OptiLeukin™ 2

Recombinant Human Interleukin-2 (rhIL-2), Animal-Origin-Free

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1. PRODUCT DESCRIPTION

OptiLeukin™ 2 is a high-purity, chemically defined, animal-origin-free recombinant human interleukin-2 (rhIL-2) supplied as a lyophilized powder. Produced in a non-microbial, non-mammalian expression system, it offers a consistent, scalable alternative to E. coli–derived IL-2 for serum-free and xeno-free cell therapy research.

Formulated to support T and NK cell expansion, OptiLeukin 2 delivers potent bioactivity with high specific activity, low endotoxin and >98% purity. It contains no carrier proteins or stabilizers and enables greater consistency in defined media systems. It is intended for use in immunotherapy and gene-modified cell platforms where reproducibility and animal-orgin-free assurance are essential It is designed for the expansion of immune cells in serum-free cell therapy manufacturing.

This product is regulatory-friendly and eliminates risks associated with animal- or serum-derived components. Like all InVitria products, it is manufactured in an ISO 9001–certified, cGMP-compliant U.S. facility that is certified animal-origin-free (AOF), with documented controls preventing the use or presence of animal-derived materials.

2. PRODUCT INFORMATION

Dev. Part Number*	555OLK0070
Product Type	Recombinant human cytokine - interleukin-2
Format	Lyophilized powder
Purity	≥ 98%
Packaging	100 µg vials
Endotoxin Level	≤ 0.100 EU/µg
Source	Recombinant
Shelf Life	6 months
Storage	-20°C
Manufacturing Site	• Animal-origin-free facility • ISO 9001–certified • cGMP-compliant

***Developmental and GMP-compliant formats are manufactured in the same GMP-compliant, ISO 9001–certified facility.**

GUIDELINES FOR USE

2. APPLICATIONS

- Expansion and maintenance of T cells, Tregs, and other IL-2–responsive immune cell types
- CAR-T, TIL, and other gene-modified immunotherapy research platforms
- Use in ex vivo workflows requiring consistent cytokine supplementation
- Used in CAR-T, tumor-infiltrating lymphocyte (TIL), T-reg, and immunotherapy research
- Supports animal-origin-free protocols in regulatory-aligned bioprocess development

3. PREPARATION & USE

Format: This product is supplied as a lyophilized powder.

Reconstitution: Add approximately 70% of the final intended volume (e.g., 0.7 mL for a 1 mL total) of cold, sterile, cell culture–grade water or buffer (e.g., PBS or DPBS). Gently add pre-weighed OptiLeukin 2 to the liquid. Avoid vortexing. Allow to dissolve at 2–8°C for 30–60 minutes, protected from light. Once fully dissolved (no visible particles), bring to final volume with the same buffer.

Mixing: Gently invert or tilt bottle until homogenous; **DO NOT SHAKE OR VORTEX.**

Filtration: Sterile filter the reconstituted solution using a 0.2 µm low-protein-binding filter.

Note: *This product is lyophilized and not classified as sterile. To ensure sterility, reconstitute under aseptic conditions and sterile filter using a 0.2 µm low-protein-binding filter before use in sterile workflows.*

Recommended usage:

- Prepare stock solution at 100 µg/mL.
- For T or NK cell expansion, a typical working concentration is 0.025 µg/mL (equivalent to 50–200 IU/mL).
- **Optimization**: Adjust working concentration based on specific cell type, media formulation, and protocol requirements.

5. STORAGE & STABILITY

- **Shelf life:** 6 months when unopened and stored at –20°C
- **Reconstituted solutions:** Store at 2–8°C, protected from light, for up to 4 weeks. For long-term storage, aliquot and store at –80°C for ≥12 months
- Keep tightly sealed to prevent contamination and moisture uptake.
- **AVOID:**
  - Repeated freeze–thaw cycles
  - Prolonged exposure to temperatures >25°C
  - Direct sunlight or UV exposure
  - Vigorous agitation (shaking, vortexing, etc.)
  - Contact with oxidizing agents
  - Opening outside a sterile environment

6. REGULATORY NOTES

- Animal-origin-free (AOF)
- Bacteria-origin-free
- Chemically defined
- Manufactured in a cGMP-compliant, ISO 9001-certified facility
- Manufactured in the USA for reliable sourcing and regulatory alignment
- Ethically sourced & sustainable

7. ADDITIONAL RESOURCES

- Webpage - OptiLeukin 2
- Data Sheet - OptiLeukin 2
- SDS - OptiLeukin 2
- Guidelines for Use - OptiLeukin 2
- Application Note - Sustained T Cell Proliferation and Early Memory Retention with OptiLeukin 2 Recombinant IL-2

8. ORDERING INFORMATION

OptiLeukin 2	*Product #*
RUO-100 µg vials	555OLK0070-100ug

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