Recombinant MERS-CoV Spike RBD His-tag

Catalog Number: 10636-CV

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived mers-cov Spike RBD protein Glu367-Tyr606, with a C-terminal 6-His tag Accession # YP_007188579.1
N-terminal Sequence Analysis	Glu367 & Lys369
Predicted Molecular Mass	27 kDa

SPECIFICATIONS

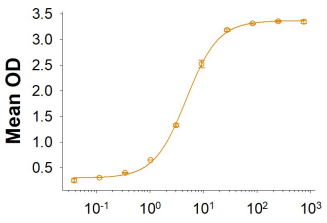
SDS-PAGE	34-41 kDa, under reducing conditions
Activity	Measured by its binding ability in a functional ELISA with Recombinant Human DPPIV/CD26 (High Purity Dimer) (Catalog # 9168-SE).
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Supplied as a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Shipping	The product is shipped with dry ice or equivalent. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 6 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after opening. • 3 months, -20 to -70 °C under sterile conditions after opening.

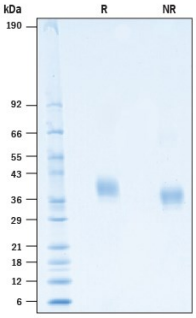
DATA

Binding Activity



Recombinant MERS-CoV Spike RBD His-tag (Catalog # 10636-CV) binds Recombinant Human DPPIV/CD26 (High Purity Dimer) (Catalog # 9168-SE) in a functional ELISA.

SDS-PAGE



2 µg/lane of Recombinant MERS-CoV Spike RBD His-tag (Catalog # 10636-CV) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 34-41 kDa.

BACKGROUND

MERS-CoV (also known as HCoV-EMC), which causes the Middle East Respiratory Syndrome (MERS), was first reported in Saudi Arabia in 2012 as a novel coronavirus (1). Coronaviruses are a family of viruses that are commonly comprised of a large plus-strand RNA genome and four structural proteins: Spike protein (S), Envelope protein (E), Membrane protein (M), and Nucleocapsid protein (N). There are two well-known human coronavirus families that infect humans: Alpha coronaviruses which includes HCoV-229E and HCoV-NL63; beta coronaviruses that includes MERS-CoV, HCov-OC43, Severe Acute Respiratory Syndrome (SARS-CoV), and global pandemic Covid-19 (SARS-CoV2) (2). The MERS-CoV Spike Protein (S Protein) is a glycoprotein that mediates membrane fusion and viral entry, and it consists of two subunits, S1 and S2. The S1 subunit is focused on attachment of the protein to the host receptor while the S2 subunit is involved with cell fusion (3). Located within the S1 subunit is the receptor binding domain (RBD). The RBD is responsible for the binding of MERS-CoV to dipeptidyl peptidase IV (DPP4, also known as human CD26) (4). The RBD of MERS-CoV shares 24% and 21% amino acid sequence (aa) identity with SARS-CoV RBD and SARS-Cov2 RBD, respectively. The low aa sequence identity is consistent with the finding that MERS-CoV and SARS-CoV bind different cellular receptors (4). The S1 subunit, especially the RBD region, of MERS-CoV was commonly targeted for vaccinations or antiviral therapies (5-7).

References:

1. Zaki, A.M. *et al.* (2012) N. Engl. J. Med. **367**:1814.
2. Ogimi, C. *et al.* (2020) J Pediatric Infect Dis Soc doi: 10.1093/jpids/piaa037.
3. Li, Y. *et al.* (2019) Engineering. **5**:940.
4. Raj, V.S. *et al.* (2013) Nature **495**:251.
5. Corti, D. *et al.* (2016) J. Infect. Public Health **9**:231.
6. Tang, X.C. *et al.* (2014) Proc. Natl. Acad. Sci. USA **111**:E2018.
7. Jiang, L. *et al.* (2014) Sci. Transl. Med. **6**:234ra59.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449