Equine IL-1ra/IL-1F3 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF2466

DESCRIPTION

Species Reactivity	Equine
Specificity	Detects equine IL-1ra/IL-1F3 in ELISAs and Western blots. In sandwich immunoassays, less than 20% cross-reactivity with recombinant mouse IL-1ra is observed, less than 5% cross-reactivity with recombinant rat IL-1ra is observed, less than 2% cross-reactivity with recombinant porcine IL-1ra is observed, less than 0.4% cross-reactivity with recombinant human IL-1ra is observed, and less than 0.2% cross-reactivity with recombinant equine IL-1beta is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant equine IL-1ra/IL-1F3 His26-Gln177 Accession # O18999
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.

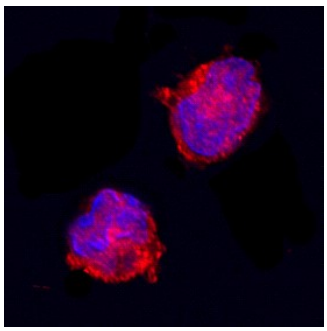
APPLICATIONS

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	Recombinant Equine IL-1ra/IL-1F3 (Catalog # 2466-RA)
Immunocytochemistry	5-15 µg/mL	See Below
Equine IL-1ra/IL-1F3 Sandwich Immunoassay		**Reagent**
ELISA Capture	0.2-0.8 µg/mL	Equine IL-1ra/IL-1F3 Antibody (Catalog # AF2466)
ELISA Detection	0.1-0.4 µg/mL	Equine IL-1ra/IL-1F3 Biotinylated Antibody (Catalog # BAF2466)
Standard		Recombinant Equine IL-1ra/IL-1F3 (Catalog # 2466-RA)

DATA

Immunocytochemistry



IL-1ra/IL-1F3 in Equine PBMCs. IL-1ra/IL-1F3 was detected in immersion fixed equine peripheral blood mononuclear cells (PBMCs) using Goat Anti-Equine IL-1ra/IL-1F3 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2466) at 15 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (red; Catalog # NL001) and counterstained with DAPI (blue). Specific staining was localized to plasma membrane. View our protocol for Fluorescent ICC Staining of Non-adherent Cells.

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

Secreted equine IL-1 receptor antagonist (IL-1ra) is a presumably 22-25 kDa glycoprotein produced by variety of cell types that antagonizes IL-1 activity (1-3). It is a member of the IL-1 family of proteins that includes IL-1α and IL-1β. Although there is little amino acid (aa) identity (<30%) among the three IL-1 family members, all molecules bind to the same receptors, all show a β-trefoil structure, and all are believed to have evolved from a common ancestral gene (1-4). Equine IL-1ra is synthesized as a 177 aa precursor that contains a 25 aa signal sequence plus a 152 aa mature region. There is one intrachain disulfide bond and one potential N-linked glycosylation site (3, 5, 6). Mature equine sIL-1ra is 78%, 78%, 80%, 82%, and 76% aa identical to mature mouse, human, porcine, canine and bovine IL-1ra, respectively. In human, three non-secreted IL-1ra isoforms have also been identified. It is unknown if such an analogous situation exists in equine. Cells known to secrete IL-1ra include fibroblasts, vascular smooth muscle cells, intestinal columnar epithelium, chondrocytes, macrophages, mast cells, neutrophils and hepatocytes.

There are two type I transmembrane glycoprotein receptors for IL-1ra. The first is the bioactive 80 kDa type I IL-1 receptor (IL-1 RI), and the second is the inert (decoy) 65 kDa type II IL-1 receptor. IL-1ra binding to IL-1 RI competitively blocks IL-1 (α or β) binding to the same receptor. This results in receptor ligation without activation (1, 7). The type II IL-1 receptor is inert, and any binding of IL-1ra not only fails to block co-existing IL-1 activity, but may actually potentiate it by removing an IL-1 antagonist. Functionally, all activities attributed to IL-1ra are explained by its role as a competitive inhibitor of IL-1 binding to IL-1 RI (1, 2, 8, 9).

References:

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