Anti-cotton rat IL-1β/IL-1F2 Antibody

ORDERING INFORMATION

Catalog Number: AF1009

Lot Number: GOY01

Size: 100 μg

Formulation: 0.2 μm filtered solution in PBS

Storage: -20° C

Reconstitution: sterile PBS

Specificity: cotton rat IL-1β

Immunogen: *E. coli*-derived rcrIL-1β

Ig Type: goat IgG

Applications: Neutralization of bioactivity
Western blot
ELISA

Preparation
Produced in goats immunized with purified, *E. coli*-derived, recombinant cotton rat interleukin 1 beta (rcrIL-1β). Cotton rat IL-1β specific IgG was purified by cotton rat IL-1β affinity chromatography.

Formulation
Lyophilized from a 0.2 μm filtered solution in phosphate-buffered saline (PBS).

Endotoxin Level
< 0.1 EU per 1 μg 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 0.1 mg/mL.

Storage
Lyophilized samples are stable for twelve months from date of receipt when stored at -20° C to -70° C. Upon reconstitution, the antibody can be stored at 2° - 8° C for 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 six months without detectable loss of activity. **Avoid repeated freeze-thaw cycles.**

Specificity
This antibody has been selected for its ability to neutralize cotton rat IL-1β bioactivity.

Neutralization of Cotton Rat IL-1β/IL-1F2 Bioactivity
The exact concentration of antibody required to neutralize rcrIL-1β activity 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.

As shown in figures 1 and 2 on the next page, the ND$_{50}$ for this lot of anti-cotton rat IL-1β/IL-1F2 antibody was determined to be approximately 0.4 - 1.2 μg/mL in the presence of 2 ng/mL of rcrIL-1β, using the murine helper cell line, D10.G4.1. The specific conditions are described in the figure legends.

Additional Applications
Western blot - This antibody can be used at 0.1 - 0.2 μg/mL with the appropriate secondary reagents to detect cotton rat IL-1β. The detection limit for rcrIL-1β is approximately 5 ng/lane and 0.5 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 cotton rat IL-1β. The detection limit for rcrIL-1β is approximately 0.6 ng/well. In this format, this antibody shows approximately 50% cross-reactivity with rhIL-1β and rmIL-1β and 10% cross-reactivity with rrIL-1β and rpIL-1β.

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

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

Figure 1

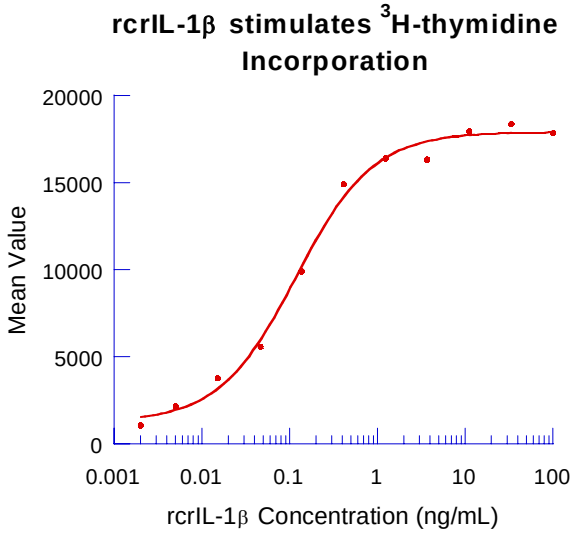

Figure 2

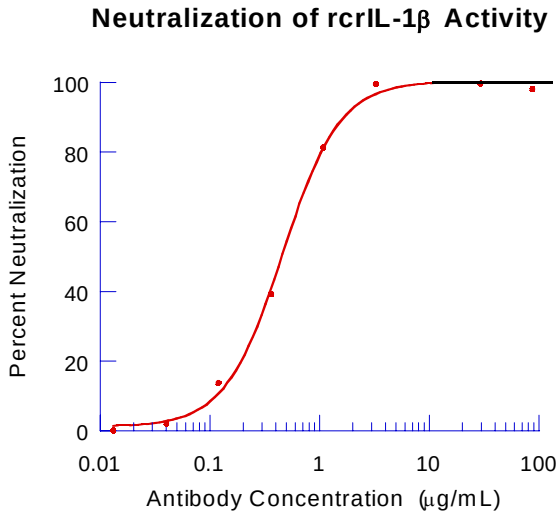

Figure 1
Cotton rat IL-1β stimulates ^{3}H-thymidine incorporation by murine T-helper D10.G4.1 cells in a dose-dependent manner (Symons, J.A. *et al*., 1987, in *Lymphokines and Interferons, A Practical Approach*, IRL Press, M.J. Clemens, A.G. Morris and A.J.H. Gearing, eds. p. 272). The ED_{50} for this effect is typically 0.1 - 0.4 ng/mL.

Figure 2
To measure the ability of the antibody to neutralize the bioactivity of rcrIL-1β on D10.G4.1 cells, rcrIL-1β was incubated with various concentrations of the antibody for 1 hour at 37° C in a 96 well plate. Following this preincubation period, D10.G4.1 cells were added. The assay mixture, in a total volume of 200 μL, containing antibody at the concentrations indicated, rcrIL-1β at 2 ng/mL, Concanvalin A at 1.25 μg/mL and cells at 5 x 10^{4} cells/mL, was incubated at 37° C for 72 hours in a humidified CO_2 incubator. ^{3}H-thymidine was added during the final 4 hours of incubation. The cells were subsequently harvested onto glass fiber filters and the ^{3}H-thymidine incorporated into DNA was determined. The ND_{50} of the antibody is approximately 0.4 - 1.2 μg/mL.