Monoclonal Anti-human IL-18 Rβ/IL-1 R7 Antibody

ORDERING INFORMATION

Catalog Number: MAB1181

Clone: 132016

Lot Number: EPZ02

Size: 500 μg

Formulation: 0.2 μm filtered solution of 5% trehalose in PBS

Storage: -20° C

Reconstitution: sterile PBS

Specificity: rhIL-18 Rβ

Immunogen: NS0-derived rhIL-18 Rβ extracellular domain

Ig class: mouse IgG_1

Applications: Neutralization of bioactivity
ELISA
Western blot

Preparation
This antibody was produced from a hybridoma resulting from the fusion of a mouse myeloma with B cells obtained from a mouse immunized with purified, NS0-derived, recombinant human interleukin 18 receptor beta (rhIL-18 Rβ) extracellular domain. The IgG fraction of the tissue culture supernatant was purified by Protein G affinity chromatography. IL-18 Rβ is alternatively known as IL-1 R7 and Accessory protein-like (AcPL).

Formulation
Lyophilized from a 0.2 μm filtered solution of 5% trehalose in phosphate-buffered saline (PBS) with 5% trehalose.

Endotoxin Level
< 10 ng per 1 mg of the antibody as determined by the LAL method.

Reconstitution
Reconstitute with sterile PBS. If 1 mL of PBS is used, the antibody concentration will be 500 μg/mL.

Storage
Lyophilized samples are stable for greater than six months when held at -20° C to -70° C. Upon reconstitution, the antibody can be stored at 2° - 8° C for at least 1 month without detectable loss of activity. Reconstituted antibody can also be aliquotted and stored frozen at -20° C to -70° C **in a manual defrost freezer** for at least six months without detectable loss of activity. **Avoid repeated freeze-thaw cycles.**

Specificity
This antibody has been selected for its ability to neutralize the biological activity of rhIL-18 Rβ. In direct ELISAs and western blots, this antibody shows less than 1% cross-reactivity with rmIL-18 Rβ, rhIL-18 R, rhIL-1 RI, rhIL-1 RII, rhIL-1 RAcP and rhIL-1 Rrp2.

Neutralization of Human IL-18 Rβ Bioactivity
The exact concentration of antibody required is dependent on the cytokine concentration, cell type, growth conditions and the type of activity studied. To provide a guideline, R&D Systems has determined the neutralization dose for this antibody under a specific set of conditions. The **Neutralization Dose$_{50}$ (ND_{50})** for this antibody is defined as that concentration of antibody required to yield one-half maximal inhibition of the cytokine activity on a responsive cell line, when that cytokine is present at a concentration just high enough to elicit a maximum response.

The ND_{50} for this lot of anti-human IL-18 Rβ antibody was determined to be approximately 0.3 - 1.0 μg/mL in the presence of 40 ng/mL of rhIL-18 and KG-1 cells at 1 x 10^6 cells/mL. The specific conditions are described in the figure legends.

Additional Applications
Western blot - The antibody can be used at 1 - 2 μg/mL with the appropriate secondary reagents to detect human IL-18 Rβ. The detection limit for rhIL-18 Rβ is approximately 5 ng/lane and 50 ng/lane under non-reducing and reducing conditions, respectively.

Direct ELISA - This antibody can be used at 0.5 - 1.0 μg/mL with the appropriate secondary reagents to detect human IL-18 Rβ. The detection limit for rhIL-18 Rβ is approximately 3 ng/well.

Optimal dilutions should be determined by each laboratory for each application.

R&D Systems, Inc.
1-800-343-7475

Figure 1

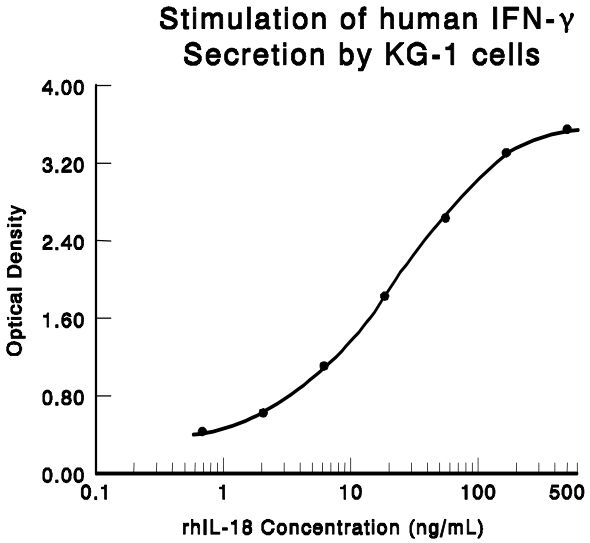

Figure 2

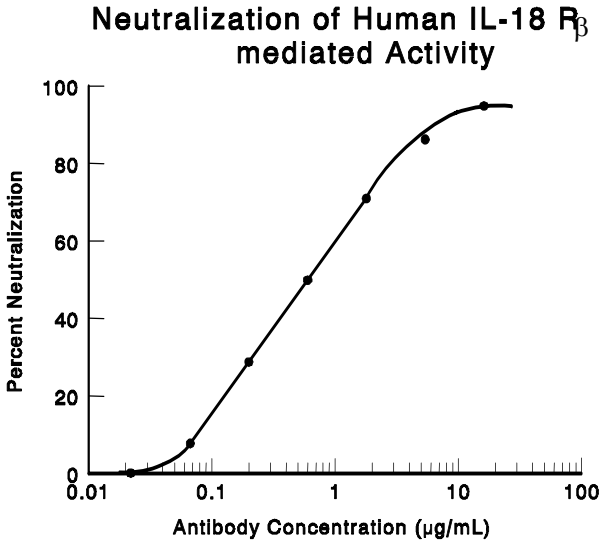

Figure 1
Human IL-18 stimulates IFN-γ secretion by KG-1 cells (Novick, D. *et al.*, 1999, Immunity Jan. 10(1):127 - 136). The ED_{50} of this effect is typically 10 - 30 ng/mL.

Figure 2
To measure the ability of the antibody to neutralize human IL-18 Rβ-mediated activity, various concentrations of the antibody were incubated with TNF-α stimulated human KG-1 cells at 2 x 10^5 cells/well in a 96 well plate for 1 hour at 37° C. Following this preincubation period, rhIL-18 was added. The assay mixture, in a total volume of 200 µL, containing antibody at the concentrations indicated, rhIL-18 at 40 ng/mL, TNF-α at 20 ng/mL and cells at 1 x 10^6 cells/mL, was incubated at 37° C for 1 day in a humidified CO_2 incubator. After this incubation, 100 µL of supernatant was collected from each well, diluted 1:2 with PBS, and tested for human IFN-γ levels using a human IFN-γ ELISA kit (R&D Systems, Catalog # DIF00). The ND_{50} of the antibody under these conditions is approximately 0.3 - 1 µg/mL.