Differences in antigenic sites and other functional regions between genotype A and G mumps virus surface proteins

Sigrid Gouma1, 2, 3#, Tessa Vermeire4, 5, 6#, Steven Van Gucht4\*, Lennart Martens5, 6, Veronik Hutse4, Jeroen Cremer1, Paul A. Rota7§, Geert Leroux-Roels8,Marion Koopmans1,2, Rob van Binnendijk1, Elien Vandermarliere5,6

1Centre for Infectious Disease Control, RIVM, Bilthoven, the Netherlands; 2Department of Viroscience, Erasmus MC, Rotterdam, the Netherlands; 3Microbiology Department, Perelman School of Medicine, University of Pennsylvania, Philadelphia, USA, 4National Reference Centre for Measles, Mumps and Rubella, Scientific Institute of Public Health (Sciensano), Brussels, Belgium; 5Department of Biochemistry, Ghent University, Ghent, Belgium; 6VIB-UGent Center for Medical Biotechnology, VIB, Ghent, Belgium; 7National Center for Immunization and Respiratory Diseases, Centers for Disease Control and Prevention (CDC), Atlanta, USA; 8Center for Vaccinology, Ghent University, Ghent, Belgium

# these authors contributed equally to this work

\*Corresponding author; steven.vangucht@sciensano.be

§The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

***Supplementary table 1.*** *Overview of the GenBank sequences used for phylogenetic analysis and for analysis of the F and HN proteins.*

|  |  |  |  |
| --- | --- | --- | --- |
|  | **GenBank accession number** | | |
| **Genotype** | **SH gene** | **F gene** | **HN gene** |
| A | AF201473, AF338106\*, AF345290, FJ211586, FN431985, GU980052\*, HQ416906, HQ416907 | AF201473, AF338106\*, AF345290, AJ010821, AJ133693, FJ211586, FN431985, HQ416906, HQ416907 | AF201473, AF338106\*, AF345290, AY584603, AY584604, FJ211586, FN431985, HQ416906, HQ416907, X93178, X93179, |
| B | AB000388\*, AB823535, AB827968, JQ945269\* | AB823535, AB827968 | AB823535, AB827968, JQ946041\* |
| C | AY669145, EU370206\*, JQ034465, JQ034466, JQ945268\* | AY669145 | AY669145, JQ034465, JQ034466, JQ999999\* |
| D | JQ034452\*, JQ945275\* |  | JQ034464\*, JQ946039\* |
| F | DQ649478, EU780221\*, EU884413, FJ556896, HQ693823, HQ693825, JQ034459, JQ034460, JQ034461, JQ945272\* | EU884413, FJ556896 | DQ649478, EU884413, FJ556896, HQ693823, HQ693824, HQ693825, HQ693826, JQ034459, JQ034460, JQ034461, JQ034462, JQ034463\*, JQ946034\* |
| G | AF280799\*, EU370207, EU597478\*, JN012242, JN635498, JX287385, JX287387, JX287389, JX287390, JX287391, JX390987, JX390988, JX390989, JX390990, JX390991, JX390992, JX390993, JX390994, JX390995, JX878447, KF481689 | JN012242, JN635498, JX287385, JX287387, JX287389, JX287390, JX287391, KF481689 | EU370207, JN012242, JN635498, JQ946046\*, JX287385, JX287387, JX287389, JX287390, JX287391, JX390987, JX390988, JX390989, JX390990, JX390991, JX390992, JX390993, JX390994, JX390995, JX878447, KC852187, KC852188, KF481689 |
| H | AB600843\*, AF467767, AY681495, JN687469, JQ388690, JQ388691, JQ945273\*, JX287388 | AF467767, AY681495, JQ388690, JQ388691, JX287388 | AF467767, AY681495, JN687469, JQ388690, JQ388691, JQ946035\*, JX287388 |
| I | JQ945274\*, AY309060\* |  | JQ946037\* |
| J | JQ945271\*, AB105475\* |  | JQ946033\*, JQ946044\* |
| K | EU082458, JQ945276\*, JQ945270\*, JX287386, KC921200, KC921201, KC921202, KC921203, KF212191 | JX287386 | JQ946040\*, JQ946045\*, JX287386, KC921200, KC921201, KX921202, KX921203, KF212191, JF268685 |
| L | AB105483\*, AB105480\* |  | JQ946036\*, JQ946043\* |
| N | AY508995\*, AY685920\* |  |  |
| Unclassified | AF142774\*, AB003415\*, AY380077\* |  |  |

*\* WHO reference strain*