

Orai3 (A-16): sc-74782

BACKGROUND

Orai3 (ORAI calcium release-activated calcium modulator 3), also known as TMEM142C (transmembrane protein 142C), is a 295 amino acid multi-pass membrane protein that belongs to the Orai family of proteins. Localizing to the plasma membrane, Orai3 plays an important role in store-operated calcium (SOC) entry, a process involving Ca^{2+} influx and replenishment of Ca^{2+} stores formerly emptied through the action of inositol 1,4,5-trisphosphate production and other Ca^{2+} mobilizing agents. CRAC channels are responsible for mediating calcium influx in T cells and play an important role in the immune response. Orai3, specifically, also acts as a regulator or component of the nuclear import of transcription factor NFAT.

REFERENCES

- DeHaven, W.I., et al. 2007. Calcium inhibition and calcium potentiation of Orai1, Orai2, and Orai3 calcium release-activated calcium channels. *J. Biol. Chem.* 282: 17548-17556.
- Online Mendelian Inheritance in Man, OMIM[™]. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 610930. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Zhang, S.L., et al. 2008. Store-dependent and -independent modes regulating Ca^{2+} release-activated Ca^{2+} channel activity of human Orai1 and Orai3. *J. Biol. Chem.* 283: 17662-17671.
- Schindl, R., et al. 2008. 2-aminoethoxydiphenyl borate alters selectivity of Orai3 channels by increasing their pore size. *J. Biol. Chem.* 283: 20261-20267.
- Mignen, O., et al. 2008. Both Orai1 and Orai3 are essential components of the arachidonate-regulated Ca^{2+} -selective (ARC) channels. *J. Physiol.* 586: 185-195.
- Peinelt, C., et al. 2008. 2-Aminoethoxy-diphenyl borate directly facilitates and indirectly inhibits STIM1-dependent gating of CRAC channels. *J. Physiol.* 586: 3061-3073.

CHROMOSOMAL LOCATION

Genetic locus: ORAI3 (human) mapping to 16p11.2.

SOURCE

Orai3 (A-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Orai3 of human origin.

PRODUCT

Each vial contains 100 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-74782 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

Orai3 (A-16) is recommended for detection of Orai3 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

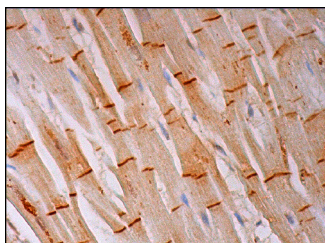
Suitable for use as control antibody for Orai3 siRNA (h): sc-76005, Orai3 shRNA Plasmid (h): sc-76005-SH and Orai3 shRNA (h) Lentiviral Particles: sc-76005-V.

Molecular Weight of Orai3: 31 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker[™] Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz[™]: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



Orai3 (A-16): sc-74782. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing intercalated disc and cytoplasmic staining of myocytes.

RESEARCH USE

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

PROTOCOLS

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