Abstract

Hand foot and mouth disease (HFMD) is a common childhood disease, with enterovirus A71 (EV-A71) and coxsackievirus A16 (CA16) as the major causative agents. Infection by one does not cross-protect from the other and vice-versa. Based on the availability of a stable, cold-adapted, temperature-sensitive/conditional lethal EV-A71 generated earlier (Chua *et al*. 2021), an equally stable EV-A71 virus vector was created to generate chimeric enterovirus strains expressing capsid protein genes of EV-A71 subgenogroup C5 and CA16. These chimeric enteroviruses have similar stable, cold-adapted temperature-sensitive/conditional lethal phenotypes as their parental strain. Our work opens vast opportunities to study the molecular determinant(s) of EV-A71 temperature sensitivity and potential use of the enterovirus vector to generate stable, cold-adapted temperature-sensitive/conditional lethal chimeric enteroviruses carrying capsid protein genes belonging to *Enterovirus* species A.