

# 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 [A<sup>689</sup>], lysine [K<sup>708</sup>] and isoleucine [I<sup>724</sup>] in the VP1 protein.

**Keywords:** Saffold virus, SAFV-Penang, genetic analysis

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