



Product Information

Monoclonal Anti-Mouse Interleukin-1 Receptor, Type I, Clone M15 Purified Rat Immunoglobulin

Product No. I6396

Monoclonal Anti-Mouse IL-1 Receptor, Type I (Rat IgG2a isotype) is purified from a rat hybridoma produced by the fusion of mouse myeloma cells and splenocytes from an immunized rat. Soluble mouse IL-1 receptors, Type I, were used as the immunogen. The antibody is purified by Protein G affinity chromatography. Monoclonal Anti-IL-1 Receptor, Type I is provided as a liquid in phosphate buffered saline, to which no preservatives are added.

Description

IL-1 is a cytokine referring to two proteins, IL-1 and IL-1 β , that are encoded by separate genes and have only limited homologies at the amino acid level.¹ Both isoforms have similar activities and bind to the same IL-1R.² The proliferation of primary CD4⁺ T cells depends on IL-1.³ Th2 cells require exogenous IL-1 secreted by macrophages for optimal proliferation.⁴ There are two IL-1 receptors. The type I receptor (CDw121a) is a transmembrane glycoprotein with a molecular weight of 80 kD.⁵ It is a member of the Ig superfamily. The cytoplasmic domain is highly conserved between human and mouse with 78% sequence identity and it is essential for signal transduction.⁵ The IL-1R Type I on mouse T cells is the 80 kD cell surface glycoprotein which binds both IL-1 and IL-1 β .⁶ The mouse IL-1R is an integral membrane glycoprotein composed of one polypeptide chain of 53 kD to 63 kD having an N-linked carbohydrate of 19 kD to 29 kD.⁶ Many cell types may express more than one functional IL-1R.⁷ The 80 kD IL-1 receptor is expressed on fibroblasts, Th2 cells and the EL-4/6.1 cell line.⁷ Monoclonal Anti-Mouse IL-1 Receptor Type I specifically recognizes the mouse IL-1 receptor, and <4% cross-reactivity is observed with TNF-R. No cross-reactivity is observed with hIL-1R, hIL-4R, hIL-7R, hGM-CSF-R or mL-4R.

Performance

Anti-Mouse IL-1 Receptor, Type I, is tested for its ability to block equilibrium binding of IL-1 to mouse IL-1 receptor type I on EL46.1 cells. To neutralize the IL-1 activity, the antibody is added to the cells for at least one hour at 37 C prior to the addition of IL-1. IL-1 induced cAMP accumulation in D-10 cells can be neutralized by this antibody.⁷

Product Information

Mass/vial:	0.25 mg
Immunogen:	Soluble mouse IL-1 receptors, Type I.
Isotype:	Rat IgG2a
Purity:	≥ 90% by HPLC
Formulation:	Frozen liquid in PBS with no additives.
Binding Inhibition:	7.5 µg/ml
Dot Blot:	10 µg/ml of antibody detects mouse IL-1 receptors at 25 ng/dot.
Sterility:	0.2 µm-filtered, aseptic fill

Reconstitution and Use

The contents of the vial may be diluted with 0.2 µm-filtered PBS containing 0.1% BSA or cell culture medium containing 10% serum. If aseptic technique is used, no further filtration should be needed for use in cell culture environments. Note: Failure to add carrier protein to diluted product may result in loss of activity.

Storage

Store undiluted product at 70 C for a maximum of 6 months or at 2-8 C for a maximum of 4 weeks. For prolonged storage, freeze in working aliquots at -70 C. Avoid repeated freezing and thawing.

References

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