

Human STIM1 / GOK Protein (His Tag)

Catalog Number: 11434-H08H



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Biological Solution Specialist

General Information

Gene Name Synonym:

D11S4896E; GOK; IMD10; STRMK; TAM; TAM1; SIM

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.

Source: Human

Expression Host: Human Cells

QC Testing

Purity: > 97 % as determined by SDS-PAGE

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Leu 23

Molecular Mass:

The recombinant human STIM1 consists of 202 amino acids and predicts a molecular mass of 23.3 kDa. In SDS-PAGE under reducing conditions, the apparent molecular mass of rh STIM1 is approximately 33-38 kDa due to glycosylation.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

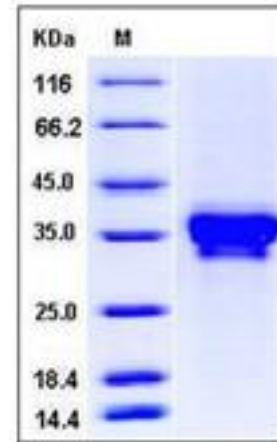
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Stromal interaction molecule 1, also known as STIM1 and GOK, is a cell membrane, a single-pass type I membrane protein and an 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.

References

1. Sabbioni S. et al., 1997, Cancer Res. 57: 4493-7.
2. Manji S.S. et al., 2000, Biochim. Biophys. Acta 1481: 147-55.
3. Williams R.T. et al., 2002, Biochim. Biophys. Acta. 1596: 131-7.

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