

Mexican influenza virus A/H1N1/2009 pdm segment 2 (PB1) protein sequences (n=36, length 757 aa).

|                           | 1           | 30          | 60          | 90          | 120   |
|---------------------------|-------------|-------------|-------------|-------------|-------|
| A/California/04/2009      |             |             |             |             |       |
| A/Mexico/UASLP-018/2009   | MDVNP       | TLFLKIP     | AQNAIST     | TFP         | YTGDP |
| A/Mexico/UASLP-019/2009   | *****       | -----       | -----       | -----       | ----- |
| A/Mexico/UASLP-021/2009   | *****       | -----       | -----       | -----       | ----- |
| A/Mexico/UASLP-022/2009   | *****       | -----       | -----       | -----       | ----- |
| A/Mexico/UASLP-023/2009   | *****       | -----       | -----       | -----       | ----- |
| A/Mexico/UASLP-024/2009   | *****       | -----       | -----       | -----       | ----- |
| A/Mexico/UASLP-025/2009   | *****       | -----       | -----       | -----       | ----- |
| A/Mexico/UASLP-026/2009   | *****       | -----       | -----       | -----       | ----- |
| A/Mexico/UASLP-029/2009   | -----L----- | -----       | -----       | -----       | ----- |
| A/Mexico/UASLP-030/2010   | -----       | -----       | -----       | -----       | ----- |
| A/Mexico/LaGloria-8/2009  | -----       | -----       | -----       | -----       | ----- |
| A/Mexico/4269/2009        | -----       | -----       | -----       | -----       | ----- |
| A/Mexico/47N/2009         | -----       | -----       | -----       | -----       | ----- |
| A/Mexico/InDRE13551/2009  | -----       | -----       | -----       | -----       | ----- |
| A/Mexico/InDRE13495/2009  | -----       | -----       | -----       | -----       | ----- |
| A/Mexico/InDRE13555/2009  | -----       | -----       | -----       | -----       | ----- |
| A/Mexico/InDRE13494/2009  | -----       | -----       | -----       | -----       | ----- |
| A/MexicoCity/023/2009     | -----       | -----       | -----       | -----G----- | ----- |
| A/MexicoCity/004/2009     | -----       | -----       | -----       | -----       | ----- |
| A/MexicoCity/017/2009     | -----       | -----       | -----       | -----       | ----- |
| A/MexicoCity/014/2009     | -----       | -----       | -----       | -----       | ----- |
| A/MexicoCity/008/2009     | -----       | -----       | -----       | -----       | ----- |
| A/MexicoCity/018/2009     | -----       | -----       | -----       | -----       | ----- |
| A/MexicoCity/009/2009     | -----       | -----       | -----       | -----       | ----- |
| A/Mexicocity/CIA9/2009    | -----       | -----       | -----       | -----       | ----- |
| A/Mexicocity/CIA2/2009    | -----       | -----       | -----M----- | -----       | ----- |
| A/MexicoCity/WR1306N/2009 | -----       | -----       | -----       | -----       | ----- |
| A/MexicoCity/WR1297N/2009 | -----       | -----       | -----       | -----       | ----- |
| A/MexicoCity/WR1308T/2009 | -----       | -----       | -----       | -----       | ----- |
| A/MexicoCity/WR1301N/2009 | -----       | -----       | -----       | -----       | ----- |
| A/MexicoCity/WR1307N/2009 | -----       | -----       | -----       | -----       | ----- |
| A/MexicoCity/WR1675T/2009 | -----       | -----       | -----       | -----       | ----- |
| A/MexicoCity/WR1679N/2009 | -----       | -----       | -----       | -----       | ----- |
| A/MexicoCity/WR1701T/2009 | -----       | -----L----- | -----       | -----       | ----- |
| A/Mexico/InDRE3740/2011   | -----       | -----I----- | -----       | -----       | ----- |

Hyphens indicate unanimity to reference, asterisks indicate unknown sequence, full-stops indicate insertions, X indicates pre-mature stop codon.

121 150 180 210 240

A/California/04/2009 KLTQGRQTYDWTFLNRNQPAAATALANTIEVFRSNGLTANESGRLIDFLKDVME SMNKEEIEITTHFQRKRRVRDNMTKKMVTORTIGKKKQRLNKRGLIRALTLNTMTKDAERGKLRRA

