

DESCRIPTION

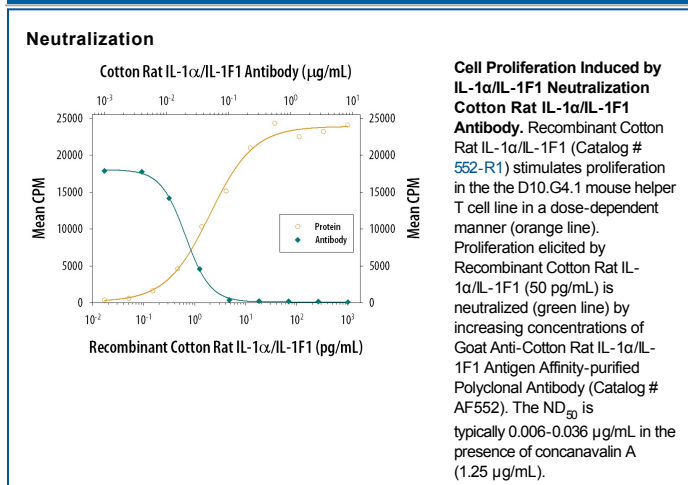
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|---------------------------|--|
| Species Reactivity | Cotton Rat |
| Specificity | Detects cotton rat IL-1 α /IL-1F1 in direct ELISAs and Western blots. In Western blots, approximately 40% cross-reactivity with recombinant rat IL-1 α is observed, 15% cross-reactivity with recombinant mouse IL-1 α is observed, and less than 1% cross-reactivity with recombinant human IL-1 α and recombinant porcine IL-1 α is observed. |
| Source | Polyclonal Goat IgG |
| Purification | Antigen Affinity-purified |
| Immunogen | <i>E. coli</i> -derived recombinant cotton rat IL-1 α /IL-1F1 |
| Endotoxin Level | <0.10 EU per 1 μ g of the antibody by the LAL method. |
| Formulation | Lyophilized from a 0.2 μ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μ m 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 μ g/mL | Recombinant Cotton Rat IL-1 α /IL-1F1 (Catalog # 552-R1) |
| Neutralization | | Measured by its ability to neutralize IL-1 α /IL-1F1-induced proliferation in the D10.G4.1 mouse helper T cell line. Symons, J. A. <i>et al.</i> (1987) in <i>Lymphokines and Interferons, a Practical Approach</i> . Clemens, M. J. <i>et al.</i> (eds); IRL Press. 272. The Neutralization Dose (ND ₅₀) is typically 0.006-0.036 μ g/mL in the presence of 50 μ g/mL Recombinant Cotton Rat IL-1 α /IL-1F1 and 1.25 μ g/mL concanavalin A. |

DATA



PREPARATION AND STORAGE

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|--------------------------------|---|
| 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 | <p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> ● 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. |

BACKGROUND

Interleukin 1 (IL-1) is a name that designates two proteins, IL-1 α and IL-1 β , that are the products of distinct genes, but show approximately 25% amino acid sequence identity and 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 temporarily up-regulated during bone formation and the menstrual cycle and can be induced in response to nervous system stimulation. In response to 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-1 α and IL-1 β are both synthesized as 31 kDa precursors that are subsequently cleaved into proteins with molecular weights of approximately 17,000 Daltons. Neither precursor contains a typical hydrophobic signal peptide sequence and most of the precursor form of IL-1 α remains in the cytosol of cells, although there is evidence for a membrane-bound form of the precursor form of IL-1 α . The IL-1 α precursor reportedly shows full biological activity in the EL-4 assay. Among various species, the amino acid sequence of mature IL-1 α is conserved 60% to 70% and human, porcine, rat and cotton rat IL-1 has been found to be biologically active on murine cell lines. Both forms of IL-1 bind to the same receptors, designated as 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 the binding of IL-1 to the type I receptor.

References:

1. Dower, S.K. and J.E. Sims (1994) *Guidebook to Cytokines and their receptors*, Nicole, N.A. (ed), Oxford University Press, New York, p. 17.