

# Orai3 (P-17): sc-74784

## 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<sup>™</sup>. 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; Orai3 (mouse) mapping to 7 F3.

## SOURCE

Orai3 (P-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Orai3 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-74784 P, (100  $\mu$ 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 (P-17) is recommended for detection of Orai3 of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Orai3 (P-17) is also recommended for detection of Orai3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Orai3 siRNA (h): sc-76005, Orai3 siRNA (m): sc-76006, Orai3 shRNA Plasmid (h): sc-76005-SH, Orai3 shRNA Plasmid (m): sc-76006-SH, Orai3 shRNA (h) Lentiviral Particles: sc-76005-V and Orai3 shRNA (m) Lentiviral Particles: sc-76006-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<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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<sup>™</sup> Mounting Medium: sc-24941.

## RESEARCH USE

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

## PROTOCOLS

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