

CTGrade GMP rh IL-7

| Catalog # | Product | Size |
|-----------|---------------------|------------------------------|
| 500-07 | CTGrade GMP rh IL-7 | 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: Lymphopoietin 1 (LP-1), pre-B cell Factor

NIH Accession Number: P13232

Background: Interleukin 7 (IL-7) is a hematopoietic cytokine that is an important regulator of B and T cell development (1, 2). It is secreted by bone marrow and thymic stromal cells, dendritic cells, intestinal epithelial cells, hepatocytes, and keratinocytes (1, 3, 4). IL-7 signals through the IL-7 receptor (IL-7R) to promote the differentiation of hematopoietic stem cells into T cells, B cells, and natural killer cells (1). The cytokine is also a regulator of intestinal mucosal lymphocyte proliferation (1, 3, 5, 6). Human and mouse IL-7 show species cross-reactivity (7, 8). IL-7, along with IL-2, 15, and 21, is a member of the common gamma (γc) chain cytokine family (9, 10, 11). IL-7, in combination with IL-15, has been shown to promote favorable phenotypes in adoptive cellular therapies such as CAR T cell therapy (12).

Specifications

| | |
|-----------------|---|
| Formulation: | CTGrade GMP rh IL-7 lyophilized at 1mg/ml in 20 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 assay using PHA-activated PBMC. The ED50 is typically less than 0.5 ng/mL. The international units of CTGrade GMP rh IL-7 is approximately 1.2×10^5 IU/ug when calibrated against Human Interleukin 7 WHO Reference Standard (NIBSC code 90/530). |
| 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 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

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

| Catalog # | Product | Size |
|-----------|--------------------------------|------|
| 91154 | PRIME-XV T Cell CDM | 1L |
| 91141 | PRIME-XV T Cell Expansion XSFM | 1L |
| 91215 | PRIME-XV NK Cell CDM | 1L |
| 9309 | Water for Injection | 1L |

References

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4. Shalpour S, *et al.* (2012) *PLoS ONE* 7: e31939. PMID: 22384106
5. Goodwin RG, *et al.* (1990) *Proc. Natl. Acad. Sci. USA* 86:302.
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9. Kondo M, *et al.* (1994) *Science* 263(5152):1453. PMID: 8128231
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11. Ziegler SF, *et al.* (1995) *Eur J Immunol* 25(2):399. PMID: 7875201
12. Alizadeh D, *et al.* (2019) *Cancer Immunol Res* 7(5):759. PMID: 30890531

Technical Support

CONTACT US

For more information or assistance contact Customer Service at:

- Email: fisitmrequest@fujifilm.com
- Direct line: +1 800 577 6097

WEBSITE RESOURCES

Visit the website at 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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