 30 R | 35 Q | 823 Q | 112 K | 749 D | 31 Q | 654 Q |
| 40 K | 64 D | 109 T | 763 Y | 116 K | 714 H | 74 E | 769 S |
| 81 E | 52 R | 116 K | 767 D | 157 D | 611 R | 118 W | 774 D |
| 120 K | 64 D | 122 Q | 122 Q |  |  | 122 K | 774 D |
|  |  | 157 D | 611 R |  |  | 166 N | 767 D |
|  |  |  |  |  |  | 168 W | 767 D |