Epoto Biotech

南京艾璞拓生物科技有限公司

Recombinant Human IL33, Tag Free

Catalog Number: HF-1033

General Information

Synonyms	Human IL33; IL-33; interleukin 33; Interleukin-1 family member 11; interleukin-33
Accession #	O95760.1
Source	Human embryonic kidney cell, HEK293-derived human IL-33 protein
	Ser112-Thr270
Predicted Moleucular weight	18.0 kDa

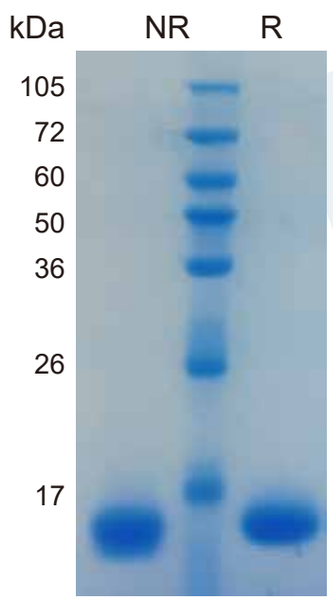
Components and Storage

Formulation	Solution protein.
	Dissolved in sterile PBS buffer .
	This solution can be diluted into other aqueous buffers. Centrifuge the vial prior to opening.
Storage and Stability	Avoid repeated freeze-thaw cycles.
	It is recommended that the protein be aliquoted for optimal storage.
	12 months from date of receipt, -20 to -70 ° C as supplied.
Shipping	Shipping with dry ice.

Quality

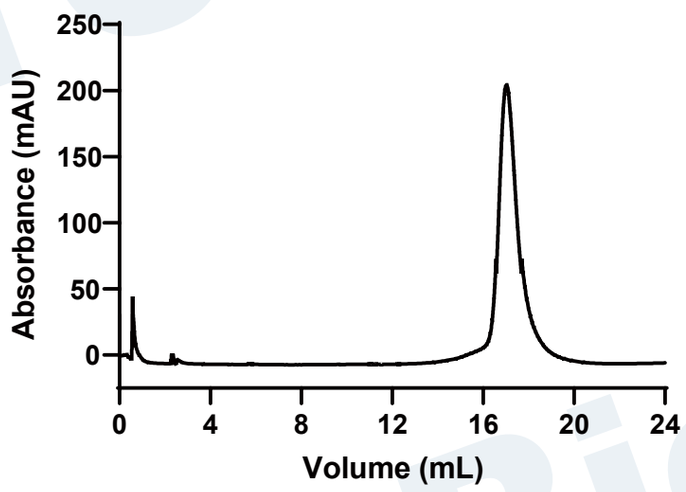
Purity	> 95%, determined by SDS-PAGE.
Endotoxin Level	<0.010 EU per 1 ug of the protein by the LAL method.
Activity	Measured in a cell proliferation assay using D10.G4.1 mouse helper T cells.
	The EC50 for this effect is 0.05-0.20 ng/mL.

SDS-PAGE



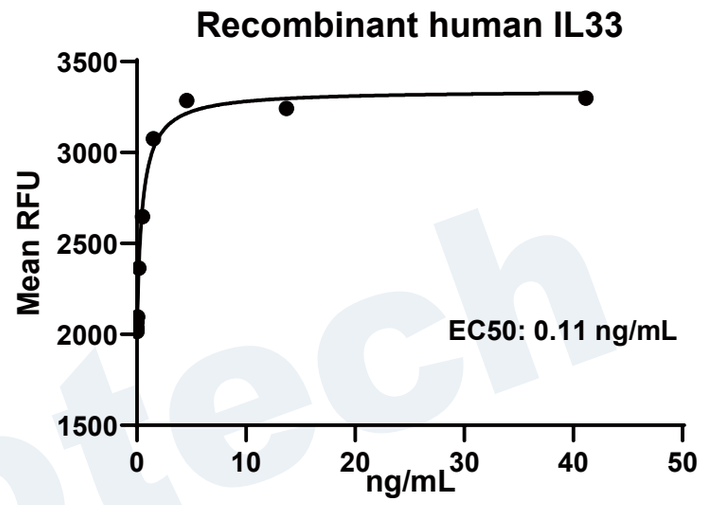
2 ug/lane protein was resolved with SDS-PAGE under non-reducing (NR) and reducing (R) conditions and visualized by Coomassie Blue staining.

Gel filtration



Size-exclusion chromatography of recombinant human IL33 protein (280 nm absorbance)

Bioactivity



Recombinant human IL33 (Catalog # HF-1033) stimulates cell proliferation of the D10.G4.1 mouse helper T cells.

Background

Interleukin-33(IL-33), also known as NF-HEV and DVS 27, is a 30 kDa proinflammatory protein that may also regulate gene transcription (1-3). DVS 27 was identifed as a gene that is upregulated in vasospastic cerebral arteries (1). NF-HEV was described as a nuclear factor that is preferentially expressed in the endothelial cells of high endothelial venules relative to endothelial cells from other tissues (2). IL-33 was identified based on sequence and structural homology with IL-1 family cytokines (3). DVS 27, NF-HEV, and IL-33 share 100% amino acid sequence identity. IL-33 is constitutively expressed in smooth muscle and airway epithelia. It is up-regulated in arterial smooth muscle, dermal fibroblasts, and keratinocytes following IL-1 alpha or IL-1 beta stimulation (1, 3). Similar to IL-1, IL-33 can be cleaved in vitro by caspase-1, generating an N-terminal fragment that is slightly shorter than the C-terminal fragment (3, 4). The N-terminal portion of full length IL-33 contains a predicted bipartite nuclear localization sequence and a homeodomain -like helix-turn-helix DNA binding domain. By immunofluorescence, full length IL-33 localizes to the nucleus in HUVECs and transfectants (2). The C -terminal fragment, corresponding to mature IL-33, binds and triggers signaling through mast cell IL-1 R4/ST2L, a longtime orphan receptor involved in the augmentation of Th2 cell responses (3, 5-7). A ternary signaling complex is formed by the subsequent association of IL-33 and ST2L with IL-1R AcP (8). Stimulation of Th2 polarized lymphocytes with mature IL-33 in vitro induces IL-5 and IL-13 secretion (3). In vivo administration of mature IL-33 promotes increased production of IL-5, IL-13, IgE, and IgA, as well as splenomegaly and inflammatory infiltration of mucosal tissues (3). Full length and mature human IL-33 share52-58% aa sequence identity with mouse and rat IL-33. Human IL-33 shares less than 20% aa sequence identity with other IL-1 family proteins.

Reference

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4. Black, R.A. et al. (1989) J. Biol. Chem. 264:5323.
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