

# Human IL-33 Alexa Fluor® 750-conjugated Antibody

Recombinant Monoclonal Goat IgG Clone # 40015C  
Catalog Number: IC36253S  
100 µg

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human IL-33 in direct ELISAs and Western blots.
<b>Source</b>	Recombinant Monoclonal Goat IgG Clone # 40015C
<b>Purification</b>	Protein A or G purified from cell culture supernatant
<b>Immunogen</b>	<i>E.coli</i> -derived recombinant human IL-33 Ser112-Thr270 Accession # O95760
<b>Conjugate</b>	Alexa Fluor 750 Excitation Wavelength: 749 nm Emission Wavelength: 775 nm
<b>Formulation</b>	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.  *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

	Recommended Concentration	Sample
<b>Intracellular Staining by Flow Cytometry</b>	0.25-1 µg/10 <sup>6</sup> cells	Human PBMCs fixed with Flow Cytometry Fixation Buffer (Catalog # <a href="#">FC004</a> ) and permeabilized with ice-cold methanol

## PREPARATION AND STORAGE

<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<b>Protect from light. Do not freeze.</b> <ul style="list-style-type: none"> <li>12 months from date of receipt, 2 to 8 °C as supplied.</li> </ul>

## BACKGROUND

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 identified as a gene that is up-regulated 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-1α or IL-1β 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 share 52-58% 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.

## References:

1. Onda, H. *et al.* (1999) J. Cereb. Blood Flow Metab. **19**:1279.
2. Baekkevold, E.S. *et al.* (2003) Am. J. Pathol. **163**:69.
3. Schmitz, J. *et al.* (2005) Immunity **23**:479.
4. Black, R.A. *et al.* (1989) J. Biol. Chem. **264**:5323.
5. Xu, D. *et al.* (1998) J. Exp. Med. **187**:787.
6. Lohning, M. *et al.* (1998) Proc. Natl. Acad. Sci. USA **95**:6930.
7. Dinarello, C.A. (2005) Immunity **23**:461.
8. Chackerian, A.A. *et al.* (2007) J. Immunol. **179**:2551.

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## PRODUCT SPECIFIC NOTICES

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