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Product Information

Anti-Interferon-α/β Receptor 1
produced in goat, affinity isolated antibody

Catalog Number **I4902**

Synonym: Anti-IFN-α/β R1

Product Description

Anti-Interferon-α/β Receptor 1 is produced in goat using as immunogen a purified recombinant human interferon-α/β receptor 1 extracellular domain, expressed in *Sf*21 insect cells. Affinity isolated antibody is obtained from goat anti-IFNα/βR1 antiserum by immunospecific purification which removes essentially all goat serum proteins, including immunoglobulins, which do not specifically bind to the peptide.

Anti-Interferon-α/β Receptor 1 recognizes recombinant human IFN-α/β Rα by various immunochemical techniques including immunoblotting and flow cytometry. Based on immunoblotting, this antibody shows no cross-reactivity with recombinant human IFN-γ RI and IFN-γ RII. Immunoblotting of lysates from a variety of human cell lines showed that IFNα/βR1 has an apparent molecular mass of ~135 kDa.[1]

IFNα/βR1 is a member of the cytokine receptor superfamily which also includes receptors for interleukins, IFN-γ, ciliary neurotrophic factor, somatotrophin, erythropoietin, nerve growth factor, tumor necrosis factor, leukemia inhibitory factor, and oncostatin M. Some members of the family have an α chain with either low or high ligand binding affinity and at least one β chain involved in signal transduction with either relatively low or no ligand binding affinity.[1] Type I interferons, α and β, induce a variety of effects on target cells including antiviral, antiproliferative, and immunomodulatory activities.[2] The α and β interferons compete to bind to a common cell surface receptor, while IFN-γ binds to a distinct receptor.[1,3]

IFNα/βR1 is very responsive to type I interferons and bind to IFN-β and IFN-α subtypes. It is also functionally involved in signal transduction because of its association with the cytoplasmic tyrosine kinase JAK1.[4] The type I interferons, α and β, are produced by leukocytes (α subunits), fibroblasts (β subtypes), lymphocytes (ω subtypes), and ruminant embryos (subtypes).[5] Interferon receptors are generally found on most human cell types whatever their origin, even on cells poorly responsive to interferon. IFNα/βR1 is expressed on the cell surface in a variety of human cell lines.[1]

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 sterile phosphate buffered saline (PBS) to produce a 0.1 mg/ml stock solution of antibody.

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.

Product Profile

Immunoblotting: a working antibody concentration of 0.1-0.2 μg/ml is recommended. The detection limit for recombinant human IFN-α/β R1 is ~25 ng/lane and 5 ng/lane under non-reducing and reducing conditions, respectively.

Flow cytometry: a working antibody concentration of 3-10 μg/10^6 cells is recommended with an appropriate secondary antibody for indirect immunofluorescence staining of cells.

Note: In order to obtain best results in different techniques and preparations, it is recommended to determine optimal working dilutions by titration test.

References

1. Constantinescu, S.N., et al., Role of interferon α/β receptor chain 1 in the structure and transmembrane signaling of the interferon α/β receptor complex. *Proc. Natl. Acad. Sci. USA*, **91**, 9602-9606 (1994).
2. DeMaeyer, E., and DeMaeyer-Guignard, J., Interferons, in The Cytokine Handbook, 3rd Edition, Thomson, A.W., ed., Academic Press (San Diego, Ca: 1998), pp. 491-516.
3. Branca, A.A., and Baglioni, C., Evidence that types I and II interferons have different receptors. *Nature*, **294**, 768-770 (1981).
4. Novick, D., et al., The human interferon α/β receptor: characterization and molecular cloning. *Cell*, **77**, 391-400 (1994).
5. Type I (α/β/ω/τ) interferon family, interferon family, in Guidebook to Cytokines and Their Receptors, Nicola, N., ed., Oxford Press (New York, NY: 1994), pp. 111-114.

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