

# Recombinant Human STIM1/GOK Protein (His Tag)

Catalog Number: PKSH031120



**Note:** Centrifuge before opening to ensure complete recovery of vial contents.

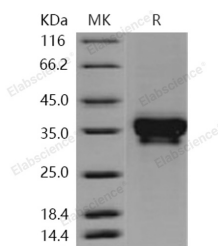
## Description

<b>Synonyms</b>	D11S4896E;GOK;IMD10;STRMK;TAM;TAM1
<b>Species</b>	Human
<b>Expression Host</b>	HEK293 Cells
<b>Sequence</b>	Met 1-Asp 213
<b>Accession</b>	NP_003147.2
<b>Calculated Molecular Weight</b>	23.3 kDa
<b>Observed molecular weight</b>	33-38 kDa
<b>Tag</b>	C-His

## Properties

<b>Purity</b>	> 97 % as determined by reducing SDS-PAGE.
<b>Endotoxin</b>	< 1.0 EU per µg of the protein as determined by the LAL method.
<b>Storage</b>	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
<b>Shipping</b>	This product is provided as lyophilized powder which is shipped with ice packs.
<b>Formulation</b>	Lyophilized from sterile PBS, pH 7.4 Normally 5 % - 8 % trehalose, mannitol and 0.01 % Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
<b>Reconstitution</b>	Please refer to the printed manual for detailed information.

## Data



> 97 % as determined by reducing SDS-PAGE.

## Background

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 Ca<sup>2+</sup> influx following depletion of intracellular Ca<sup>2+</sup> stores. It acts as Ca<sup>2+</sup> sensor in the endoplasmic reticulum via its EF-hand domain. Upon Ca<sup>2+</sup> depletion, STIM1 / GOK translocates from the endoplasmic reticulum to the plasma membrane where it activates the Ca<sup>2+</sup> release-activated Ca<sup>2+</sup> (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

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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.

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