GENETIC ANALYSIS OF SAFFOLD VIRUS-PENANG IN RELATION TO OTHER NEWLY DISCOVERED SAFFOLD VIRUSES

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Abstract. Viruses in the family Picornaviridae are classified into nine genera. Within the family Picornaviridae, two species: Encephalomyocarditis virus and Theilovirus, are listed under the genus Cardiovirus. A novel Theilovirus, Saffold virus (SAFV), was first reported in 2007. Since then, numerous SAFV isolates have been detected around the world and genetic recombinations have been reported among them. In 2009, SAFV-Penang was isolated from a febrile child with influenza-like illness in Malaysia. SAFV-Penang is a genotype 3 SAFV. In this study we investigated the genome features of SAFV-Penang to exclude the possibility it is a recombinant variant. SAFV-Penang was found not to be a recombinant variant but to have three unique non-synonymous substitutions, alanine [A⁶⁸⁹], lysine [K⁷⁰₈] and isoleucine [I⁷₂⁴] in the VP1 protein.

Keywords: Saffold virus, SAFV-Penang, genetic analysis