

Antigenicity and receptor binding properties of Enterovirus 68, a potential virus causing severe respiratory illness in recent times

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Professor Hitoshi Oshitani's research group at Tohoku University Graduate School of Medicine has reported, for the first time in the world, the antigenic and receptor binding properties of Enterovirus 68 (EV68). Recently detection of EV68 has been increased in different parts of the world. In the study, the antigenicity and the host receptor binding properties of the virus were investigated. Recent EV68 strains were found evidently different antigenic properties from the original reference strain, and the current EV68 contained multiple antigenically distinct strains. EV68 strains showed higher binding affinity to the receptor, α 2-6-linked sialic acid, mainly located in the upper respiratory track compared to the α 2-6-linked sialic acid, located in the lower respiratory tract. Overall, the study indicates that the recent worldwide spread of EV68 is likely to be due to the emergence of new antigenically distinct viruses strains. The study findings contribute to achieve a better understanding of the transmission dynamics and pathogenesis of EV68. The research work was published in American Microbiological Society's Official Journal, Journal of Virology (J Virol. Mar 2014; 88(5): 2374–2384.)



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<http://www.med.tohoku.ac.jp/english/org/medical/16/index.html>

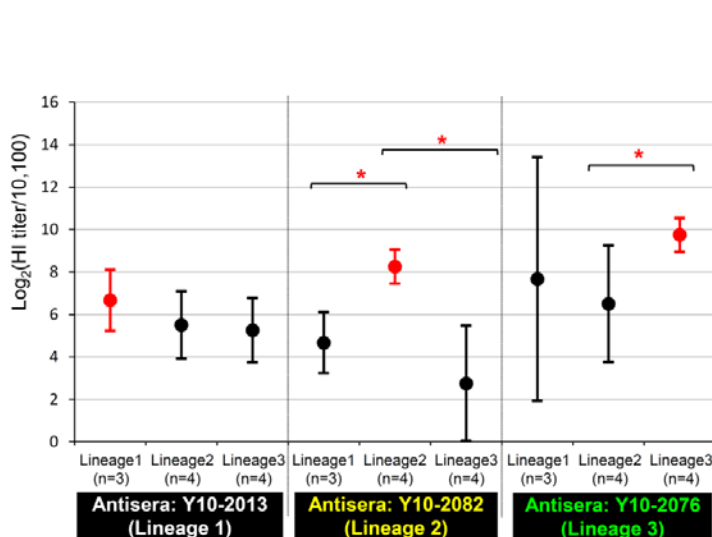


Figure. 1 Differences in antigenicity among the different lineages of recent EV68.

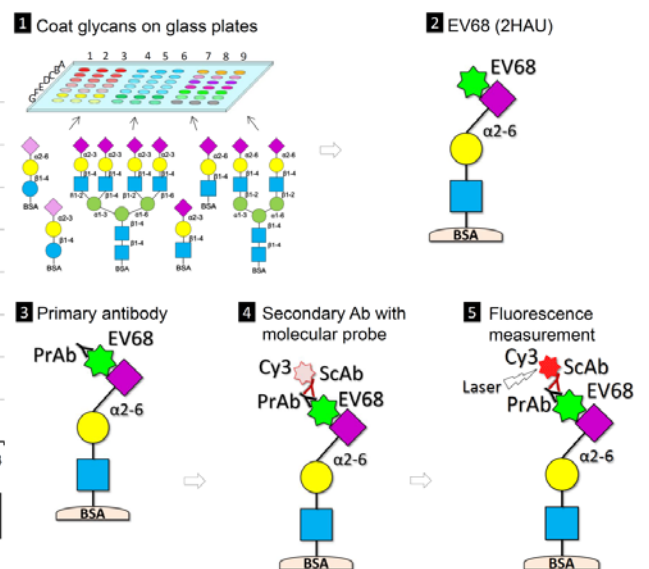


Figure. 2 Schematic diagram of Receptor binding specificity of EV68 by glycan array analysis.

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