Mouse IL-1α/IL-1F1 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF-400-NA

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse IL-1α/IL-1F1 in direct ELISAs and Western blots. In direct ELISAs, approximately 25% cross-reactivity with recombinant rat IL-1α and recombinant cotton rat IL-1α is observed and less than 1% cross-reactivity with recombinant human IL-1α is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant mouse IL-1α/IL-1F1 Ser6-Ser161 Accession # Q62161
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	0.1 µg/mL	See Below
Immunohistochemistry	3-15 µg/mL	See Below
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 0.002-0.004 µg/mL in the presence of 50 pg/mL Recombinant Mouse IL-1α/IL-1F1.	

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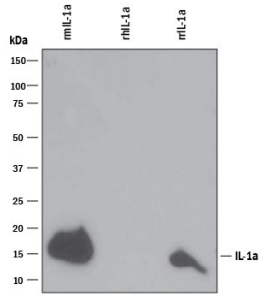
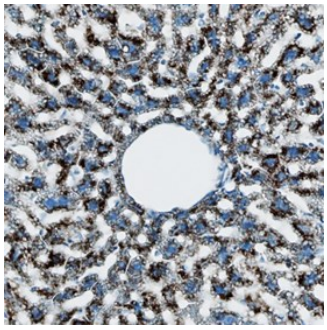
DATA

Western Blot



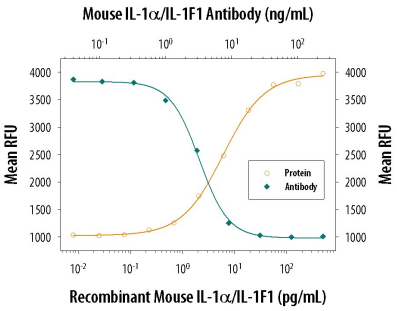
Detection of Recombinant Mouse and Rat IL-1α/IL-1F1 by Western Blot. Western blot shows 50 ng of Recombinant Mouse IL-1a/IL-1F1 (Catalog # 400-ML), Recombinant Human IL-1a/IL-1F1 (Catalog # 200-LA) and Recombinant Rat IL-1a/IL-1F1 (Catalog # 500-RL). PVDF Membrane was probed with 0.1 µg/mL of Goat Anti-Mouse IL-1a/IL-1F1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-400-NA) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). A specific band was detected for IL-1a/IL-1F1 at approximately 16 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 3.

Immunohistochemistry



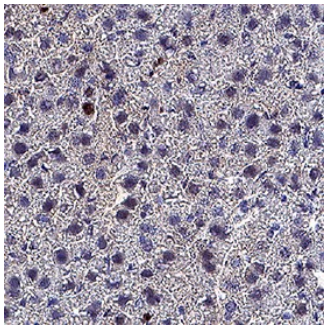
IL-1α/IL-1F1 in Mouse Liver. IL-1a/IL-1F1 was detected in perfusion fixed frozen sections of mouse liver using Goat Anti-Mouse IL-1a/IL-1F1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-400-NA) at 15 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Specific staining was localized to cytoplasm in hepatocytes. View our protocol for Chromogenic IHC Staining of Frozen Tissue Sections.

Neutralization



Cell Proliferation Induced by IL-1α/IL-1F1 and Neutralization by Mouse IL-1α/IL-1F1 Antibody. Recombinant Mouse IL-1a/IL-1F1 (Catalog # 400-ML) stimulates proliferation in the the D10.G4.1 mouse helper T cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Mouse IL-1a/IL-1F1 (50 pg/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Mouse IL-1a/IL-1F1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-400-NA). The ND_{50} is typically 0.002-0.004 µg/mL.

Immunohistochemistry



Detection of IL-1α/IL-1F1 in Mouse Liver. IL-1α/IL-1F1 was detected in immersion fixed paraffin-embedded sections of Mouse Liver using Goat Anti-Mouse IL-1α/IL-1F1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-400-NA) at 3 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Goat IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC004). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using VisUCyte Antigen Retrieval Reagent-Basic (Catalog # VCTS021). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to nuclei in hepatocytes. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

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

IL-1 is a name that designates two proteins, IL-1α and IL-1β, that are the products of distinct genes, but recognize the same cell surface receptors. IL-1α and IL-1β are structurally related polypeptides that show approximately 25% homology at the amino acid level. Both proteins are produced by a wide variety of cells in response to stimuli such as those produced by inflammatory agents, infections, or microbial endotoxins. The proteins are synthesized as 31 kDa precursors that are subsequently cleaved into proteins with molecular weights of approximately 17.5 kDa. The specific protease responsible for the processing of IL-β, designated interleukin 1β-converting enzyme (ICE), has been described. Mature human and mouse IL-1β share approximately 75% amino acid sequence identity and human IL-1β has been found to be active on murine cell lines.

IL-1α and IL-1β are potent pro-inflammatory cytokines that induce a wide variety of biological activities on different cell types. Two distinct types of IL-1 receptors have been identified and cloned from human and mouse cells. The IL-1 receptor type I is a 80 kDa transmembrane protein with demonstrated IL-1 signaling function. The IL-1 receptor type II is a 68 kDa membrane protein with a relatively short cytoplasmic tail and has no signaling function. The type II receptor acts as a decoy target for IL-1, inhibiting IL-1 activities by preventing the binding of IL-1 to the type I receptor. A soluble version of the type II receptor is induced by anti-inflammatory agents such as glucocorticoids, IL-4 and IL-13.

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