

Recombinant Human betacoronavirus S2, His-tagged

Cat. No. S2-440H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	A DNA sequence encoding the spike protein S2 (Human betacoronavirus 2c EMC/2012)(AFS88936.1)(Asp726-Pro1296) was fused with a polyhistidine tag at the C-terminus.
Species	Human
Source	Insect Cells
ProteinLength	726-1296 a.a.
Description	The spike protein is one of the four major structural proteins of the coronavirus. Coronaviruses primarily cause respiratory and enteric diseases in mammals and birds. Coronavirus symptoms include rhinorrhea, sneezing, cough, nasal obstruction, bronchitis and so on. In 2003, a novel coronavirus which is known as SARS coronavirus cause the severe acute respiratory syndrome (SARS) epidemic that began in Asia in 2002. Coronavirus entry is mediated by the viral spike protein. The 180-kDa oligomeric spike protein of the murine coronavirus mouse hepatitis virus strain A59 is posttranslationally cleaved into an S1 receptor binding unit and an S2 membrane fusion unit. Both biochemical and functional data show that the coronavirus spike protein is a class I viral fusion protein. HCoV-EMC is a novel coronavirus isolated from a Saudi patient presenting with pneumonia and renal failure in June 2012. Genome sequencing showed that this virus belongs to the group C species of the genus betacoronavirus and phylogenetically related to the bat coronaviruses HKU4 and HKU5 previously found in lesser bamboo bat and Japanese

 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

Pipistrelle bat of Hong Kong respectively. HCoV-EMC has been identified as a highly lethal virus that could be passed from animals to humans very easily. The virus, like other coronaviridae, has the potential to infect bats and pigs in addition to humans. HCoV-EMC is related to the causative agent of SARS (severe acute respiratory syndrome), SARS coronavirus. and also may be even more infectious as it does not use the human receptor protein ACE2. The receptor used by HCoV-EMC has not been identified. Symptoms of infection include kidney failure and severe pneumonia. The animal source has still not been identified but may circulate among populations of bats.

Predicted N Terminal	Asp 726
Form	Lyophilized from sterile 20mM Tris, 500mM NaCl, pH 7.4. Normally 5 % - 8 % trehalose and mannitol are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.
Molecular Mass	The recombinant spike protein S2 (Human betacoronavirus 2c EMC/2012) comprises 581 amino acids and has a predicted molecular mass of 63.7 kDa. It migrates as an approximately 66 kDa band in SDS-PAGE under reducing conditions.
Endotoxin	< 1.0 eu per µg of the protein as determined by the lal
Purity	>85 % as determined by SDS-PAGE
Stability	Samples are stable for up to twelve months from date of receipt at -70°C
Storage	Store it under sterile conditions at -70°C. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.

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