**Supplementary material**

**Table S1. Accession numbers of sequence used as reference and accession numbers of sequences from this study**

|  |  |  |  |
| --- | --- | --- | --- |
| Gene | Accession numbers A/California/07/2009(H1N1)/2009 | Accession number 2012 sequences | Accession number 2013-2014 sequences |
| PB2 | KC781783 | KR820943KR821005KR820959KR821037KR821013KR821001KR820977KR821021KR821045KR820985KR820935KR820993KR820951KR821029KR820928KR820967 | KR271532KR271548KR271604KR271540KR271556KR271564KR271572KR271580KR271588KR271596 |
| PB1 | KC781787FJ969531 | KR820944KR821006KR821014KR820978KR821022KR821046KR820986KR820936KR820952KR821030KR820929KR820968 | KR271533KR271549KR271605KR271541KR271557KR271565KR271573KR271581KR271589KR271597 |
| PA | KC781786 | KR820945KR821007KR821039KR820979KR821023KR821047KR820987KR820937KR820953KR821031KR820969 | KR271534KR271550KR271606KR271542KR271558KR271566KR271574KR271582KR271590KR271598 |
| HA | KF009554FJ981613 | KR820946KR821008KR820962KR821040KR821016KR820980KR821024KR821048KR820988KR820938KR820996KR820954KR821032 | KR271535KR271551KR271607KR271543KR271559KR271567KR271575KR271583KR271591KR271599 |
| NP | FJ969536GQ338390 | KR820974KR820947KR821009KR820963KR821041KR821002KR820981KR821025KR821049KR820989KR820939KR821033KR820931KR820970 | KR271536KR271552KR271608KR271544KR271560KR271568KR271576KR271584KR271592KR271600 |
| NA | KF009555GQ377078 | KR820948KR821010KR821042KR820982KR821026KR821050KR820990KR820940KR820956KR821034KR820932KR820971 | KR271537KR271553KR271609KR271545KR271561KR271569KR271577KR271585KR271593KR271601 |
| M | FJ966975FJ969527 | KR820975KR820949KR821011KR820965KR821043KR821019KR821003KR820983KR821027KR821051KR820991KR820941KR820999KR820957KR821035KR820933KR820972 | KR271538KR271554KR271610KR271546KR271562KR271570KR271578KR271586KR271594KR271602 |
| NS | KC781782 | KR820976KR820950KR821012KR820966KR821044KR821020KR821004KR820984KR821028KR821052KR820992KR820942KR821000KR820958KR821036KR820934KR820973 | KR271539KR271555KR271611KR271547KR271563KR271571KR271579KR271587KR271595KR271603 |