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IL-1β

Catalog # PVGS1659

Product Information

Primary Accession	P26889
Species	Porcine
Sequence	Ala115- Pro267
Purity	> 95% as analyzed by SDS-PAGE > 95% as analyzed by HPLC
Endotoxin Level	
Biological Activity	The ED_{50} as determined by a cell proliferation assay using murine D10S cells is less than 5.0 ng/ml, corresponding to a specific activity of 2.0×10^5 IU/mg.
Expression System	E. coli
Theoretical Molecular Weight	17.6 kDa
Formulation	Lyophilized from a 0.2 □m filtered solution in PBS, pH 7.4, 3 % trehalose.
Reconstitution	It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/ml.
Storage & Stability	Upon receiving, this product remains stable for up to 6 months at -20°C or -70°C. Upon reconstitution, the product should be stable for up to 1 week at 2-8°C or up to 3 months at -20°C. Avoid repeated freeze-thaw cycles.

Additional Information

Gene ID	397122
Other Names	Interleukin-1 beta, IL-1 beta, IL1B
Target Background	Interleukin-1 beta (IL-1β) is a non-secreted proinflammatory cytokine produced mainly by activated macrophages, as well as neutrophils, epithelial cells, and endothelial cells. It possesses metabolic, physiological, haematopoietic activities, and plays one of the central roles in the regulation of the immune responses. Both IL-1α and IL-1β binds to the same receptor and have similar but not identical biological properties. Recombinant porcine interleukin-1 beta is a 17 kDa protein containing 153 amino acid residues and it shares 63 % - 70 % a.a. sequence identity with canine, cotton rat, equine, feline, human, mouse, rat, and rhesus IL1β.

Protein Information

Name	IL1B
Function	Potent pro-inflammatory cytokine. Initially discovered as the major endogenous pyrogen, induces prostaglandin synthesis, neutrophil influx and activation, T-cell activation and cytokine production, B- cell activation and antibody production, and fibroblast proliferation and collagen production. Promotes Th17 differentiation of T-cells. Synergizes with IL12/interleukin-12 to induce IFNG synthesis from T- helper 1 (Th1) cells. Plays a role in angiogenesis by inducing VEGF production synergistically with TNF and IL6. Involved in transduction of inflammation downstream of pyroptosis: its mature form is specifically released in the extracellular milieu by passing through the gasdermin-D (GSDMD) pore.
Cellular Location	Cytoplasm, cytosol {ECO:0000250|UniProtKB:P01584}. Secreted {ECO:0000250|UniProtKB:P01584}. Lysosome {ECO:0000250|UniProtKB:P01584}. Secreted, extracellular exosome {ECO:0000250|UniProtKB:P10749}. Note=The precursor is cytosolic. In response to inflammasome-activating signals, such as ATP for NLRP3 inflammasome or bacterial flagellin for NLRC4 inflammasome, cleaved and secreted. Mature form is secreted and released in the extracellular milieu by passing through the gasdermin-D (GSDMD) pore. In contrast, the precursor form is not released, due to the presence of an acidic region that is proteolytically removed by CASP1 during maturation. The secretion is dependent on protein unfolding and facilitated by the cargo receptor TMED10. {ECO:0000250|UniProtKB:P01584}