

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
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant equine IL-1ra/IL-1F3 His26-Gln177 Accession # O18999
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.

ELISA Capture (Matched Antibody Pair)	Optimal dilution of this antibody should be experimentally determined.
ELISA Detection (Matched Antibody Pair)	Optimal dilution of this antibody should be experimentally determined.
Western Blot	Optimal dilution of this antibody should be experimentally determined.
Immunocytochemistry	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

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-1 α and IL-1 β . 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).

PRODUCT SPECIFIC NOTICES

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