

# Cytokines

## Human Recombinant IL-10, ACF



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Interleukin 10, animal component-free

Catalog #	78144	10 µg
	78144.1	100 µg
	78144.2	1000 µg

## Product Description

Interleukin 10 (IL-10) is the founding member of the IL-10 family of class II cytokines. All of the IL-10 cytokine family members have a four-helix bundle consisting of  $\alpha$ -helical folds. Upon binding to its receptor, IL-10 activates signaling through JAK1 and STAT3. It is produced by dendritic cells, macrophages, and CD4 T cells, as well as mast cells, NK cells, neutrophils, and B cells under specific stimulating conditions (Saraiva & O'Garra). IL-10 can inhibit the expression of pro-inflammatory cytokines and promote healing processes, and is important for the function of regulatory T cells. IL-10 also enhances B cell proliferation, immunoglobulin secretion, and class II MHC expression, while IL-10 produced by macrophages inhibits activation of neighboring macrophages, thus allowing a level of self-regulation (Ouyang et al.). This product is animal component-free.

## Product Information

Alternative Names:	B-TCGF, CSIF, Cytokine synthesis inhibitory factor, Interleukin-10, TGIF
Accession Number:	P22301
Amino Acid Sequence:	MSPGQGTQSE NSCTHFPGNL PNMLRDLRDA FSRVKTFQK KDQLDNLK ESLEDFKGY LGCQALSEMI QFYLEEVMQ AENQDPDIKA HVNSLGENLK TLRLRLRRCH RFLPCENKSK AVEQVKNAFN KLQEKGIYKA MSEFDIFINY IEAYMTMKIR N
Predicted Molecular Mass:	18.8 kDa
Species:	Human
Cross Reactivity:	Mouse, Monkey
Formulation:	Lyophilized from a sterile-filtered aqueous solution containing sodium phosphate, pH 7.5.
Source:	E. coli

## Specifications

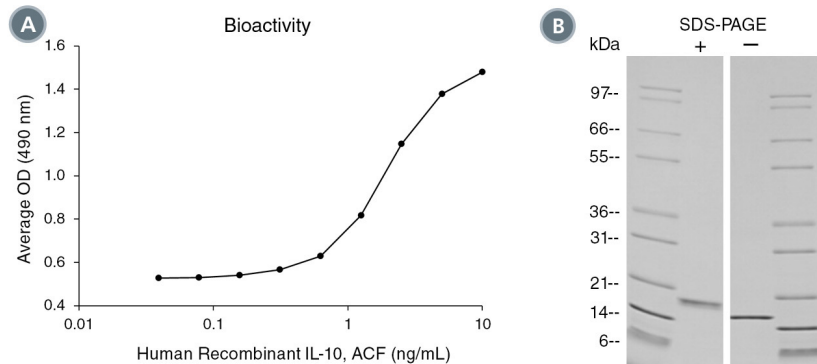
Activity:	The EC <sub>50</sub> is $\leq 5$ ng/mL as determined by a cell proliferation assay using MC/9 cells. The specific activity is approximately $5.4 \times 10^3$ IU/ $\mu$ g as calibrated against the human recombinant IL-10 WHO International Standard (NIBSC code: 93/722).
Purity:	$\geq 95\%$
Endotoxin Level:	Measured by kinetic Limulus amoebocyte lysate (LAL) analysis and is $\leq 1$ EU/ $\mu$ g protein.

## Preparation and Storage

Storage:	Store at -20°C to -80°C.
Stability:	Stable as supplied for 12 months from date of receipt.
Preparation:	Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex.

OPTIONAL: After reconstitution, if product will not be used immediately, dilute with concentrated bovine serum albumin (BSA) to a final BSA concentration of 0.1%. The effect of storage of stock solution on product performance should be tested for each application. As a general guide, do not store at 2 - 8°C for more than 1 month or at -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.

## Data



(A) The biological activity of Human Recombinant IL-10, ACF was tested by its ability to promote the proliferation of MC/9 cells in the presence of human IL-4. Cell proliferation was measured after 48 hours of culture using a fluorometric assay method. The EC50 is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC50 in the above example is 1.95 ng/mL.

(B) 1  $\mu$ g of Human Recombinant IL-10, ACF was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant IL-10, ACF has a predicted molecular mass of 18.8 kDa.

## Related Products

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## References

- Ouyang W et al. (2011) Regulation and functions of the IL-10 family of cytokines in inflammation and disease. *Annu Rev Immunol* 29(1): 71–109.
- Saraiva M & O'Garra A (2010) The regulation of IL-10 production by immune cells. *Nature Reviews Immunology* 10(3): 170–81.

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