Cotton Rat IL-1α/IL-1F1 Antibody

Monoclonal Mouse IgG_{2A} Clone # 140221

Catalog Number: MAB552

DESCRIPTION

Species Reactivity	Cotton Rat
Specificity	Detects cotton rat IL-1α/IL-1F1 in direct ELISAs and Western blots. In direct ELISAs, approximately 50% cross-reactivity with recombinant rat (rr) IL-1α is observed and 20% cross-reactivity with recombinant mouse (rm) IL-1α is observed. In Western blots, no cross-reactivity with recombinant human IL-1α, rmIL-1α, recombinant porcine IL-1α, rrIL-1β, and rrIL-18 is observed.
Source	Monoclonal Mouse IgG_{2A} Clone # 140221
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*E. coli*-derived recombinant cotton rat IL-1α/IL-1F1 Ser115-Pro269 Accession # AAK94011
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 either lyophilized or as a 0.2 µm filtered solution in PBS.

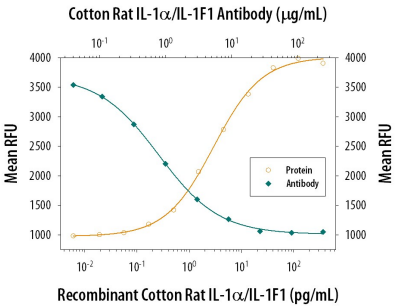
APPLICATIONS

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	1 µg/mL	Recombinant Cotton Rat IL-1α/IL-1F1 (Catalog # 552-R1)
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 1-5 µg/mL in the presence of 50 pg/mL Recombinant Cotton Rat IL-1α/IL-1F1.	

DATA

Neutralization



Cell Proliferation Induced by IL-1α/IL-1F1 and Neutralization by Cotton Rat IL-1α/IL-1F1 Antibody. Recombinant Cotton Rat IL-1α/IL-1F1 (Catalog # 552-R1) stimulates proliferation in the the D10.G4.1 mouse helper T cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Cotton Rat IL-1α/IL-1F1 (50 pg/mL) is neutralized (green line) by increasing concentrations of Mouse Anti-Cotton Rat IL-1α/IL-1F1 Monoclonal Antibody (Catalog # MAB552). The ND_{50} is typically 1-5 µg/mL.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 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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Cotton Rat IL-1α/IL-1F1 Antibody

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Catalog Number: MAB552

BACKGROUND

Interleukin 1 (IL-1) is a name that designates two proteins, IL-1α and IL-1β, 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-1α and IL-1β 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-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 amino acid sequence of mature IL-1α 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.

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