

DA3558

Recombinant Human Interleukin-1 beta / IL-1B

Alternate names:

Catabolin, IL-1 beta, IL1 beta, IL1B, IL1F2

Quantity:

10 µg

Background:

Interleukin-1 beta (IL-1beta) is produced by activated macrophages. IL-1beta stimulates thymocyte proliferation by inducing IL-2 release, B-cell maturation and proliferation, and fibroblast growth factor activity. IL-1beta proteins are involved in the inflammatory response, being identified as endogenous pyrogens, and are reported to stimulate the release of prostaglandin and collagenase from synovial cells. IL-1 is a name that designates two pleiotropic cytokines, IL-1 alpha (IL1F1) and IL1 beta (IL1F2), which are the products of distinct genes. IL-1 alpha and IL-1 beta are structurally related polypeptides that share approximately 21% amino acid (aa) identity in human. Both proteins are produced by a wide variety of cells in response to inflammatory agents, infections, or microbial endotoxins. While IL-1 alpha and IL-1 beta are regulated independently, they bind to the same receptor and exert identical biological effects. The human IL-1 beta cDNA encodes a 269 aa precursor. A 116 aa propeptide is cleaved intracellularly by the cysteine protease IL-1 beta converting enzyme (Caspase1/ICE) to generate the active cytokine. The mature human IL-1 beta shares 96% aa sequence identity with rhesus and 67% 78% with canine, cotton rat, equine, feline, mouse, porcine, and rat IL-1 beta.

Uniprot ID:

[P01584](#)

NCBI:

[NP_000567.1](#)

GeneID:

[3553](#)

Species:

Human

Source:

E. coli

Format:

State: Lyophilized purified protein

Purity: >98% pure by SDS-PAGE and Silver stain

Buffer System: PBS

Stabilizers: None

Endotoxin Level: < 0.1 ng per µg (IEU/µg) of rh IL-1beta

Reconstitution: The lyophilized rh IL-1beta is soluble in water and most aqueous buffers.

The lyophilized powder can be restored in water to a concentration of 0.1 mg/ml. This solution can be diluted into other buffered solutions or stored at -20°C for future use.

Description:

Recombinant Human Interleukin-1beta produced in E.Coli is a non-glycosylated, Interleukin-1 beta Polypeptide chain containing 153 amino acids and having a molecular mass of 17.0 kDa.

Result by N-terminal sequencing: APVRSL and MAPVRS

AA Sequence:

APVRSLNCTLRDSQQKSLVMSGPYELKALHLQGQDMEQQVVFMSFVQGEESNDKIPVALGLKEKNLYLSCV
LKDDK
PTLQLESVDPKNYPKKMEKRFVFNKIEINNKLFEESAQFPNWIYSTSQANMPVFLGGTKGGQDITDFTMQF
VSS

Biological Activity: Measured in a cell proliferation assay using murine D10G4.1 cells. The ED50 for this effect is typically 2-10 pg/ml.

Molecular weight: 17.0 kDa (153 amino acids)

Add. Information:

Range: 0.1-10.0 ng/ml

Storage:

Store lyophilized at RT for 3 weeks or (preferably in a desiccator) at -20°C for longer. Following reconstitution store the antibody undiluted at 2-8°C for one week or (in aliquots) at -20°C for longer.

For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA)

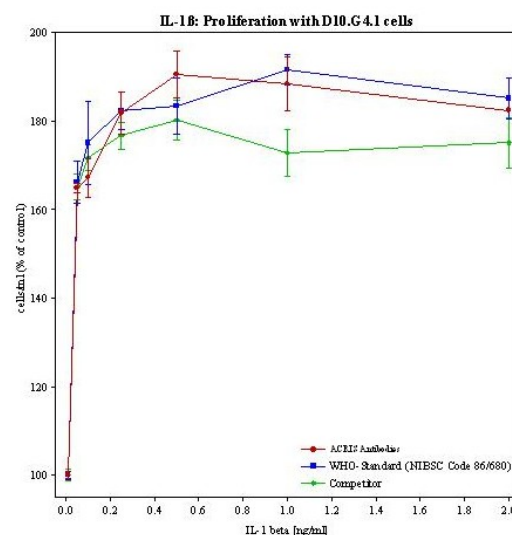
Avoid repeated freezing and thawing.

Shelf life: one year from despatch.

General Readings:

1. Allan SM, Tyrrell PJ, Rothwell NJ. Interleukin-1 and neuronal injury. Nat Rev Immunol. 2005 Aug;5(8):629-40. PubMed PMID: 16034365.
2. Boraschi D, Tagliabue A. The interleukin-1 receptor family. Vitam Horm. 2006;74:229-54. PubMed PMID: 17027517.
3. Kornman, K.S. (2006) Am. J. Clin. Nutr. 83:475S.
4. Isoda K, Ohsuzu F. The effect of interleukin-1 receptor antagonist on arteries and cholesterol metabolism. J Atheroscler Thromb. 2006 Feb;13(1):21-30. PubMed PMID: 16505588.
5. March CJ, Mosley B, Larsen A, Cerretti DP, Braedt G, Price V, et al. Cloning, sequence and expression of two distinct human interleukin-1 complementary DNAs. Nature. 1985 Jun 20-26;315(6021):641-7. PubMed PMID: 2989698.
6. Auron PE, Webb AC, Rosenwasser LJ, Mucci SF, Rich A, Wolff SM, et al. Nucleotide sequence of human monocyte interleukin 1 precursor cDNA. Proc Natl Acad Sci U S A. 1984 Dec;81(24):7907-11. PubMed PMID: 6083565.
7. Martinon F, Tschopp J. Inflammatory caspases and inflammasomes: master switches of inflammation. Cell Death Differ. 2007 Jan;14(1):10-22. Epub 2006 Sep 15. PubMed PMID: 16977329.

Pictures:



SDS-PAGE analysis of Recombinant Human IL-1 beta: Sample was loaded in 15% SDS-polyacrylamide gel under reducing conditions and stained with Silver staining.