A/Mexico/UASLP-018/2009 -----

A/Mexico/UASLP-019/2009 -----

A/Mexico/UASLP-021/2009 -----

A/Mexico/UASLP-022/2009 -----

A/Mexico/UASLP-023/2009 -----

A/Mexico/UASLP-024/2009 -----K-----

A/Mexico/UASLP-025/2009 -----

A/Mexico/UASLP-026/2009 -----

A/Mexico/UASLP-029/2009 -----

A/Mexico/UASLP-030/2010 -----I-----

A/Mexico/LaGloria-8/2009 -----

A/Mexico/4269/2009 -----

A/Mexico/47N/2009 -----I-----

A/Mexico/InDRE13551/2009 -----

A/Mexico/InDRE13495/2009 -----

A/Mexico/InDRE13555/2009 -----

A/Mexico/InDRE13494/2009 -----

A/MexicoCity/023/2009 -----

A/MexicoCity/004/2009 -----

A/MexicoCity/017/2009 -----

A/MexicoCity/014/2009 -----

A/MexicoCity/008/2009 -----I-----

A/MexicoCity/018/2009 -----I-----

A/MexicoCity/009/2009 -----

A/Mexicocity/CIA9/2009 -----

A/Mexicocity/CIA2/2009 -----

A/MexicoCity/WR1306N/2009 -----

A/MexicoCity/WR1297N/2009 -----

A/MexicoCity/WR1308T/2009 -----

A/MexicoCity/WR1301N/2009 -----S-----

A/MexicoCity/WR1307N/2009 -----

A/MexicoCity/WR1675T/2009 -----

A/MexicoCity/WRAIR1679N/2009 -----

A/MexicoCity/WR1701T/2009 -----

A/Mexico/InDRE3740/2011 -----

241

270

300

330

360

A/California/04/2009  
 A/Mexico/UASLP-018/2009  
 A/Mexico/UASLP-019/2009  
 A/Mexico/UASLP-021/2009  
 A/Mexico/UASLP-022/2009  
 A/Mexico/UASLP-023/2009  
 A/Mexico/UASLP-024/2009  
 A/Mexico/UASLP-025/2009  
 A/Mexico/UASLP-026/2009  
 A/Mexico/UASLP-029/2009  
 A/Mexico/UASLP-030/2010  
 A/Mexico/LaGloria-8/2009  
 A/Mexico/4269/2009  
 A/Mexico/47N/2009  
 A/Mexico/InDRE13551/2009  
 A/Mexico/InDRE13495/2009  
 A/Mexico/InDRE13555/2009  
 A/Mexico/InDRE13494/2009  
 A/MexicoCity/023/2009  
 A/MexicoCity/004/2009  
 A/MexicoCity/017/2009  
 A/MexicoCity/014/2009  
 A/MexicoCity/008/2009  
 A/MexicoCity/018/2009  
 A/MexicoCity/009/2009  
 A/Mexicocity/CIA9/2009  
 A/Mexicocity/CIA2/2009  
 A/MexicoCity/WR1306N/2009  
 A/MexicoCity/WR1297N/2009  
 A/MexicoCity/WR1308T/2009  
 A/MexicoCity/WR1301N/2009  
 A/MexicoCity/WR1307N/2009  
 A/MexicoCity/WR1675T/2009  
 A/MexicoCity/WRAIR1679N/2009  
 A/MexicoCity/WR1701T/2009  
 A/Mexico/InDRE3740/2011

IATPGMQIRGFVYFVETLARSICEKLEQSGLPVGGNEKKAKLANVVRKMMTNSQDTEISFTITGDNTKWNENQONPRMFLAMITYITRNQPEWFRNILSMAPIMFNSNKMARLGKGYMFESK

-A-

-S-

-R-

-T-

-K-

361 | 390 | 420 | 450 | 480 |

A/California/04/2009 RMKIRTQIPAEMLASIDLKYFNSTKKKIEKIRPLLIDGTASLSPGMMGMFNMLSTVLGVSILNLGQKKYTKTIYWWDGLQSSDDFALIVNAPNHEGIQAGVDRFYRTCKLVGINMSKK  
A/Mexico/UASLP-018/2009 -----  
A/Mexico/UASLP-019/2009 -----  
A/Mexico/UASLP-021/2009 -----  
A/Mexico/UASLP-022/2009 -----  
A/Mexico/UASLP-023/2009 -----  
A/Mexico/UASLP-024/2009 -----  
A/Mexico/UASLP-025/2009 -----  
A/Mexico/UASLP-026/2009 -----  
A/Mexico/UASLP-029/2009 -----  
A/Mexico/UASLP-030/2010 -----  
A/Mexico/LaGloria-8/2009 -----  
A/Mexico/4269/2009 -----K-----  
A/Mexico/47N/2009 -----  
A/Mexico/InDRE13551/2009 -----  
A/Mexico/InDRE13495/2009 -----  
A/Mexico/InDRE13555/2009 -----  
A/Mexico/InDRE13494/2009 -----  
A/MexicoCity/023/2009 -----  
A/MexicoCity/004/2009 -----  
A/MexicoCity/017/2009 -----  
A/MexicoCity/014/2009 -----  
A/MexicoCity/008/2009 -----  
A/MexicoCity/018/2009 -----  
A/MexicoCity/009/2009 -----R-----  
A/Mexicocity/CIA9/2009 -----  
A/Mexicocity/CIA2/2009 -----  
A/MexicoCity/WR1306N/2009 -----  
A/MexicoCity/WR1297N/2009 -----  
A/MexicoCity/WR1308T/2009 -----  
A/MexicoCity/WR1301N/2009 -----  
A/MexicoCity/WR1307N/2009 -----  
A/MexicoCity/WR1675T/2009 -----  
A/MexicoCity/WRAIR1679N/2009 -----  
A/MexicoCity/WR1701T/2009 -----  
A/Mexico/InDRE3740/2011 -----M-----

