

Recombinant Human IL-1 β (ELISA Std.)

Catalog# / Size	579409 / 4 pack
Regulatory Status	RUO
Other Names	Catabolin, interleukin-1 beta, preinterleukin 1 beta, pro-interleukin-1-beta.
Description	IL-1 β in humans and mice does not encode a typical signal peptide and, as a result, newly synthesized pro-IL-1 β accumulates within the cytoplasm of activated monocytes and macrophages (1). Conversion of the inactive pro-IL-1 β to its mature form requires the proteolytic action of IL-1 β -converting enzyme (ICE), also termed caspase-1 (2). Secretion of mature IL-1 β from LPS-activated monocytes/macrophages is not a constitutive process. These cells must encounter a secondary stimulus that specifically activates the posttranslational processing events (2). Moreover, owing to its pro-inflammatory nature, IL-1 β is regarded as a tumor-promoting cytokine. In fact, enhanced tumor metastasis and angiogenesis has been observed under the influence of IL-1 β (3). IL-1 β is able to facilitate tumor progression in murine models of lung cancer. In addition, upregulation of metastasis and tumor angiogenesis by IL-1 β has been associated with increased activity of matrix metalloproteinases and expression of the pro-angiogenic molecule hepatocyte growth factor (4).

Product Details

Source	Human IL-1 β , amino acids Ala117-Ser269 (Accession # NM_000576) was expressed in <i>E. coli</i> , approximately 17 kD
Formulation	Lyophilized in sterile-filtered PBS, pH 7.2, containing 1% BSA, 0.09% sodium azide, and protease inhibitors.
Concentration	Lot-specific (to obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.)
Storage & Handling	Upon receipt, store unopened vials between 2°C and 8°C immediately and use within 12 months from date of receipt. Prior to use, reconstitute the lyophilized powder with 0.2 ml of PBS containing a carrier protein (e.g., 1% BSA, protease free), pH7.4. Re-cap vial, vortex. Allow the reconstituted standard to sit at room temperature for 15 minutes, vortex again to mix completely. The reconstituted standard stock solution can be aliquoted into polypropylene vials and stored at -70°C for up to one month. Do not re-use diluted standards. Use a manual defrost freezer and avoid repeated freeze thaw cycles.
Application	ELISA
Recommended Usage	Each lot of this protein is quality control tested by ELISA assay . It is recommended that the reagent be titrated for optimal performance for each application.
Application Notes	This IL-1 β protein is useful as a standard for a human IL-1 β sandwich ELISA, using unlabeled H1b-27 antibody (Cat. No. 511602) for capture and biotinylated Poly5174 (Cat. No. 517403) or H1b-98 antibody (Cat. No. 511704) for detection.

Antigen Details

Structure	Cytokine
Function	Interleukin (IL)-1 β is a cytokine with a key role in the pathophysiology of local and systemic inflammation. IL-1 β induces cytokine, chemokine, proinflammatory molecule secretion, and adhesion molecule expression in diverse cells.
Ligand/Receptor	Type I and II IL-1 receptors (IL-1RI and IL-1RII)
Biology Area	Cell Biology, Immunology, Innate Immunity, Neuroinflammation, Neuroscience
Molecular Family	Cytokines/Chemokines
Antigen References	1. Stevenson FT, <i>et al.</i> <i>J Cell Physiol</i> 152:223-231 1992. 2. Shi J, <i>et al.</i> <i>J. Immunol.</i> 179:1245-1253 2007.

3. Dinarello CA *Cancer Metastasis Rev* 25:307-313 2006.
4. Boost KM, *et al. BMC Cancer* 8:265 2008.

Gene ID [147720](#)

Related Protocols

[Sandwich ELISA Protocol](#)

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