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Product Information

Monoclonal Anti-Human Interleukin-1 Soluble Receptor Type I, clone 35730
Purified Mouse Immunoglobulin

Catalog Number **I5527**

Synonym: Anti-IL-1 sRI

Product Description

Monoclonal Anti-Human Interleukin-1 Soluble Receptor Type I (IL-1 sRI; mouse IgG1 isotype) is derived from the 35730 hybridoma produced by the fusion of mouse myeloma with B cells obtained from a mouse immunized with recombinant human interleukin 1 receptor type I (IL-1 sRI), expressed in *Sf*21 cells. The antibody is purified from ascites fluid using protein G chromatography.

Monoclonal Anti-Human IL-1 sRI may be used as a capture antibody in a sandwich ELISA. In capture ELISA, the antibody shows no cross-reactivity with recombinant human IL-1 RacP (IL-1 R3), recombinant mouse IL-1 RI, recombinant human IL-1 ra, recombinant human IL-1 RII, or recombinant human IL-1 R6. The antibody also recognizes human IL-1 RI in immunoblotting. No cross-reactivity is observed with recombinant human IL-1 RII, recombinant human IL-1 R5, or recombinant mouse IL-1 RI in immunoblotting.

Interleukin 1 (IL-1) is a primary regulator of inflammatory and immune responses. The IL-1 receptor is located on many cell types including T cells, B cells, monocytes, NK cells, basophils, neutrophils, eosinophils, dendritic cells, fibroblasts, endothelial cells, vascular endothelial cells, and neural cells. IL-1 Receptor Type I is composed of a single polypeptide chain that binds both IL-1α and IL-1β. The molecular mass of this high-affinity receptor is believed to be 80 kDa. A family of proteins, sharing significant homology in their signaling domains with the Type I IL-1 receptor (IL-1 RI), include: the IL-1 receptor accessory protein (IL-1AcP), which does not bind IL-1, but is essential for IL-1 signaling; a *Drosophila* protein Toll; a number of human Toll-like receptors (TLRs); and the putative IL-18/IL-1- receptor IL-1Rrp (IL-1 receptor-related protein). All appear to be involved in host responses to injury and infection. Two IL-1 receptor-associated kinases, IRAK-1 and IRAK-2, have been implicated in the activation of the transcription factor, nuclear factor B (NF-B). IRAK-1 has also been implicated in AP1 induction, Jun amino-terminal kinase (JNK) activation, and IL-2 induction. It recruits the adapter protein TRAF6 to the IL-1 receptor complex via an interaction with IL-1AcP. TRAF6 then relays the signal via NF-B-inducing kinase (NIK) to two I-B kinases (IKK-1 and 2), leading to NF-B activation.[1-3]

Reagent

Lyophilized from 0.2 μm-filtered solution in phosphate buffered saline containing carbohydrates.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

To one vial of lyophilized powder, add 1 ml of 0.2 μm filtered phosphate buffered saline to produce a 0.5 mg/ml stock solution of antibody. If aseptic technique is used, no further filtration should be needed for use in cell culture environments.

Storage/Stability

Prior to reconstitution, store at –20 °C. Reconstituted product may be stored at 2–8 °C for up to one month. For prolonged storage, freeze in working aliquots. Avoid repeated freezing and thawing. Do not store in a frost-free freezer.

Procedure
The antibody can be used as the capture antibody in a human IL-1 RI ELISA in combination with a biotinylated human IL-1 RI affinity purified polyclonal detection antibody. An ELISA for samples volumes of 100 µl is set-up using plates coated with 100 µl/well of the capture antibody at 2-8 µg/ml, in combination with 100 µl/well of the detection antibody at 0.1-0.4 µg/ml. Set-up a two-fold dilution series of the protein standard starting with 16 ng/ml to obtain the optimal dose range for the ELISA.

Product Profile
Capture ELISA: a working antibody concentration of 2-8 µg/ml is recommended to coat plates at 100 µl/well.

Immunoblotting: a working antibody concentration of 1 µg/ml is recommended. The detection limit for recombinant human IL-1 RI is ~1 ng/lane under non-reducing and reducing conditions, respectively.

Note: In order to obtain the best results in various techniques and preparation, it is recommended to determine the optimal working dilutions by titration.

References

1. O'Neill, L.A.J., and Greene, C., *J. Leukoc. Biol*., **63**, 650 (1998).
2. Dinarello, C.A., *Int. Rev. Immunol*., 16, **457** (1998).
3. Saklatvalla, J. et al., *Biochem. Soc. Symp*., **64**, 63 (1999).

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