

## Mouse IL-33 Recombinant Protein Carrier-Free

**Catalog Number:** 34-8332

**Also Known As:** Interleukin-33, IL33

**RUO: For Research Use Only. Not for use in diagnostic procedures.**

### Product Information

**Contents:** Mouse IL-33 Recombinant Protein Carrier-Free

**REF** **Catalog Number:** 34-8332

**Handling Conditions:** For best recovery, quick-spin vial prior to opening. Use in sterile environment.

**Source:** E. coli expressed protein consisting of amino acids Ser 109-Ile 266 of mature mouse IL-33 accession # AK075849

**Molecular Mass:** The DTT reduced protein migrates as a 15 kDa polypeptide on SDS-PAGE.

**Purity:** > 97%, as determined by SDS-PAGE

**Endotoxin Level:** Less than 0.01 ng/ug cytokine as determined by the LAL assay.

**Bioactivity:** Measured by D10.G4.1 cell proliferation assay. The ED50 is 0.03 ng/mL, corresponding to a specific activity of 3.0 x 10<sup>7</sup> Units/mg.

**Formulation:** Sterile liquid; 10 mM phosphate, 150 mM NaCl, 2 mM TCEP, pH 7.2. 0.22 um filtered.



**Temperature Limitation:** Store at less than or equal to -70°C.



**Batch Code:** Refer to Vial



**Use By:** Refer to Vial

### Description

Mouse IL-33, also called NF-HEV and DVS 27, is a 30 kDa proinflammatory cytokine produced by endothelial and epithelial cells. IL-33 is released during necrotic cell death but was first found in the nucleus of endothelial cells. This dual pattern of expression is reminiscent of "alarmins" also known as endogenous danger signals. Other known alarmins are IL-1 $\alpha$  and HMGB1. IL-33 has been identified as the ligand for ST2 (a member of the IL-1 receptor family). ST2 is stably expressed on mast cells and T(h)2 effector T cells and is functionally associated with T(h)2-mediated inflammation. Although IL-33 was initially reported to be processed by Caspase-1, recent data indicate that Caspase-3 or -7 are capable of processing IL-33 at more physiologic concentrations. IL-33 plays an immune regulatory role by inducing IL-5 and IL-13 *in vitro* and *in vivo* and activating basophils, eosinophils and mast cells. In addition to its role in proinflammation, it may also decrease inflammation through interactions with IL-1 thereby blocking its effect. Mouse IL-33 share 55% amino acid sequence identity with human and 90% with rat.

### Applications Reported

Mouse IL-33 Recombinant Protein Carrier-Free has been reported for use in cytokine bioassays.

### Applications Tested

This recombinant mouse IL-33 has been tested by bioassays using the cell line D10.G4.1. The ED50 measured in the D10.G4.1 proliferation assay is typically less than 0.1 ng/ml, corresponding to a specific activity of greater than 1x10<sup>7</sup> Units/mg.

### References

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Verri WA Jr, Guerrero AT, Fukada SY, Valerio DA, Cunha TM, Xu D, Ferreira SH, Liew FY, Cunha FQ. IL-33 mediates antigen-induced cutaneous and articular hypernociception in mice. *Proc Natl Acad Sci U S A*. 2008 Feb 19;105(7):2723-8. Epub 2008 Feb 4.

Schmitz J, Owyang A, Oldham E, Song Y, Murphy E, McClanahan TK, Zurawski G, Moshrefi M, Qin J, Li X, Gorman DM, Bazan JF, Kastelein RA. IL-33, an interleukin-1-like cytokine that signals via the IL-1 receptor-related protein ST2 and induces T helper type 2-associated cytokines. *Immunity*. 2005 Nov;23(5):479-90.

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