

# Stim1 (A-8): sc-166840

## BACKGROUND

Stim1 Antibody (A-8) is a high quality monoclonal Stim1 antibody (also designated STRMK antibody, type 1 transmembrane Ca<sup>2+</sup> influx modulator antibody, endoplasmic reticulum calcium sensor protein antibody, TAM1 antibody, or IMD10 antibody) suitable for the detection of the Stim1 protein of mouse, rat and human origin. Stim1 Antibody (A-8) is available as both the non-conjugated anti-Stim1 antibody form, as well as multiple conjugated forms of anti-Stim1 antibody, including agarose, HRP, PE, FITC and multiple Alexa Fluor<sup>®</sup> conjugates. Ca<sup>2+</sup> influx is essential for a variety of cellular functions including, secretion and transcription. Stromal interaction molecule 1 (Stim1) is a ubiquitously expressed cell surface transmembrane glycoprotein that plays a role in mediating Ca<sup>2+</sup> influx following the depletion of intracellular Ca<sup>2+</sup> stores. Stim1 functions in the endoplasmic reticulum (ER) where it acts as a Ca<sup>2+</sup> sensor via its EF-hand domain which causes large conformational changes. When Ca<sup>2+</sup> levels drop, Stim1 translocates from the ER to the plasma membrane, where it activates the Ca<sup>2+</sup> release-activated Ca<sup>2+</sup> (CRAC) channel subunit, TMEM142A/Orai1. Stim2 is a potent inhibitor of Stim1-mediated store-operated calcium (SOC) entry. Stim1 is implicated in tumor growth suppression and stromal-hematopoietic cell interactions.

## CHROMOSOMAL LOCATION

Genetic locus: STIM1 (human) mapping to 11p15.4; Stim1 (mouse) mapping to 7 E3.

## SOURCE

Stim1 (A-8) is a mouse monoclonal antibody raised against amino acids 441-620 mapping near the C-terminus of Stim1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Stim1 (A-8) is available conjugated to agarose (sc-166840 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166840 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166840 PE), fluorescein (sc-166840 FITC), Alexa Fluor<sup>®</sup> 488 (sc-166840 AF488), Alexa Fluor<sup>®</sup> 546 (sc-166840 AF546), Alexa Fluor<sup>®</sup> 594 (sc-166840 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-166840 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-166840 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-166840 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor<sup>®</sup> is a trademark of Molecular Probes, Inc., Oregon, USA

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## APPLICATIONS

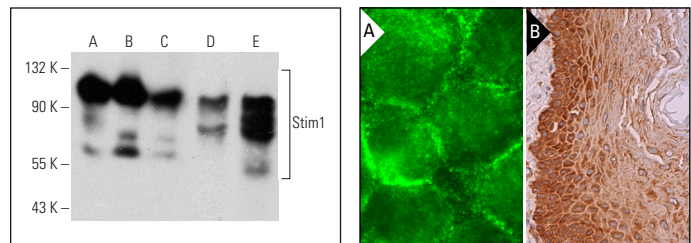
Stim1 (A-8) is recommended for detection of Stim1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Stim1 siRNA (h): sc-76589, Stim1 siRNA (m): sc-76590, Stim1 siRNA (r): sc-270596, Stim1 shRNA Plasmid (h): sc-76589-SH, Stim1 shRNA Plasmid (m): sc-76590-SH, Stim1 shRNA Plasmid (r): sc-270596-SH, Stim1 shRNA (h) Lentiviral Particles: sc-76589-V, Stim1 shRNA (m) Lentiviral Particles: sc-76590-V and Stim1 shRNA (r) Lentiviral Particles: sc-270596-V.

Molecular Weight of Stim1: 86 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, K-562 whole cell lysate: sc-2203 or Jurkat whole cell lysate: sc-2204.

## DATA



Stim1 (A-8): sc-166840. Western blot analysis of Stim1 expression in Hep G2 (A), K-562 (B), Jurkat (C), L8 (D) and RBL-1 (E) whole cell lysates.

Stim1 (A-8): sc-166840. Immunofluorescence staining of formalin-fixed HeLa cells showing membrane localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic staining of squamous epithelial cells (B).

## SELECT PRODUCT CITATIONS

- Lodola, F., et al. 2012. Store-operated Ca<sup>2+</sup> entry is remodelled and controls *in vitro* angiogenesis in endothelial progenitor cells isolated from tumoral patients. *PLoS ONE* 7: e42541.
- Yi, X., et al. 2016. The role of Stim1 in the Cr(VI)-induced [Ca<sup>2+</sup>]<sub>i</sub> increase and cell injury in L-02 hepatocytes. *Metallomics* 8: 1273-1282.
- Lodola, F., et al. 2017. VEGF-induced intracellular Ca<sup>2+</sup> oscillations are down-regulated and do not stimulate angiogenesis in breast cancer-derived endothelial colony forming cells. *Oncotarget* 8: 95223-95246.
- Li, S., et al. 2018. CaMKII potentiates store-operated Ca<sup>2+</sup> entry through enhancing Stim1 aggregation and interaction with Orai1. *Cell. Physiol. Biochem.* 46: 1042-1054.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.