ODÍN Science

Enterovirus 71(EV71)

Enteroviruses are a group of viruses responsible for numerous pandemics, posing significant public health risks. Among them, **Enterovirus 71(EV71)**, along with Coxsackievirus A16(CVA16)and Coxsackievirus A6(CVA6), is a major cause of hand, foot, and mouth disease(HFMD). Identified in 1969, EV71 is a single-stranded RNA virus approximately 7.5 kb in length, belonging to the genus Enterovirus within the family Picornaviridae.

EV71 primarily affects infants and young children under the age of five. While HFMD caused by EV71 is often selflimiting, some cases progress to severe complications, such as aseptic meningitis, brainstem encephalitis, and other neurological disorders. Since its discovery, EV71 has caused numerous outbreaks and epidemics worldwide, particularly in the Asia-Pacific region, affecting countries like China, Korea, Singapore, Japan, and Vietnam. Despite the availability of EV71 vaccines, no effective clinical drugs have been developed to treat HFMD caused by EV71.



Fig 1.Structure of the enterovirus 71 (EV71) virion

The EV71 genome contains a single open reading frame, encoding 2,193 amino acids. During replication, the polyprotein is divided into P1, P2, and P3 regions. The P1 region encodes four structural proteins (VP1, VP2, VP3, VP4) that form the viral capsid, while the P2 and P3 regions encode seven nonstructural proteins (2A, 2B, 2C, 3A, 3B, 3C, 3D). These proteins are critical for viral replication, host immune responses, and inflammatory processes. Together, these 11 proteins play a central role in EV71 pathogenesis and serve as key targets for research into antiviral therapies and diagnostic tools.



Fig.2 Genome organization of Enterovirus 71(EV71)

Protein	
Catalog No.	Product Name
VK633012	Recombinant EV71 VP1/Capsid protein VP1 Protein, N-His
VK633022	Recombinant EV71 P2A/Protease 2A Protein, N-His
VK633032	Recombinant EV71 VP4/P1A Protein, N-GST & C-His
VK633042	Recombinant EV71 VP1/P1D Protein, N-Fc
VK801012	Recombinant EV71 VP0/Capsid protein VP0 Protein, N-GST
VK788012	Recombinant EV71 VP3/Capsid protein VP3 Protein, N-GST
VK613012	Recombinant EV71 Protease 3C Protein, C-His
VK509012	Recombinant EV68 P3C/Protease 3C Protein, N-His
VK509022	Recombinant EV68 VP1/P1D Protein, N-His
VK509032	Recombinant EV68 VP3/P1C Protein, N-His
VK509042	Recombinant EV68 VP2/P1B Protein, N-His
Monoclonal Antibody	
Catalog No.	Product Name
VK633023	Anti-EV71 VP1/Capsid protein VP1 Antibody (MA28-7)
VK633033	Anti-EV71 Capsid protein VP1/2/3 Antibody (ABS1797)
VK574013	Anti-EV71 Capsid protein VP2/VP2 Antibody (M1-20)
VK633010	InVivoMAb Anti-EV71 Procapsid Antibody (22A12)
VK633030	InVivoMAb Anti-EV71 Mature virion in Complex Antibody (A9)
VK633040	InVivoMAb Anti-EV71 Mature virion in Complex Antibody (D6)
VK509010	InVivoMAb Anti-EV-D68 Capsid protein VP1/VP3/VP4 Antibody (ABV0097)
Polyclonal Antibody	
Catalog No.	Product Name
VK788014	Anti-EV71 VP3/Capsid protein VP3 Polyclonal Antibody
VK801014	Anti-EV71 VP0/Capsid protein VP0 Polyclonal Antibody
VK633014	Anti-EV71 VP1/Capsid protein VP1 Polyclonal Antibody
VK509014	Anti-EV68P3C/Protease 3C Polyclonal Antibody
VK509024	Anti-EV68VP1/P1D Polyclonal Antibody
VK509034	Anti-EV68VP3/P1C Polyclonal Antibody
VK509044	Anti-EV68VP2/P1B Polyclonal Antibody
VK633024	Anti-EV71 P2A/Protease 2A Polyclonal Antibody
VK633034	Anti-EV71 VP4/P1A Polyclonal Antibody

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Telephone: +33(0)390205470 Mail:info@abinscience.com

Web:www.abinscience.com Add:19 rue de la Haye 67300 Schiltigheim France