# IL-1RI (102): sc-66054



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 coexpress 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**

- Sims, J.E., Acres, R.B., Grubin, C.E., McMahan, C.J., Wignall, J.M., March, C.J. and Dower, S.K. 1989. Cloning of the interleukin-1 receptor from human T cells. Proc. Natl. Acad. Sci. USA 86: 8946-8950.
- McMahan, C.J., Slack, J.L, Mosley, B., Cosman, D., Lupton, S.D., Brunton, L.L., Grubin, C.E., Wignall, J.M., Jenkins, N.A., Brannan, C.I., Copeland, N.G., Huebner, K., Croce, C.M., Cannizzarro, L.A., Benjamin, D., 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.
- Dower, S.K., Sims, J.E., Cerretti, D.P. and Bird, T.A. 1992. The interleukin-1 system: receptors, ligands and signals. Chem. Immunol. 51: 33-64.
- 4. Slack, J., McMahan, C.J., Waugh, S., Schooley, K., Spriggs, M.K., Sims, J.E. and Dower, S.K. 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.
- Sims, J.E., Gayle, M.A., Slack, J.L., Alderson, M.R., Bird, T.A., Giri, J.G., Colotta, F., Re, F., Mantovani, A., Shanebeck, K., Grabstein, K.H. and Dower, S.K. 1993. Interleukin-1 signaling occurs exclusively via the type I receptor. Proc. Natl. Acad. Sci. USA 90: 6155-6159.
- 6. Arend, W.P., Malyak, M., Smith, M.F., Jr., Whisenand, T.D., Slack, J.L., Sims, J.E., Giri, J.G. and Dower, S.K. 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., Wells, J., Dower, S.K., McCall, C.E., Guzman, R.N., Slack, J., Bird, T.A., Shanebeck, K., Grabstein, K.H., Sims, J.E. and Alderson, M.R. 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; Il1r1 (mouse) mapping to 1 B.

# **SOURCE**

IL-1RI (102) is a mouse monoclonal antibody raised against the extracellular domain of IL-1 receptor of human origin.

#### **PRODUCT**

Each vial contains 100  $\mu g$   $lgG_{2a}$  in 1.0 ml of PBS with <0.1% sodium azide and 0.1% gelatin.

# **APPLICATIONS**

IL-1RI (102) is recommended for detection of Interleukin 1 receptor type 1 of human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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

Molecular Weight of IL-1RI: 80 kDa.

#### **STORAGE**

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. 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.



See **IL-1RI (H-8): sc-393998** for IL-1RI antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor<sup>®</sup> 488, 546, 594, 647, 680 and 790.

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