

## CTGrade GMP rh IL-10

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Catalog #	Product	Size
500-16	CTGrade GMP rh IL-10	50µg, 100µg, 1mg lyophilized

### Intended Use

This product is for research or further manufacturing use only. Not for injection or diagnostic procedures. The safety and efficacy of this product in diagnostic or other clinical procedures has not been established.

### Product Description

This product is produced from *E. coli* and is manufactured in a facility that does not use or process beta-lactam containing materials. No animal- or human-derived materials were used during manufacturing or as ingredients. As such, the risk for BSE/TSE contamination can be considered negligible. This product is manufactured, tested, and released in an ISO 9001:2015 certified facility and follows cGMP practices. USP chapter <1043> for ancillary materials has been considered in the manufacture of this product.

Synonyms: B-TCGF, CSIF, TGIF

NIH Accession Number: P22301

Background: Interleukin 10 (IL-10) is an anti-inflammatory cytokine produced by macrophages and type 2 T helper (Th2) cells (1). IL-10 inhibits the production of pro-inflammatory cytokines such as interferon gamma (IFN $\gamma$ ), tumor necrosis factor alpha (TNF $\alpha$ ), IL-2, IL-3, IL-4, and granulocyte-macrophage colony-stimulating factor (GM-CSF) (2). IL-10 also suppresses antigen presentation on antigen presenting cells and enhances the survival, proliferation, and antibody production of B cells (3). The dominant downstream signal transduction of all IL-10 family cytokines is mediated by the activation of the Jak kinase Stat (JAK-STAT) transcription factor pathway (4). In addition to JAK-STAT pathways, IL-10 family members can also activate other downstream molecules

## Specifications

Formulation:	CTGrade GMP rh IL-10 lyophilized at 1mg/ml in 10 mM Sodium Phosphate, pH 7.5, 0.2µm filtered.
Protein Purity:	≥97% determined by reducing and non-reducing SDS-PAGE analysis.
Endotoxin:	<0.05 EU/µg using USP <85>/ EP 2.6.14
Bioactivity:	ED50 is determined by the dose-dependent Proliferation of MC/9 cells. The ED50 is typically less than 5 ng/mL. The international units of CTGrade GMP rh IL-10 is approximately $5.4 \times 10^3$ IU/µg, which is calibrated against recombinant Human Interleukin 10 WHO International Standard (NIBSC code 93/722).
Quality:	Carrier-free and no animal- or human-derived materials were used during manufacturing.

## Quality Assurance

All quality control test results are reported on a lot specific Certificate of Analysis, which is available at [www.irvinesci.com](http://www.irvinesci.com) or upon request.

## Shipping

This product is shipped at ambient temperature. Immediately upon receipt, store at the recommended temperature below.

## Storage Instructions and Stability

Upon receipt, store the lyophilized protein at -20°C in a manual defrost freezer. Unopened vials are stable for 36 months from the date of manufacture. Reconstituted material should be apportioned in working volumes and stored at or below -20°C in manual defrost freezer.

For short term storage reconstituted material is stable for 4-6 weeks when stored at 2-8°C. Stability can be increased by adding at least 0.1% carrier protein.

## Precautions

For *ex vivo* use only. Not for injection or diagnostic procedures. The safety and efficacy of this product in diagnostic or other clinical uses has not been established. Please refer to the Safety Data Sheet for information regarding hazards and safe handling practices.

## Directions for Use

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### 1. Reconstitution

Allow the vial and sterile water (e.g. FUJIFILM Irvine Scientific, Inc. P/N 9309 Water for Injection) to equilibrate to room temperature. Draw up desired volume of reconstitution buffer. Aseptically puncturing through rubber stopper with sterile needle, inject the buffer to achieve the desired concentration (0.1-0.5 mg/mL). Swirl the vial gently, **do not vortex**. Allow protein to rehydrate for 10-15 minutes at room temperature with occasional gentle mixing.

### 2. Optimum Concentration

The optimum concentration varies depending on cell type and culture conditions. Working concentration should be determined for each specific application.

## Related Products

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Catalog #	Product	Size
91154	PRIME-XV T Cell CDM	1L
91141	PRIME-XV T Cell Expansion XSFM	1L
91146	PRIME-XV Dendritic Cell Maturation CDM	500 mL
9309	Water for Injection	1L

## References

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1. Engelhardt KR, *et al.* (2014) *Curr Top. Microbiol Immunol.* 380:1. PMID: 25004811
2. Kotenko SV. (2011) *Curr. Opin Immunol.* 23-583
3. Moore KW, *et al.* (1990) *Science.* 248. PMID: 2161559
4. Ouyang W, *et al.* (2011) *Ann Rev Immunol* 29: 71. PMID: 21166540

## Technical Support

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### CONTACT US

For more information or assistance contact Customer Service at:

- Email: [fisitmrequest@fujifilm.com](mailto:fisitmrequest@fujifilm.com)
- Direct line: +1 800 577 6097

### WEBSITE RESOURCES

Visit the website at [www.irvinesci.com](http://www.irvinesci.com) for technical resources and information including:

- Safety Data Sheets (SDS)
- Certificate of Analysis (CoA) (when available)
- FAQs
- Product literature

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