

# IL-1RI (H-150): sc-25775



The Power to Question

## BACKGROUND

Three structurally related ligands for IL-1Rs have been described. These include two agonists, IL-1 $\alpha$  and IL-1 $\beta$ , and a specific receptor antagonist, IL-1R $\alpha$ . Among the activities regulated by IL-1 are fever, acute phase responses, degradation of connective tissue and immunostimulatory activities. The IL-1R $\alpha$  molecule also binds specifically to IL-1Rs, but fails to initiate intracellular responses. Two distinct IL-1Rs have been identified, each of which belongs to the Ig superfamily and is widely expressed in a broad range of cells and tissues. Although many cell types co-express type I and type II receptors, there is no evidence that these constitute subunits of a single complex. The type II receptor has a short 29 amino acid cytoplasmic domain that does not seem sufficient for signaling, while in fact there is considerable evidence arguing that IL-1 signals exclusively through the type I IL-1R.

## REFERENCES

1. Sims, J.E., et al. 1989. Cloning of the interleukin-1 receptor from human T-cells. Proc. Natl. Acad. Sci. USA 86: 8946-8950.
2. McMahan, C.J., et al. 1991. A novel IL-1 receptor, cloned from B cells by mammalian expression, is expressed in many cell types. EMBO J. 10: 2821-2832.
3. Dower, S.K., et al. 1992. The interleukin-1 system: receptors, ligands and signals. Chem. Immunol. 51: 33-64.
4. Slack, J., et al. 1993. Independent binding of interleukin-1 $\alpha$  and interleukin-1 $\beta$  to type I and type II IL-1 receptors. J. Biol. Chem 268: 2513-2524.
5. Sims, J.E., et al. 1993. Interleukin 1 signaling occurs exclusively via the type I receptor. Proc. Natl. Acad. Sci. USA 90: 6155-6159.
6. Arend, W.P., et al. 1994. Binding of IL-1 $\alpha$ , IL-1 $\beta$  and IL-1 receptor antagonist by soluble IL-1 receptors and levels of soluble IL-1 receptors in synovial fluids. J. Immunol. 153: 4766-4774.
7. Giri, J.G., et al. 1994. Elevated levels of shed type II IL-1 receptor in sepsis. Potential role for type II receptor in regulation of IL-1 responses. J. Immunol. 153: 5802-5809.

## CHROMOSOMAL LOCATION

Genetic locus: IL1R1 (human) mapping to 2q12.1; Il1r1 (mouse) mapping to 1 B.

## SOURCE

IL-1RI (H-150) is a rabbit polyclonal antibody raised against amino acids 121-270 of IL-1RI 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.

## RESEARCH USE

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

## APPLICATIONS

IL-1RI (H-150) is recommended for detection of IL-1RI of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], 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).

Suitable for use as control antibody for IL-1RI siRNA (h): sc-35651, IL-1RI siRNA (m): sc-35652, IL-1RI shRNA Plasmid (h): sc-35651-SH, IL-1RI shRNA Plasmid (m): sc-35652-SH, IL-1RI shRNA (h) Lentiviral Particles: sc-35651-V and IL-1RI shRNA (m) Lentiviral Particles: sc-35652-V.

Molecular Weight of IL-1RI: 80 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211 or CCRF-CEM cell lysate: sc-2225.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

1. Kristiansen, K.A. and Edvinsson, L. 2010. Neurogenic inflammation: a study of rat trigeminal ganglion. J. Headache Pain 11: 485-495.
2. Durand, M., et al. 2013. Monocytes from patients with osteoarthritis display increased osteoclastogenesis and bone resorption: the *in vitro* osteoclast differentiation in arthritis study. Arthritis Rheum. 65: 148-158.
3. Gougeon, P.Y., et al. 2013. The pro-inflammatory cytokines IL-1 $\beta$  and TNF $\alpha$  are neurotrophic for enteric neurons. J. Neurosci. 33: 3339-3351.
4. García-Ovejero, D., et al. 2013. Neuroimmune interactions of cannabinoids in neurogenesis: focus on interleukin-1 $\beta$  (IL-1 $\beta$ ) signalling. Biochem. Soc. Trans. 41: 1577-1582.

## STORAGE

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



Try **IL-1RI (H-8): sc-393998** or **IL-1RI (102): sc-66054**, our highly recommended monoclonal alternatives to IL-1RI (H-150). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **IL-1RI (H-8): sc-393998**.