

Recombinant Mouse IL-33 (carrier-free)

Catalog# / Size	580502 / 10 µg 580504 / 25 µg 580506 / 100 µg 580508 / 500 µg
Regulatory Status	RUO
Other Names	IL-1f11, Nuclear factor from high endothelial venules (NF-HEV)
Description	IL-33 belongs to the IL-1 family and is closely related in structure to IL-18 and IL-1b. IL-33, IL-1b, and IL-18 are synthesized as biologically inactive precursor 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-κB and MAPK pathways via identical signalling events to those observed for IL-1b. In addition, IL-33 is a nuclear factor (NF-HEV) abundantly expressed in high endothelial venules from lymphoid organs that associates with chromatin and exhibits transcriptional regulatory properties.

Product Details

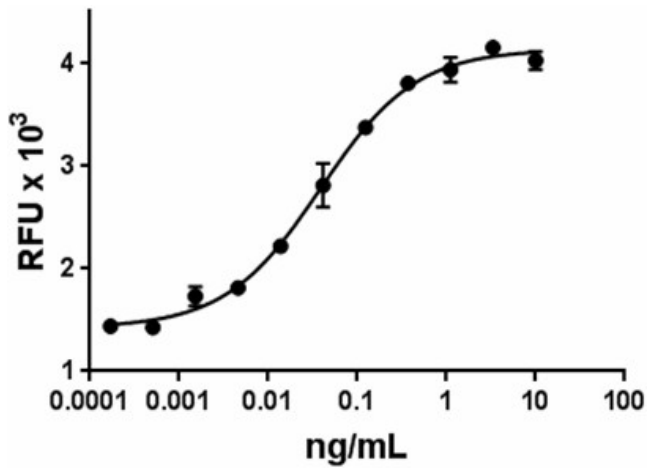
Source	Mouse IL-33, amino acids Ser109-Ile266 (Accession# AAH03847.1) was expressed in <i>E. coli</i> .
Molecular Mass	The 158 amino acid recombinant protein has a predicted molecular mass of approximately 17,554 Da. The DTT-reduced and non-reduced protein migrate at approximately 20 kDa by SDS-PAGE. The N-terminal amino acid is Serine.
Purity	Purity is > 98%, as determined by Coomassie stained SDS-PAGE.
Formulation	0.22 µm filtered protein solution is in 20 mM HEPES, 150 mM NaCl, pH 7.2, 10 mM TCEP.
Endotoxin Level	Endotoxin level is < 0.1 EU/µg (< 0.01ng/µg) protein as determined by the LAL method.
Concentration	10 and 25 µg sizes are bottled at 200 µg/mL. 100 µg size and larger sizes are lot-specific and bottled at the concentration indicated on the vial. To obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.
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% 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 and stored at -20°C or colder for up to 3 months. Avoid repeated freeze/thaw cycles.
Activity	ED ₅₀ = 0.0125 - 0.0625 ng/ml determined by the dose dependent stimulation of D10.G4.1 cell proliferation.
Application	Bioassay
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 verified 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 .
Application References	<ol style="list-style-type: none"> 1. Miller AM, <i>et al.</i> 2010. <i>Circ Res.</i> 107:650. PubMed 2. Zaiss MM, <i>et al.</i> 2011. <i>J. Immunol.</i> 186:6097. PubMed. 3. Barlow JL, <i>et al.</i> 2012. <i>J Allergy Clin Immunol.</i> 129:191. PubMed 4. Rosen MJ, <i>et al.</i> 2013. <i>J. Immunol.</i> 190:1849. PubMed
(PubMed link indicates BioLegend citation)	
Product Citations	<ol style="list-style-type: none"> 1. Xiao Y, <i>et al.</i> 2019. <i>Cell Mol Gastroenterol Hepatol.</i> 8:21. PubMed 2. Dalmas E <i>et al.</i> 2017. <i>Immunity.</i> 47(5):928-942. PubMed 3. Frisbee AL, <i>et al.</i> 2019. <i>Nat Commun.</i> 10:2712. PubMed

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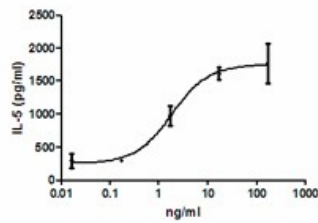
Antigen Details

Distribution	High levels of mouse IL-33 mRNA are detected in the stomach, lung, spinal cord, brain, and skin. Expression within these organs is restricted to a few cell types, such as epithelial cells, fibroblasts, and smooth muscle cells. In addition, mouse IL-33 mRNA is found in resting dendritic cells and activated macrophages. Endothelial cells constitute a major source of IL-33 mRNA in chronically inflamed tissues.
Function	IL-33 drives production of Th2-associated cytokines from <i>in vitro</i> 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 <i>in vitro</i> and <i>in vivo</i> . TNF- α and IL-1 β are activators of IL-33 transcription in fibroblasts and keratinocytes.
Ligand/Receptor	IL-33 binds to the IL-1 family receptor T1/ST2 and IL-1RAcP (IL-1 receptor associated protein)
Biology Area	Cell Biology, Immunology, Stem Cells
Molecular Family	Cytokines/Chemokines
Antigen References	<ol style="list-style-type: none"> 1. Schmitz J, <i>et al.</i> <i>Immunity</i> 2005 23:479-490. 2. Barksby HE, <i>et al.</i> <i>C Exp Immunol</i> 2007 149:217-225. 3. Arend WP, <i>et al.</i> <i>ImmRev</i> 2008 223:20-38. 4. Suzukawa M, <i>et al.</i> <i>J. Immunol.</i> 2008 181:5981-5989. 5. Moussio C, <i>et al.</i> <i>PlosOne</i> 2008 10:e3331.
Gene ID	77125

Product Data



Mouse IL-33 induces the proliferation of D10.G4.1 mouse T lymphocytes in a dose dependent manner.



IL-5 induction by mouse IL-33 in splenocytes activated by anti-CD3 and anti-CD28. *Data kindly provided Dr. Foo Y. Liew.*

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