481 510 540 570 600

A/California/04/2009 KSYINKTGTFFFTSFFRYRGFVANFSMELPSFGVSGVNESADMSIGVTVIKNNMINNDLGPATAQMALQLFIKDYRYTYRCHRGDTQIQTRRSFELKKLWDQTQSKVGLLVSDGGPNLYN

A/Mexico/UASLP-018/2009 -----

A/Mexico/UASLP-019/2009 -----V-----G-----

A/Mexico/UASLP-021/2009 -----

A/Mexico/UASLP-022/2009 -----

A/Mexico/UASLP-023/2009 -----

A/Mexico/UASLP-024/2009 -----

A/Mexico/UASLP-025/2009 -----G-----

A/Mexico/UASLP-026/2009 -----H-----G-----

A/Mexico/UASLP-029/2009 -----G-----

A/Mexico/UASLP-030/2010 -----G-----

A/Mexico/LaGloria-8/2009 -----

A/Mexico/4269/2009 -----

A/Mexico/47N/2009 -----

A/Mexico/InDRE13551/2009 -----

A/Mexico/InDRE13495/2009 -----

A/Mexico/InDRE13555/2009 -----

A/Mexico/InDRE13494/2009 -----

A/MexicoCity/023/2009 -----

A/MexicoCity/004/2009 -----A-----

A/MexicoCity/017/2009 -----

A/MexicoCity/014/2009 -----

A/MexicoCity/008/2009 -----

A/MexicoCity/018/2009 -----

A/MexicoCity/009/2009 -----

A/Mexicocity/CIA9/2009 -----

A/Mexicocity/CIA2/2009 -----

A/MexicoCity/WR1306N/2009 -----

A/MexicoCity/WR1297N/2009 -----G-----

A/MexicoCity/WR1308T/2009 -----G-----

A/MexicoCity/WR1301N/2009 -----

A/MexicoCity/WR1307N/2009 -----

A/MexicoCity/WR1675T/2009 -----

A/MexicoCity/WRAIR1679N/2009 -----

A/MexicoCity/WR1701T/2009 -----

A/Mexico/InDRE3740/2011 -----

|                              |     |   |     |   |     |                 |     |            |     |
|------------------------------|-----|---|-----|---|-----|-----------------|-----|------------|-----|
|                              | 601 |   | 630 |   | 660 |                 | 690 |            | 720 |
| A/California/04/2009         |     | IRNLHIPEVCLKWELMDDDYRGLCNPLNPFVSHKEIDSVNNAVVM |     | PAHGPAKSMEYDAVATTHSWIPKRNRSILNTSQRGILEDEQMYQCCNLF |     | FEKFFPSSSYRRPVG |     | ISSMVEAMVS |     |
| A/Mexico/UASLP-018/2009      |     |   | R   |   |     |                 |     |            |     |
| A/Mexico/UASLP-019/2009      |     |   |     |   | V   |                 |     |            |     |
| A/Mexico/UASLP-021/2009      |     |   |     |   |     |                 |     |            |     |
| A/Mexico/UASLP-022/2009      |     |   |     |   |     | H               |     |            |     |
| A/Mexico/UASLP-023/2009      |     |   |     |   |     |                 |     |            |     |
| A/Mexico/UASLP-024/2009      |     |   |     |   |     |                 |     |            |     |
| A/Mexico/UASLP-025/2009      |     |   |     |   | V   |                 |     |            |     |
| A/Mexico/UASLP-026/2009      |     |   |     |   | V   |                 |     |            |     |
| A/Mexico/UASLP-029/2009      |     |   |     |   | V   |                 |     |            |     |
| A/Mexico/UASLP-030/2010      |     |   |     |   | V   |                 |     |            |     |
| A/Mexico/LaGloria-8/2009     |     |   |     |   |     |                 |     |            |     |
| A/Mexico/4269/2009           |     |   |     |   |     |                 |     |            |     |
| A/Mexico/47N/2009            |     |   |     |   |     |                 |     |            |     |
| A/Mexico/InDRE13551/2009     |     |   | Y   |   |     |                 |     |            |     |
| A/Mexico/InDRE13495/2009     |     |   |     |   |     |                 |     |            |     |
| A/Mexico/InDRE13555/2009     |     |   | V   |   |     |                 |     |            |     |
| A/Mexico/InDRE13494/2009     |     |   |     |   |     |                 |     | L          |     |
| A/MexicoCity/023/2009        |     |   |     |   |     |                 |     |            |     |
| A/MexicoCity/004/2009        |     |   |     |   |     |                 |     |            |     |
| A/MexicoCity/017/2009        |     |   |     |   |     |                 |     |            |     |
| A/MexicoCity/014/2009        |     |   |     |   |     | V               |     |            |     |
| A/MexicoCity/008/2009        |     |   |     |   |     |                 |     |            |     |
| A/MexicoCity/018/2009        |     |   |     |   |     |                 |     |            |     |
| A/MexicoCity/009/2009        |     |   |     |   |     |                 |     |            |     |
| A/Mexicocity/CIA9/2009       |     |   |     |   |     |                 |     |            |     |
| A/Mexicocity/CIA2/2009       |     |   | R   |   |     |                 |     |            |     |
| A/MexicoCity/WR1306N/2009    |     |   |     |   |     |                 |     |            |     |
| A/MexicoCity/WR1297N/2009    |     |   |     |   |     | V               |     |            |     |
| A/MexicoCity/WR1308T/2009    |     |   |     |   |     |                 |     |            |     |
| A/MexicoCity/WR1301N/2009    |     |   |     |   |     |                 |     |            |     |
| A/MexicoCity/WR1307N/2009    |     |   | R   |   |     |                 |     |            |     |
| A/MexicoCity/WR1675T/2009    |     |   | R   |   |     | V               |     |            |     |
| A/MexicoCity/WRAIR1679N/2009 |     |   |     |   |     |                 |     |            |     |
| A/MexicoCity/WR1701T/2009    |     |   |     |   |     | NT              |     |            |     |
| A/Mexico/InDRE3740/2011      |     |   |     |   |     | X               |     |            |     |

