

## CTGrade GMP rh IL-6

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Catalog #	Product	Size
500-06	CTGrade GMP rh IL-6	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: IFN-β2, B-cell Differentiation Factor, BSF-2, HSF, MGI-2

NIH Accession Number: P05231

Background: Interleukin 6 (IL-6) is an important pro-inflammatory and anti-inflammatory cytokine expressed by T cells, macrophages, and muscle cells (1). IL-6 signals through a receptor complex containing two receptors, IL-6Rα and gp130. IL-6 has an important function in promoting fever and can serve to stimulate an immune response to trauma. Human IL-6 is active on mouse and rat cells (1). In bone marrow, IL-6 promotes megakaryocyte maturation, leading to the release of platelets (2). It promotes specific differentiation of naïve CD4+ T cells, thus performing an important function in the linking of innate to acquired immune response. IL-6 also promotes T-follicular helper-cell differentiation as well as production of IL-21 (3), which regulates immunoglobulin (Ig) synthesis and IgG4 production. IL-6 also induces the differentiation of CD8+ T cells into cytotoxic T cells (4). It is often used for growth of hybridoma cell lines.

## Specifications

Formulation:	CTGrade GMP rh IL-6 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 B9 cell cells. The ED50 is typically less than 0.025 ng/mL. The international units of CTGrade GMP rh IL-6 is approximately 1.2 x10 <sup>5</sup> IU/µg, which is calibrated against recombinant Human Interleukin 6 WHO International Standard (NIBSC code 89/548).
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
91146	PRIME-XV Dendritic Cell Maturation CDM	500 mL
91211	PRIME-XV Hematopoietic Cell Basal XSFM	500mL
9309	Water for Injection	1L

## References

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1. Kishimoto T, *et al.* (1992). *Science* 258: 59. PMID: 1411569
2. Ishibashi T, *et al.* (1989). *Blood* 74: 1241. PMID: 2788464
3. Ma CS, *et al.* (2012) *J Exp Med* 209: 1241. PMID: 22753927
4. Okada M, (1988). *J Immunol* 141: 1543. PMID: 3261754

## 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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#### **FUJIFILM Irvine Scientific, Inc.**

2511 Daimler Street, Santa Ana, California 92705-5588 USA

Telephone: 1 949 261 7800 • 1 800 437 5706

Fax: 1 949 261 6522 • [www.irvinesci.com](http://www.irvinesci.com)

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