Rat IL-1α/IL-1F1 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF500

DESCRIPTION

Species Reactivity	Rat
Specificity	Detects rat IL-1α/IL-1F1 in direct ELISAs and Western blots. In direct ELISAs, less than 50% cross-reactivity with recombinant mouse IL-1α/IL-1F1 and recombinant cotton rat IL-1α/IL-1F1 is observed, and less than 15% cross-reactivity with recombinant human IL-1α/IL-1F1 and recombinant porcine IL-1α/IL-1F1 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant rat IL-1α/IL-1F1 Ser115-Ser270 Accession # P16598
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

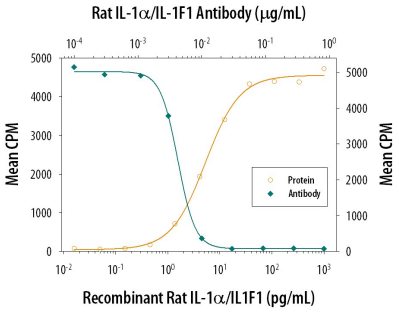
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Rat IL-1α/IL-1F1 (Catalog # 500-RL)
Neutralization	Measured by its ability to neutralize IL-1α/IL-1F1-induced proliferation in the D10.G4.1 mouse helper T cell line. Symons, J.A. *et al.* (1987) in Lymphokines and Interferons, a Practical Approach. Clemens, M.J. *et al.* (eds): IRL Press. 272. The Neutralization Dose (ND_{50}) is typically 0.003-0.009 µg/mL in the presence of 50 pg/mL Recombinant Rat IL-1α/IL-1F1 and 1.25 µg/mL concanavalin A.	

DATA

Neutralization



Cell Proliferation Induced by IL-1α/IL-1F1 and Neutralization by Rat IL-1α/IL-1F1 Antibody. Recombinant Rat IL-1α/IL-1F1 (Catalog # 500-RL) stimulates proliferation in the the D10.G4.1 mouse helper T cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Rat IL-1α/IL-1F1 (50 pg/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Rat IL-1α/IL-1F1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF500). The ND_{50} is typically 0.003-0.009 µg/mL in the presence of concanavalin A (1.25 µg/mL).

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

Interleukin 1 (IL-1) is a name that designates two proteins, IL-1α and IL-1β, which are the products of distinct genes, but which show approximately 25% amino acid (aa) sequence identity and which recognize the same cell surface receptors. Although IL-1 production is generally considered to be a consequence of inflammation, evidence suggests that IL-1 is also temporally upregulated during bone formation and the menstrual cycle and can be induced in response to nervous system stimulation. In response to classic stimuli produced by inflammatory agents, infections or microbial endotoxins, a dramatic increase in the production of IL-1 by macrophages and various other cells is seen. Cells in particular known to produce IL-1 include osteoblasts, monocytes, macrophages, keratinocytes, Kupffer cells, hepatocytes, thymic and salivary gland epithelium, Schwann cells, fibroblasts, and glia (oligodendroglia, astrocytes, and microglia).

IL-1α and IL-1β are both synthesized as 31 kDa precursors that are subsequently cleaved into proteins with molecular weights of approximately 17,000 Da. Neither precursor contains a typical hydrophobic signal peptide sequence and most of the precursor form of IL-1α remains in the cytosol of cells, although there is evidence for a membrane-bound form of the precursor form of IL-1α. The IL-1α precursor reportedly shows full biological activity in the EL-4 assay. Among various species, the aa sequence of mature IL-1α is conserved 60-70% and human IL-1 has been found to be biologically active on murine cell lines. Both forms of IL-1 bind to the same receptors, designated type I and type II. Evidence suggests that only the type I receptor is capable of signal transduction and that the type II receptor may function as a decoy, binding IL-1 and thus preventing binding of IL-1 to the type I receptor.

References:

1. Dower, S.K. and J.Z. Sims, (1994) *Guidebook to Cytokines and Their Receptors*, Nicola, N.A., ed., Oxford University Press, New York p. 17.

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