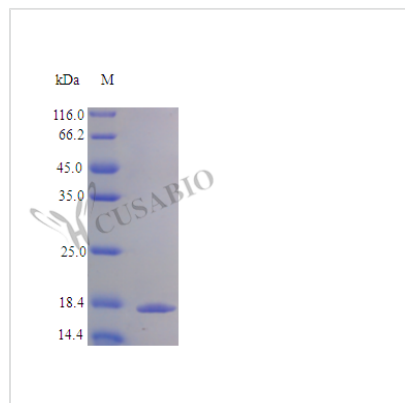




Recombinant Human Interleukin-10 protein (IL10) (Active)

Product Code	CSB-AP001791HU
Abbreviation	Recombinant Human IL10 protein (Active)
Uniprot No.	P22301
Form	Lyophilized powder
Storage Buffer	Lyophilized from a 0.2 µm filtered PBS, pH 7.4
Product Type	Interleukin
Immunogen Species	Homo sapiens (Human)
Biological Activity	Fully biologically active when compared to standard. The ED50 as determined by a cell proliferation assay using murine MC/9-2 cells is less than 1 ng/ml, corresponding to a specific activity of $>1.0 \times 10^6$ IU/mg.
Purity	$>95\%$ as determined by SDS-PAGE.
Sequence	SPGQGTQSEN SCTHFPGNLP NMLRDLRDAF SRVKTFFQMK DQLDNLLLKE SLLEDFKGYL GCQALSEMIQ FYLEEVMPQA ENQDPDIKAH VNSLGENLKT LRLRLRRCHR FLPCENKSKA VEQVKNAFNK LQEKGIYKAM SEFDIFINYI EAYMTMKIRN
Research Area	Immunology
Source	E.coli
Target Names	IL10
Expression Region	19-178aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	Tag-Free
Mol. Weight	18.6 kDa
Protein Length	Full Length of Mature Protein
PubMed ID	1847510; 9405662; 15340161; 8364028; 14657427; 7547951; 8590020; 8897595; 11485736; 15837194; 12825869

Image



Description

We generated the recombinant human IL10 using the E.coli by expressing the plasmid that contains the gene fragment encoding the 19-178aa of human IL10. Its purity is greater than 95% as assessed by SDS-PAGE and its endotoxin level is less than 1.0 EU/μg as determined by the LAL method. This recombinant human IL10 protein has been verified to be biologically active. The ED₅₀, measured by a cell proliferation assay with murine MC/9-2 cells, is less than 1 ng/ml, indicating a specific activity greater than 1.0x10⁶ IU/mg.

Human IL10 is a crucial anti-inflammatory cytokine that regulates immune responses and maintains homeostasis within the immune system. It is primarily produced by monocytes, lymphocytes, and mast cells, and is known for its ability to inhibit the synthesis of pro-inflammatory cytokines such as TNF-α, IL-1, and IL-6 [1][2]. This inhibitory action is vital for controlling excessive inflammatory responses that could lead to tissue damage and chronic inflammatory diseases.

IL10 exerts its effects by binding to the IL10 receptor, which activates a signaling cascade involving the JAK and STAT pathways, leading to the transcription of anti-inflammatory genes and the suppression of pro-inflammatory mediators [3]. Studies have shown that IL10 deficiency can enhance Th1 and Th17 immune responses, associated with various autoimmune conditions [4].

Furthermore, IL10 has been implicated in various pathological conditions, including chronic inflammatory diseases and cancer. Its role in modulating macrophage activation and promoting a regulatory T cell phenotype is critical in conditions such as endometriosis and atherosclerosis, where inflammation plays a central role [5][6]. IL10 can influence tumor microenvironments by modulating immune cell functions, thus suppressing or promoting tumor growth depending on the context [7].

References:

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Endotoxin	Less than 1.0 EU/μg as determined by LAL method.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL. We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.
Shelf Life	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.