

Cell-Vive™ GMP Recombinant Human IL-33 (carrier-free)

Catalog# / Size	581814 / 25 µg 581816 / 100 µg
Other Names	C9orf26, IL1F11, NFHEV, DVS 27
Description	IL-33 belongs to the IL-1 family and is closely related in structure to IL-18 and IL-1β. IL-33, IL-1β, and IL-18 are synthesized as biologically inactive precursors and are cleaved by the enzyme caspase-1 to be secreted as active mature forms. IL-33 stimulates target cells by binding to the IL-1R/TLR superfamily member ST2 and, subsequently, activates NF-κβ and MAPK pathways via identical signalling events to those observed for IL-1β. In addition, IL-33 is a nuclear factor (NF-HEV) abundantly expressed in high endothelial venules from lymphoid organs that associate with chromatin and exhibit transcriptional regulatory properties.
Quality Statement	BioLegend Cell-Vive™ GMP Recombinant proteins are manufactured and tested in accordance with USP Chapter 1043, Ancillary Materials for Cell, Gene and Tissue-Engineered Products and Ph. Eur. Chapter 5.2.12 in a dedicated GMP facility compliant with ISO 13485:2016. Specifications and processes include:

- Low endotoxin level (≤ 0.1 EU/µg)
- Purity (≥ 95% or higher)
- Bioburden testing
- Mycoplasma testing
- Batch-to-batch consistency
- Vendor qualification
- Raw material traceability and documentation
- Documented procedures and employee training
- Equipment maintenance and monitoring records
- Lot-specific certificates of analysis
- Quality audits per ISO 13485:2016
- QA review of released products

Product Details

Source	Human IL-33, amino acids Ser112-Thr270 (Accession# NM_033439) was expressed in <i>E. coli</i> .
Molecular Mass	The 159 amino acid recombinant protein has a predicted molecular mass of approximately 18 kD. The DTT-reduced protein migrates at approximately 19 kD and non-reduced protein migrates at approximately 20 kD by SDS-PAGE. The N-terminal amino acid is Serine.
N-terminal Sequence Analysis	Ser-Ile-Thr-Gly-Ile-Ser-Pro-Ile-Thr-Glu
Purity	≥ 95%, as determined by Coomassie stained SDS-PAGE
Formulation	0.1 µm filtered protein solution is in PBS, 1 mM EDTA, 2 mM TCEP
Endotoxin Level	Less than or equal to 0.1 EU per µg protein as determined by the LAL method
Residual Host Cell Protein Content	≤ 0.500 ng/µg by ELISA
Concentration	500 µg/mL
Storage & Handling	Unopened vial can be stored between 2°C and 8°C for up to 2 weeks, at -20°C for up to six months, or at -70°C or colder until the expiration date. For maximum results, quick spin vial prior to opening. The protein can be aliquoted and stored at -20°C or colder. Stock solutions can also be prepared at 50 - 100 µg/mL in appropriate sterile buffer, carrier protein such as 0.2 - 1% endotoxin-free BSA or HSA can be added when preparing the stock solution. Aliquots can be stored between 2°C and 8°C for up to one week or stored at -20°C or colder for up to 3 months. Avoid repeated freeze/thaw cycles.
Activity	ED ₅₀ = 0.1 - 0.5 ng/mL as determined by the dose-dependent stimulation of D10.G4.1 cell proliferation. Deep Blue Cell Viability™ Kit (Cat. No. 424701) is used to measure the proliferation.

Application

[Bioassay](#)
[Cell Culture](#)

Application Notes

BioLegend carrier-free recombinant proteins provided in liquid format are shipped on blue-ice. Our comparison testing data indicates that when handled and stored as recommended, the liquid format has equal or better stability and shelf-life compared to commercially available lyophilized proteins after reconstitution. Our liquid proteins are validated in-house to maintain activity after shipping on blue ice and are backed by our [100% satisfaction guarantee](#). If you have any concerns, contact us at tech@biolegend.com.

Disclaimer

BioLegend Cell-Vive™ GMP Recombinant proteins are for research use only. Suitable for *ex vivo* cell processing. Not for injection or diagnostic or therapeutic use. Not for resale. BioLegend will not be held responsible for patent infringement or other violations that may occur with the use of our products.

Antigen Details

Structure

Cytokine

Distribution

IL-33 mRNA is expressed in a broad range of human tissues, such as heart, small intestine, brain, ovary, testis, pancreas, and colon. Higher IL-33 expression was detected in human keratinocyte, fibroblast, myocyte, and alveolar cells

Function

IL-33 drives production of Th2-associated cytokines from in vitro polarized Th2 cells. In mice, IL-33 injection induced the expression of IL-4, IL-5, and IL-13 and led to severe pathological changes in the lung and the digestive tract. In addition, IL-33 acts as a chemoattractant for Th2 cells, both in vitro and in vivo. TNF- α and IL-1 β are activators of IL-33 transcription in fibroblasts and keratinocytes.

Interaction

Th2 cells, mast cells, basophils, eosinophils and natural killer cells

Ligand/Receptor

IL-1 family receptor T1/ST2 and IL-1RAcP (IL-1 receptor associated protein).

Bioactivity

Measured by its ability to induce proliferation of D10.G4.1 cells.

Biology Area

Cell Biology, Immunology, Stem Cells, Transcription Factors

Molecular Family

Cytokines/Chemokines

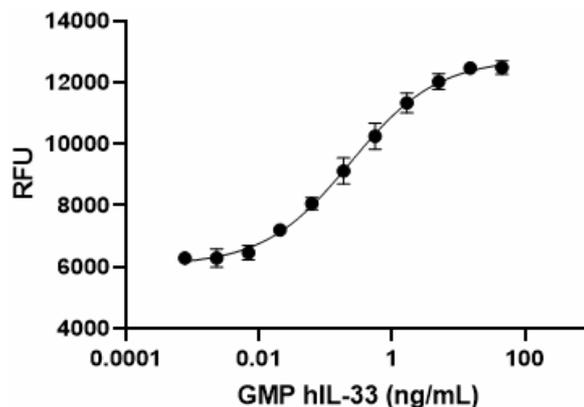
Antigen References

1. Schmitz J, *et al.* 2005. *Immunity*. 23:479-90.
2. Barksby HE, *et al.* 2007. *Clin Exp Immunol*. 149:217-25.
3. Arend WP, *et al.* 2008. *Immunol Rev*. 223:20-38.
4. Suzukawa M, *et al.* 2008. *J Immunol*. 181:5981-9.
5. Moussion C, *et al.* 2008. *PLoS One*. 3:e33331.
6. Mildner M, *et al.* 2010. *Cardiovasc Res*. 87:769-77.

Gene ID

[90865](#)

Product Data



GMP recombinant human IL-33 induces dose-dependent proliferation of D10.G4.1 cells. Deep Blue Cell Viability™ Kit (Cat. No. 424701) is used to measure the proliferation. The ED₅₀ range for this effect is 0.1 - 0.5 ng/mL.

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8999 BioLegend Way, San Diego, CA 92121 www.biolegend.com
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587