LIF Leukemia Inhibitory Factor

Recombinant Human Cytokine Pluripotency & Stem Cell Supplement Animal-Origin-Free

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1. PRODUCT DESCRIPTION

Leukemia Inhibitory Factor (LIF) is a high-purity, chemically defined, animal-origin-free recombinant cytokine supplied as a ready-to-use sterile liquid. Produced in a non-mammalian expression system, it offers a consistent and scalable alternative to E. coli–derived LIF for defined stem cell culture.

LIF supports pluripotency and promotes self-renewal in mouse and human embryonic stem cells (mESC, hESC), induced pluripotent stem cells (iPSC), and neural stem cells (NSC), particularly in feeder-free and serum-free systems. With ultra-low endotoxin and no carrier proteins or additives, it enables precise control over differentiation conditions in both research and translational workflows.

This product is regulatory-friendly and eliminates risks associated with animal- or serum-derived components. Like all InVitria products, this material 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

GMP Part Number	777LIF048
Product Type	Recombinant human cytokine - leukemia inhibitory factor
Format	Liquid
Purity	> 95%
Packaging	10 mL bottle
Sterility	Sterile - filtered
Source	Recombinant
Shelf Life	3 years
Storage	–80°C
Manufacturing Site	• Animal-origin-free facility • ISO 9001–certified • cGMP-compliant

GUIDELINES FOR USE

3. APPLICATIONS

- Supports pluripotency and self-renewal in mESC, iPSC, and NSC cultures
- Used in feeder-free, chemically defined stem cell expansion workflows
- Applied in reprogramming, neural differentiation, and regenerative medicine research
- Suitable for low-endotoxin, animal-origin-free, and xeno-free systems
- Enables defined control of stem cell fate in research and preclinical development

4. PREPARATION & USE

Format: This product is supplied as a sterile 0.5 mg/mL ready-to-use liquid.

Dilution: Dilute to the desired working concentration using sterile basal media or buffer (e.g., PBS or DPBS). Use aseptic technique when handling to preserve sterility.

Mixing: Mix gently before use; avoid foaming.

DO NOT SHAKE OR VORTEX.

Recommended usage:

- Use at 10 ng/mL for maintenance of mouse or human pluripotent stem cells.
- **Optimization**: Final concentration should be optimized for each specific cell line, media formulation, and protocol requirements.

5. STORAGE & STABILITY

- **Shelf life:** Up to 2 years when unopened and stored at –80°C.
- **Diluted solutions:** used promptly or stored at 2–8°C and used within 1–2 days to ensure potency.
- Keep tightly sealed to avoid contamination.
- **AVOID:**
  - 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)
- 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 - LIF
- Data Sheet - LIF
- SDS - LIF
- Guidelines for Use - LIF
- Application Note - Recombinant Human Leukemia Inhibitory Factor for the Enhanced Expansion of Neural Stem Cells

8. ORDERING INFORMATION

LIF	*Product #*
GMP-10 mL bottle	**777LIF048-10mL**

Performance. Defined.

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