Data Sheet (Cat.No.TMPY-01605)

TargetMol

STIM1 Protein, Human, Recombinant (His)

General Information

Synonyms:	stromal interaction molecule 1;TAM1;GOK;STRMK;IMD10;D11S4896E;TAM
Protein Construction:	A DNA sequence encoding the human STIM1 (NP_003147.2) extracellular domain (Met 1-Asp 213) was expressed, with a polyhistidine tag at the C-terminus. Predicted N terminal: Leu 23
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q13586-1
Molecular Weight:	23.3 kDa (predicted); 33-38 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 97 % as determined by SDS-PAGE
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, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

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

Stromal interaction molecule 1, also known as STIM1 and GOK, is a cell membrane, a single-pass type I membrane protein and a endoplasmic reticulum membrane protein. STIM1 / GOK is ubiquitously expressed in various human primary cells and tumor cell lines. It contains one EF-hand domain and one SAM (sterile alpha motif) domain. STIM1 / GOK plays a role in mediating Ca2+influx following depletion of intracellular Ca2+stores. It acts as Ca2+sensor in the endoplasmic reticulum via its EF-hand domain. Upon Ca2+depletion, STIM1 / GOK translocates

from the endoplasmic reticulum to the plasma membrane where it activates the Ca2+release-activated Ca2+ (CRAC) channel subunit, TMEM142A / ORAI1. Transfection of STIM1 / GOK into cells derived from a rhabdoid tumor and from a rhabdomyosarcoma that do not express detectable levels of STIM1 can induce cell death, suggesting a possible role in the control of rhabdomyosarcomas and rhabdoid tumors. Defects in STIM1 are the cause of immune dysfunction with T-cell inactivation due to calcium entry defect type 2 (IDTICED2) which is an immune disorder characterized by recurrent infections, impaired T-cell activation and proliferative response, decreased T-cell production of cytokines, lymphadenopathy, and normal lymphocytes counts and serum immunoglobulin levels.

Reference

Sabbioni S. et al., 1997, Cancer Res. 57: 4493-7.
Manji S.S. et al., 2000, Biochim. Biophys. Acta 1481: 147-55.
Williams R.T. et al., 2002, Biochim. Biophys. Acta. 1596: 131-7.
Spassova M.A. et al., 2006, Proc. Natl. Acad. Sci. USA. 103: 4040-5.
Parvez S. et al., 2008, FASEB J. 22: 752-61.

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