

Product Information

Monoclonal Anti-Interleukin-2 Soluble Receptor β

Clone 27302.1

Purified Mouse Immunoglobulin

Product Number **I 5777**

Product Description

Monoclonal Anti-Interleukin-2 Soluble Receptor β (IL-2 sR β) (mouse IgG1 isotype) is derived from the 27302.1 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from a Balb/c mouse immunized with recombinant human IL-2 sR β , expressed in Sf 21 cells. The antibody is purified from ascites fluid using protein A chromatography.

Monoclonal Anti-Interleukin-2 Soluble Receptor β may be used for neutralization of the biological activity mediated by IL-2 R β . The antibody may also be used for the detection of human IL-2 R β by immunoblotting and ELISA. It does not cross-react with recombinant human IL-2 R α , IL-2 R γ , IL-4 sR, and IL-6 sR.

The biological effects of IL-2R signals are much more complex than simply mediating T-cell growth. Depending on the set of conditions, IL-2R signals may also promote cell survival, effector function, and apoptosis. These sometimes contradictory effects underscore the fact that a diversity of intracellular signaling pathways are potentially activated by IL-2R. There are at least 3 components of the IL-2 receptor, IL-2 R α , IL-2 R β , and IL-2 R γ chains. The IL-2 R γ chain is shared by IL-2, IL-4 and IL-7.^{1,2} The low affinity α chain is a 55 kDa polypeptide. It is incapable of transmitting intracellular signals due to its short cytoplasmic tail. However, it can bind IL-2 rapidly to the cell membrane. The β chain (75 kDa) and the γ chain (64 kDa) form a complex that can bind IL-2 with high affinity and slow dissociation and mediate signal transduction.

Cells known to express the β -chain include: activated CD56⁺ (NK) cells plus CD8⁺ and CD4⁺ T cells,^{3,4} resting NK cells and, perhaps CD8⁺ T cells,^{3,4} activated and resting B cells,⁵ mature thymocytes,⁶ embryonic fibroblasts,⁷ resting monocytes,⁸ and neutrophils.⁹

Reagent

The antibody is supplied lyophilized from a 0.2 μ m filtered solution in phosphate buffered saline (PBS).

Preparation Instructions

To one vial of lyophilized powder, add 1 ml of 0.2 μ m-filtered PBS 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.

Product Profile

Anti-Human IL-2 sR β is tested for its ability to neutralize human cell surface IL-2 R β mediated IL-2 bioactivity in a ³H-thymidine incorporation assay using MO7e cells.¹⁰

The ND₅₀ of the antibody is defined as the concentration of antibody resulting in a one-half maximal inhibition of the cell surface IL-2 R β mediated recombinant human IL-2 response on a responsive cell line. By immunoblotting, a working antibody concentration of

1-2 µg/ml is recommended using recombinant human IL-2 Rβ at 50 ng/lane under non-reducing conditions.

By indirect ELISA, a working antibody concentration of 0.5-1 µg/ml is recommended to detect recombinant IL-2 Rβ to a limit of 3 ng/well.

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

Endotoxin level is < 10 ng per mg antibody as determined by the LAL method.

References

1. Noguchi, M., et al., *Science*, **262**, 1877 (1993)
2. Russel, S.M., et al., *Science*, **262**, 1880 (1993).
3. Vanham, G., et al., *Clin. Immunol. Immunopathol.*, **71**, 60 (1994).
4. Caligiuri, M.A., et al., *J. Exp. Med.*, **171**, 1509 (1990).
5. Nakanishi, K., et al., *Proc. Natl. Acad. Sci. USA*, **89**, 3551 (1992).
6. Leclercq, G., et al., *Int. Immunol.*, **7**, 843 (1995).
7. Plaisance, S., et al., *Int. Immunol.*, **4**, 739 (1992).
8. Espinoza-Delgado, I., et al., *J. Leukoc. Biol.*, **57**, 13 (1995).
9. Djeu, J.Y., et al., *J. Immunol.*, **150**, 960 (1993).
10. Avanzi, G., et al., *Br. J. Haematol.*, **69**, 359 (1988).

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