

Shenandoah CTGrade Recombinant Human IL-4

Optimize Cell Proliferation and Function for Immunotherapy

CTGrade rh IL-4 is a recombinant human protein that is produced from *E. coli* and is designed to support preclinical and clinical research, as well as commercial applications, and offers:

- High biological activity verified by a relevant bioactivity assay
- Low endotoxin levels
- $\geq 98\%$ purity
- High lot-to-lot consistency



Making the Right Decision the First Time

When designing robust cell and gene therapy processes, making the right decision the first time is critical for delivering therapies to market.

Shenandoah CTGrade interleukins and growth factors are formulated to reduce variability and ensure predictable workflow performance in the proliferation and differentiation of T cells, natural killer (NK) cells, B cells, and chimeric antigen receptor (CAR T) cells.

Together with our unparalleled regulatory guidance and assurance of expected performance, CTGrade interleukins and growth factors help cell and gene therapy developers proactively deliver the full promise of their discoveries.



Achieve Predictable Workflows and Reduce Variability with CTGrade Interleukins and Growth Factors

The predictability and performance of CTGrade interleukins and growth factors help cell and gene therapy developers accelerate delivery of life-changing therapies to market.

The biological activity of CTGrade interleukins and growth factors is standardized, where applicable, to WHO International standards, providing cell and gene therapy developers consistent, lot-to-lot biological activity and performance.

The CTGrade products are 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. These products are manufactured, tested, and released in an ISO 9001:2015 certified facility following cGMP practices. USP chapter <1043> for ancillary materials has been considered in the manufacture of these products.

IL-4 is an immunomodulatory cytokine that stimulates B cell proliferation and activates eosinophils, basophils, and mast cells.

- Induces vascular cell adhesion molecule (VCAM)-1 expression on endothelial cells and is involved in collagen production by fibroblasts
- Plays a key role in promotion of Th₂ differentiation from naïve helper T cells
- Defines the Th₂ phenotype of lymphocytes
- Regulates cell proliferation, apoptosis, and expression of numerous genes in various cell types

Drive Scale-up Readiness with Performance-based Solutions

Cell-Based Proliferation Assay

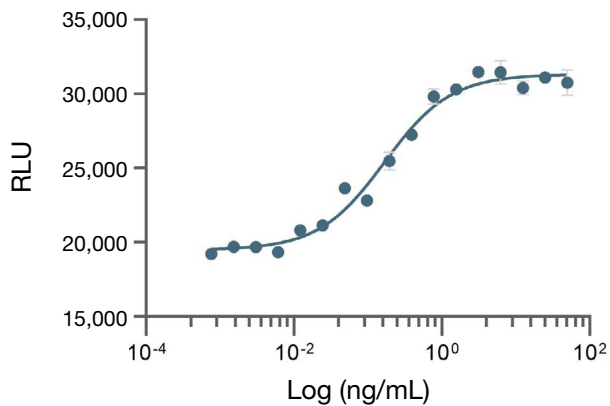


Figure 1. The biological activity of CTGrade rh IL-4 was determined in TF-1 cell-based proliferation assay.

SDS-PAGE Showing a Single Prominent Band at 15.1 kDa

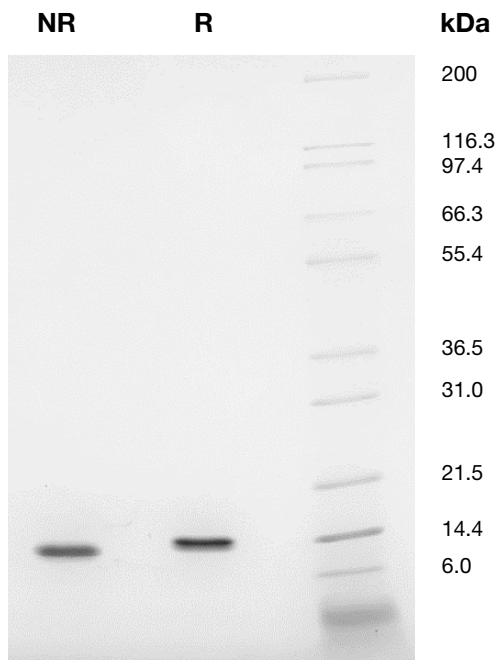


Figure 2. CTGrade rh IL-4 (1 µg) was resolved with SDS-PAGE under non-reducing (NR) and reducing (R) conditions and visualized by InstantBlue staining showing a single prominent band at 15.1 kDa.

*Predicted MW is 15.1 kDa but runs on SDS-PAGE at 14.4 kDa.

Shenandoah CTGrade Recombinant Protein Ordering Information

Product Description	Catalog #	Size*	Additional Info
CTGrade rh IL-4	500-05	50 µg 100 µg 1 mg	Provided in lyophilized form.

Related Products

Product Description	Catalog #	Size*	Additional Info
PRIME-XV Dendritic Cell Maturation CDM	91146	500 mL	Chemically defined, animal component-free formula. Does not contain antibiotics or phenol red.
PRIME-XV Hematopoietic Cell Basal XSFM	91211	500 mL	Xeno-free, serum-free HSC basal medium.
RPMI Medium 1640 w/o L-Glutamine	9160	100 mL 500 mL 1 L	Contains 2,000 mg/L sodium bicarbonate.
RPMI Medium 1640 with L-Glutamine	9161	100 mL 500 mL 1 L	Contains L-glutamine, 2,000 mg/L sodium bicarbonate.
Water for Injection	9309	1 L	Bottle packaging.

* Custom sizes and packaging available on request.

To discuss your requirements, contact us at getinfo@irvinesci.com
Or visit our website at www.irvinesci.com/contact-us

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Value from Innovation

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