



3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

Product Information

Monoclonal Anti-Human Interleukin-1 Soluble Receptor Type I (IL-1 sRI)

Clone 35730.111

Purified Mouse Immunoglobulin

Product Number **I 5527**

Product Description

Monoclonal Anti-Human Interleukin-1 Soluble Receptor Type I (IL-1 sRI) (mouse IgG1 isotype) is derived from the 35730.111 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 Sf21 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-1 α and IL-1 β . The molecular weight 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

The product is supplied lyophilized from a 0.2 μ m filtered solution in phosphate buffered saline with 5% trehalose.

Preparation Instructions

To one vial of lyophilized powder, add 1 ml of 0.2 μ m 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 μ l is set-up using plates coated with 100 μ l/well of the capture antibody at 4 μ g/ml, in combination with 100 μ l/well of the detection antibody at 400 ng/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

For capture ELISA, a working antibody concentration of 4 µg/ml is recommended to coat plates at 100 µl/well.

For immunoblotting, a working antibody concentration of 1-2 µg/ml is recommended. The detection limit for recombinant human IL-1 RI is approximately 1 ng/lane and 5 ng/lane under non-reducing and reducing conditions, respectively.

Note: In order to obtain the best results in various techniques and preparation, we recommend determining the optimal working dilutions by titration.

Endotoxin: < 0.1 EU (endotoxin units)/µg antibody as determined by the LAL method.

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).

KAA 06/04

Sigma brand products are sold through Sigma-Aldrich, Inc.

Sigma-Aldrich, Inc. warrants that its products conform to the information contained in this and other Sigma-Aldrich publications. Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply. Please see reverse side of the invoice or packing slip.