CREATIVE BIOMART®
Diagnostic Proteins

Recombinant Human Parainfluenza Virus Type 3 Fusion Protein, His-tagged

Product Information

Cat#	
HUM-424	
Product Name	
Recombinant Human Parainfluenza Virus Type 3 Fusion Protein, His-tagged	
Description	
Recombinant human Parainfluenza Virus Type 3 fusion protein, manufactured in HEK293 cells. Fusion of the HPIV viral envelope and the cell membrane, and the consequent release of the nucleocapsid to the cytoplasm, is mediated by the envelope fusion protein (F).	
Type	
Recombinant	
Gene	
Human Parainfluenza Virus Type 3 Fusion	
Species	
HPIV	
Source	
HEK293	
Synonyms	
Human Parainfluenza Virus Type 3 Fusion	
Formulation	
PBS	
Purity	
>90% purity.	
Notes	

Tel: 1-631-559-9269 1-516-512-3133
Email:info@creative-biomart.com
Fax:1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA

CREATIVE BIOMART®
Diagnostic Proteins

Recombinant Human Parainfluenza Virus Type 3 Fusion Protein, His-tagged

This product is intended for research and manufacturing uses only. It is not a diagnostic device. The user assumes all responsibility for care, custody and control of the material, including its disposal, in accordance with all regulations.

Tags

His

Background

Human parainfluenza viruses (HPIV) belong to a diverse group of enveloped single-stranded RNA viruses within the Paramyxoviridae family, a large and expanding group of viruses that includes metapneumovirus and the mumps, measles and respiratory syncytial viruses. Paramyxoviruses are enveloped animal viruses with non-segmented negative-strand RNA genomes (complementary to mRNA), which are identified almost exclusively in nucleocapsid structures. The HPIV genome comprises approximately 15,000 nucleotides and encodes six common structural proteins: 'large' (L) nucleocapsid protein, P and N, which are closely associated with viral RNA, haemagglutinin-neuraminidase (HN), and fusion (F) and membrane (M) proteins. HPIVs bind and replicate in the ciliated epithelial cells of the upper and lower respiratory tract and the extent of the infection correlates with the location involved (reviewed in Branche & Falsey, 2016). Human parainfluenza virus type 3 enters cells by directly fusing with the cell membrane. During entry, the viral surface glycoproteins HN, a receptor-binding protein, and F cooperate to mediate fusion upon receptor binding (Xu et al., 2013). The HN and fusion glycoproteins are the major targets for neutralizing antibodies (reviewed in Branche & Falsey, 2016). F is a class I viral fusion protein and has at least 3 conformational states: pre-fusion native state, pre-hairpin intermediate state, and post-fusion hairpin state. During viral and plasma cell membrane fusion, the heptad repeat (HR) regions assume a trimer-of-hairpins structure, positioning the fusion peptide in close proximity to the C-terminal region of the ectodomain. The formation of this structure appears to drive fusion of viral and plasma cell membranes and directs fusion of viral and cellular membranes leading to delivery of the nucleocapsid into the cytoplasm.
Human rhinovirus (HRV), respiratory syncytial virus (RSV), influenza virus and coronaviruses are considered the most important viral respiratory pathogens. However, seasonal HPIV epidemics

Tel: 1-631-559-9269 1-516-512-3133
Email:info@creative-biomart.com
Fax:1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA

Recombinant Human Parainfluenza Virus Type 3 Fusion Protein, His-tagged

result in a significant burden of disease in children and account for 40% of pediatric hospitalizations for lower respiratory tract illnesses (LRTIs) and 75% of croup cases. A wide spectrum of illness including colds, croup, bronchiolitis, and pneumonia are attributed to these ubiquitous pathogens. The most severe disease is found among immunocompromised patients and treatment at present remains largely supportive. Viral coinfections may also be a cause of pneumonia, including coinfection with both HPIV and human coronaviruses such as HCoV-229E (Gonzales Zamora, 2018). Several promising antiviral drugs are in development and are in early-stage clinical trials. Continued research for new vaccines and therapeutics is therefore needed (reviewed in Branche & Falsey, 2016).

Tel: 1-631-559-9269 1-516-512-3133
Email:info@creative-biomart.com
Fax:1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA