Recombinant MERS-CoV Spike protein

Catalog Number: ATGP3979

PRODUCT INFORMATION

Expression system
Baculovirus

Domain
18-1296aa

UniProt No.
K0BRG7

NCBI Accession No.
AFS88936

Alternative Names
Middle East respiratory syndrome coronavirus, Human betacoronavirus 2c EMC/2012, MERS-CoV, MERS, MERS-CoV SP, Spike glycoprotein, S glycoprotein, S, Spike protein

PRODUCT SPECIFICATION

Molecular Weight
141.6kDa(1285aa)

Concentration
0.25mg/ml (determined by Bradford assay)

Formulation
Liquid. In Phosphate-Buffered Saline (pH 7.4) containing 10% glycerol

Purity
> 85% by SDS - PAGE

Endotoxin level
< 1 EU per 1ug of protein (determined by LAL method)

Tag
His-Tag

Application
SDS-PAGE

Storage Condition
Can be stored at +2C to +8C for 1 week. For long term storage, aliquot and store at -20C to -80C. Avoid repeated freezing and thawing cycles.

BACKGROUND

Description
MERS-CoV, which causes the Middles East Respiratory Syndrome (MERS), belongs to a family of viruses known as coronaviruses. MERS-CoV was first identified in the Kingdom of Saudi Arabia in 2012, which is a single and positive stranded RNA virus. Dromedary camels are widely considered as the source of the transmission of MERS-

CoV. The rate of human transmission among household contacts of MERS patients has been approximately 5 % based on serological analysis. MERS-CoV has four structural proteins, known as the S (spike), E (envelope), M (membrane), and N (nucleocapsid) proteins. The spike protein, responsible for allowing the virus to attach to and fuse with the membrane of a host cell and is a large type I transmembrane protein containing two subunits, S1 and S2. S1 mainly contains a receptor binding domain (RBD), which is responsible for recognizing the cell surface receptor. S2 contains basic elements needed for the membrane fusion. MERS-CoV S mediates viral attachment and fusion to human cells via human cellular receptor DPP4, also known as CD26. The S protein plays key parts in the induction of neutralizing-antibody and T-cell responses, as well as protective immunity. Recombinant MERS-CoV Spike, fused to His-tag at C-terminus, was expressed in insect cell and purified by using conventional chromatography techniques.

Amino acid Sequence

YVDVGPDSVK SACIEVDIQQ TFFDKTWPRP IDVSKADGII YPQGRTYSNI TITYQGLFPY QGDHGDMYVY SAGHATGTTP QKLFVANYSQ DVKQFANGFV VRIGAAANST GTVIISPSTS ATIRKIYPAF MLGSSVGNFS DGKMGRFFNH TLVLLPDGCG TLLRAFYCIL EPRSGNHCPA GNSYTSFATY HTPATDCSDG NYNRNASLNS FKEYFNLRNC TFMYTYNITE DEILEWFGIT QTAQGVHLFS SRYVDLYGGN MFQFATLPVY DTIKYYSIIP HSIRSIQSDR KAWAAFYVYK LQPLTFLLDF SVDGYIRRAI DCGFNDLSQL HCSYESFDVE SGVYSVSSFE AKPSGSVVEQ AEGVECDFSP LLSGTPPQVY NFKRLVFTNC NYNLTKLLSL FSVNDFTCSQ ISPAAIASNC YSSLILDYFS YPLSMKSDLS VSSAGPISQF NYKQSFSNPT CLILATVPHN LTTITKPLKY SYINKCSRLL SDDRTEVPQL VNANQYSPCV SIVPSTVWED GDYYRKQLSP LEGGGWLVAS GSTVAMTEQL QMGFGITVQY GTDTNSVCPK LEFANDTKIA SQLGNCVEYS LYGVSGRGVF QNCTAVGVRQ QRFVYDAYQN LVGYYSDDGN YYCLRACVSV PVSVIYDKET KTHATLFGSV ACEHISSTMS QYSRSTRSML KRRDSTYGPL QTPVGCVLGL VNSSLFVEDC KLPLGQSLCA LPDTPSTLTP RSVRSVPGEM RLASIAFNHP IQVDQLNSSY FKLSIPTNFS FGVTQEYIQT TIQKVTVDCK QYVCNGFQKC EQLLREYGQF CSKINQALHG ANLRQDDSVR NLFASVKSSQ SSPIIPGFGG DFNLTLLEPV SISTGSRSAR SAIEDLLFDK VTIADPGYMQ GYDDCMQQGP ASARDLICAQ YVAGYKVLPP LMDVNMEAAY TSSLLGSIAG VGWTAGLSSF AAIPFAQSIF YRLNGVGITQ QVLSENQKLI ANKFNQALGA MQTGFTTTNE AFQKVQDAVN NNAQALSKLA SELSNTFGAI SASIGDIIQR LDVLEQDAQI DRLINGRLTT LNAFVAQQLV RSESAALSAQ LAKDKVNECV KAQSKRSGFC GQGTHIVSFV VNAPNGLYFM HVGYYPSNHI EVVSAYGLCD AANPTNCIAP VNGYFIKTNN TRIVDEWSYT GSSFYAPEPI TSLNTKYVAP QVTYQNISTN LPPPLLGNST GIDFQDELDE FFKNVSTSIP NFGSLTQINT TLLDLTYEML SLQQVVKALN ESYIDLKELG NYTYYNKWP<H HHHHH>

General References

Junghyun Goo., et al. (2020) Virus Res. 278:197863.
Yan-Hua Li., et al. (2019) Engineering. 5:940-947.
Lingshu Wang., et al. (2018) J Virol. 92:e02002-2017.
Nicolas Papageorgiou., et al. (2016) Acta Crystallogr D Struct Biol. 72:192-202.
Xiao-Yan Che., et al. (2004) J Clin Microbiol. 42:2629-2635.

DATA

SDS-PAGE

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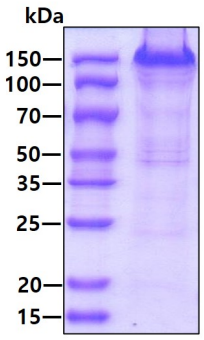

3ug by SDS-PAGE under reducing condition and visualized by coomassie blue stain