|                              | 721                                   | 750 | 757 |
|------------------------------|---------------------------------------|-----|-----|
| A/California/04/2009         |                                       |     |     |
| A/Mexico/UASLP-018/2009      | RARIDARVDFESGRIKKEEFSEIMKICSTIEELRQK* |     |     |
| A/Mexico/UASLP-019/2009      | -----*****                            |     |     |
| A/Mexico/UASLP-021/2009      | -----*****                            |     |     |
| A/Mexico/UASLP-022/2009      | -----*****                            |     |     |
| A/Mexico/UASLP-023/2009      | -----*****                            |     |     |
| A/Mexico/UASLP-024/2009      | -----*                                |     |     |
| A/Mexico/UASLP-025/2009      | -----*                                |     |     |
| A/Mexico/UASLP-026/2009      | -----*                                |     |     |
| A/Mexico/UASLP-029/2009      | -----*                                |     |     |
| A/Mexico/UASLP-030/2010      | -----*                                |     |     |
| A/Mexico/LaGloria-8/2009     | -----*                                |     |     |
| A/Mexico/4269/2009           | -----*                                |     |     |
| A/Mexico/47N/2009            | -----*                                |     |     |
| A/Mexico/InDRE13551/2009     | -----*                                |     |     |
| A/Mexico/InDRE13495/2009     | -----*                                |     |     |
| A/Mexico/InDRE13555/2009     | -----*                                |     |     |
| A/Mexico/InDRE13494/2009     | -----*                                |     |     |
| A/MexicoCity/023/2009        | -----*                                |     |     |
| A/MexicoCity/004/2009        | -----*                                |     |     |
| A/MexicoCity/017/2009        | -----*                                |     |     |
| A/MexicoCity/014/2009        | -----*                                |     |     |
| A/MexicoCity/008/2009        | -----*                                |     |     |
| A/MexicoCity/018/2009        | -----*                                |     |     |
| A/MexicoCity/009/2009        | -----*                                |     |     |
| A/Mexicocity/CIA9/2009       | -----I                                |     |     |
| A/Mexicocity/CIA2/2009       | -----*                                |     |     |
| A/MexicoCity/WR1306N/2009    | -----*                                |     |     |
| A/MexicoCity/WR1297N/2009    | -----*                                |     |     |
| A/MexicoCity/WR1308T/2009    | -----*                                |     |     |
| A/MexicoCity/WR1301N/2009    | -----*                                |     |     |
| A/MexicoCity/WR1307N/2009    | -----*                                |     |     |
| A/MexicoCity/WR1675T/2009    | -----*                                |     |     |
| A/MexicoCity/WRAIR1679N/2009 | -----D-----*                          |     |     |
| A/MexicoCity/WR1701T/2009    | -----*                                |     |     |
| A/Mexico/InDRE3740/2011      |                                       |     |     |