



Recombinant Protein Technical Manual  
Recombinant Human STIM1/GOK Protein (His Tag)  
RPES1555

### Product Data:

**Product SKU:** RPES1555

**Size:** 50µg

**Species:** Human

**Expression host:** HEK293 Cells

**Uniprot:** NP\_003147.2

### Protein Information:

**Molecular Mass:** 23.3 kDa

**AP Molecular Mass:** 33-38 kDa

**Tag:** C-His

**Bio-activity:**

**Purity:** > 97 % as determined by reducing SDS-PAGE.

**Endotoxin:** < 1.0 EU per µg as determined by the LAL method.

**Storage:** 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.

**Shipping:** This product is provided as lyophilized powder which is shipped with ice packs.

**Formulation:** Lyophilized from sterile PBS, pH 7.4

**Reconstitution:** Please refer to the printed manual for detailed information.

**Application:**

**Synonyms:** D11S4896E;GOK;IMD10;STRMK;TAM;TAM1

## Immunogen Information:

**Sequence:** Met 1-Asp 213

## 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 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.