Data Sheet (Cat.No.TMPK-01144)

TargetMol

Kremen-1 Protein, Human, Recombinant (hFc)

General Information

Synonyms:	Kremen protein 1;KREMEN1;KREMEN;KRM1
Protein Construction:	Arg21-Thr392
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q96MU8-1
Molecular Weight:	67.6 kDa (predicted). Due to glycosylation, the protein migrates to 80-110 kDa based on Tris-Bis PAGE result.

QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 95% as determined by Tris-Bis PAGE; > 95% as determined by HPLC
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS (pH 7.4). Typically, 8% trehalose is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100 μg/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

KREMEN1 (KRM1) has been identified as a functional receptor for Coxsackievirus A10 (CV-A10), a causative agent of hand-foot-and-mouth disease (HFMD), which poses a great threat to infants globally. KRM1 selectively binds to the mature viral particle above the canyon of the viral protein 1 (VP1) subunit and contacts across two adjacent asymmetry units. The key residues for receptor binding are conserved among most KRM1-dependent enteroviruses, suggesting a uniform mechanism for receptor binding.

Reference

Cui Y, et al. Molecular basis of Coxsackievirus A10 entry using the two-in-one attachment and uncoating receptor KRMProc Natl Acad Sci U S A. 2020 Aug 4;117(31):18711-18718. doi: 10.1073/pnas.2005341117. Epub 2020 Jul 20. PMID: 32690697; PMCID: PMC7414063.

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