



Stim2 (h): 293T Lysate: sc-112654

BACKGROUND

Ca²⁺ influx is essential for a variety of cellular functions, such as secretion and transcription. Stim1 (stromal interaction molecule 1) is a ubiquitously expressed cell surface transmembrane glycoprotein that plays a role in mediating Ca²⁺ influx following the depletion of intracellular Ca²⁺ stores. Stim1 functions in the endoplasmic reticulum (ER) where it acts as a Ca²⁺ sensor via its EF-hand domain and is capable of causing large conformational changes in response to varying Ca²⁺ levels. When Ca²⁺ levels drop, Stim1 translocates from the ER to the plasma membrane, where it activates the Ca²⁺ release-activated Ca²⁺ (CRAC) channel subunit, Orai1. Stim2 (stromal interaction molecule 2) is a 746 amino acid protein that contains one EF-hand domain and one SAM domain and localizes to the ER as a single-pass type I membrane protein. Stim2 exists as an oligomer with Stim1 and plays an essential role in the inhibition of Stim1-mediated Ca²⁺ influx.

REFERENCES

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2. Liou, J., et al. 2005. STIM is a Ca²⁺ sensor essential for Ca²⁺-store-depletion-triggered Ca²⁺ influx. *Curr. Biol.* 15: 1235-1241.
3. Soboloff, J., et al. 2006. STIM2 is an inhibitor of STIM1-mediated store-operated Ca²⁺ entry. *Curr. Biol.* 16: 1465-1470.
4. Brandman, O., et al. 2007. STIM2 is a feedback regulator that stabilizes basal cytosolic and endoplasmic reticulum Ca²⁺ levels. *Cell* 131: 1327-1339.
5. Zheng, L., et al. 2008. Biophysical characterization of the EF-hand and SAM domain containing Ca²⁺ sensory region of STIM1 and STIM2. *Biochem. Biophys. Res. Commun.* 369: 240-246.
6. Bojarski, L., et al. 2009. Presenilin-dependent expression of STIM proteins and dysregulation of capacitative Ca²⁺ entry in familial Alzheimer's disease. *Biochim. Biophys. Acta* 1793: 1050-1057.

CHROMOSOMAL LOCATION

Genetic locus: STIM2 (human) mapping to 4p15.2.

PRODUCT

Stim2 (h): 293T Lysate represents a lysate of human Stim2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

Stim2 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive Stim2 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.