Human IL-33 PE-conjugated Antibody

Monoclonal Rat IgG_{2B} Clone # 390412

Catalog Number: IC3625P

100 TESTS

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IL-33 in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant mouse IL−33 is observed.
Source	Monoclonal Rat IgG_{2B} Clone # 390412
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*E. coli*-derived recombinant human IL-33 Ser112-Thr270 Accession # O95760
Conjugate	Phycoerythrin Excitation Wavelength: 488 nm Emission Wavelength: 565-605 nm
Formulation	Supplied 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.

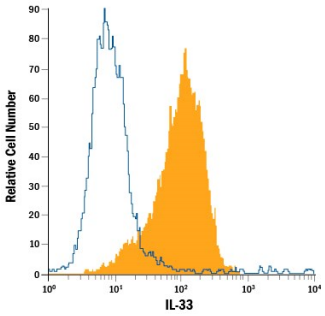
APPLICATIONS

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
Intracellular Staining by Flow Cytometry	10 µL/10^6 cells	See Below

DATA

Intracellular Staining by Flow Cytometry



Detection of IL-33 in HUVEC Human Cells by Flow Cytometry. HUVEC human umbilical vein endothelial cells were stained with Rat Anti-Human IL-33 PE-conjugated Monoclonal Antibody (Catalog # IC3625P, filled histogram) or isotype control antibody (Catalog # IC013P, open histogram). To facilitate intracellular staining, cells were fixed with Flow Cytometry Fixation Buffer (Catalog # FC004) and permeabilized with Flow Cytometry Permeabilization/Wash Buffer I (Catalog # FC005). View our protocol for Staining Intracellular Molecules.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Protect from light. Do not freeze.** ● 12 months from date of receipt, 2 to 8 °C as supplied.

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BACKGROUND

IL-33, also known as NF-HEV and DVS 27, is a 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). IL-33 is constitutively expressed in smooth muscle and airway epithelia. It is upregulated 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 32 kDa 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 18 kDa fragment, corresponding to mature IL-33, binds and triggers signaling through mast cell IL-1 R4/ST2, a 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 ST2 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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