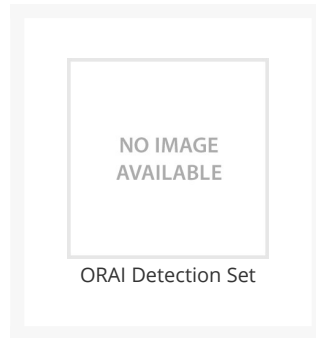




ORAI Detection Set

Cat. No.: PSI-1819



Ψ Specifications

SPECIES REACTIVITY:	Human
IMMUNOGEN:	Rabbit polyclonal antibodies were raised against peptides corresponding to amino acid sequences from each of the corresponding proteins.
TESTED APPLICATIONS:	IF, WB
APPLICATIONS:	These polyclonal antibodies can be used for detection of Bonzo, CCR3, CCR5, CCR8, Cx3CR1, CXCR4, DC-SIGN and GPR15 by immunoblot at 0.5 - 2 µg/mL. Some of these antibodies can also be used at 1 - 20 µg/mL to detect their respective proteins via immunohistochemistry or immunocytochemistry, and Immunofluorescence.
POSITIVE CONTROL:	1) ORAI1 Antibody: Human Ovary Tissue Lysate, Catalog No. 1316 ORAI2 Antibody: Jurkat Cell Lysate, Catalog No. 1205 ORAI3 Antibody: A-20 Cell Lysate, Catalog No. 1288 STIM1 Antibody: Mouse Thymus Tissue Lysate, Catalog No. 1409 STIM2 Antibody: A-20 Cell Lysate, Catalog No. 1288

Ψ Properties

PURIFICATION:	Antibodies are supplied as affinity chromatography purified IgG.
----------------------	------------------------------------------------------------------

PHYSICAL STATE:	Liquid
BUFFER:	PBS containing 0.02% sodium azide.
CONCENTRATION:	Antibody 1 mg/mL
STORAGE CONDITIONS:	Stable at 4° C for three months, store at -20° C for up to one year.

Additional Info

USER NOTE:	Optimal dilutions for each application to be determined by the researcher.
-------------------	----------------------------------------------------------------------------

Background and References

BACKGROUND:	<p>Antigen stimulation of immune cells triggers Ca⁺⁺ entry through Ca⁺⁺ release-activated Ca⁺⁺ (CRAC) channels. The ORAI family is a recently identified set of proteins that are essential components of these CRAC channels. A missense mutation in the ORAI1 protein in humans is the cause of one form of hereditary severe combined immune deficiency (SCID) which results in ablated T-cell Ca⁺⁺ entry. It has been suggested that ORAI1 functions as a highly selective Ca⁺⁺ plasma membrane channel that is gated through interactions with the stromal interaction molecule 1 (STIM1), the store-activated endoplasmic reticulum Ca⁺⁺ sensor. Like ORAI1, ORAI2 also functions as a highly selective Ca⁺⁺ plasma membrane channel that is gated through interactions with STIM1, although at a lesser efficacy than ORAI1. Although ORAI3 can also function as Ca⁺⁺ plasma membrane channel, ORAI3 channels failed to produce detectable Ca⁺⁺ selective currents in cells co-transfected with ORAI3 and STIM1, indicating that ORAI3 channels undergo a lesser degree of depotentiation than ORAI1 or ORAI2. Na⁺ currents through ORAI1, 2 and 3 channels were equally inhibited by extracellular Ca⁺⁺, indicating that each have similar affinities for Ca⁺⁺ within the selectivity filter. STIM1, in its function as a Ca⁺⁺ sensor and an activator of CRAC channels, migrates to the plasma membrane from endoplasmic reticulum-like sites which act as cellular Ca⁺⁺ stores. A related molecule, STIM2, inhibits the STIM1-mediated store-operated Ca⁺⁺ entry, and can form complexes with STIM1, suggesting these two proteins may play a coordinated role in controlling Ca⁺⁺ entry. The ORAI antibodies are predicted to have no cross-reactivity to the other ORAI proteins. Similarly, the STIM antibodies will not cross-react with the other STIM protein.</p> <p>For images please see PDF data sheet</p>
REFERENCES:	<p>1) Lewis RS. Calcium signaling mechanisms in T lymphocytes. Annu. Rev. Immunol. 2001; 19:497-521.</p> <p>2) Luik RM and Lewis RS. New insights into the molecular mechanisms of store-operated Ca²⁺ signaling in T cells. Trends Mol. Med. 2007; 13:103-7.</p> <p>3) Feske S, Gwack Y, Prakriya M, et al. A mutation in Orai1 causes immune deficiency by abrogating CRAC channel function. Nature 2006; 441:179-85.</p> <p>4) Soboloff J, Spassova MA, Dziadek MA, et al. Calcium signals mediated by STIM and Orai proteins - a new paradigm in inter-organelle communication. Biochim. Biophys. Acta. 2006; 1763:1161-8.</p>

ANTIBODIES FOR RESEARCH USE ONLY.

For additional information, visit ProSci's [Terms & Conditions Page](#).