Human IL-33 Antibody

Recombinant Monoclonal Goat IgG Clone # 40015C
Catalog Number: MAB36253

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IL-33 in direct ELISAs and Western blots.
Source	Recombinant Monoclonal Goat IgG Clone # 40015C
Purification	Protein A or G purified from cell culture supernatant
Immunogen	*E.coli*-derived recombinant human IL-33 Ser112-Thr270 Accession # O95760
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

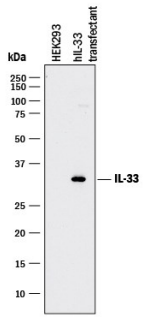
APPLICATIONS

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
Western Blot	1 µg/mL	See Below
Immunohistochemistry	0.1-25 µg/mL	See Below
Intracellular Staining by Flow Cytometry	0.25 µg/10^6 cells	See Below
Human IL-33 Sandwich Immunoassay		**Reagent**
ELISA Capture	2-8 µg/mL	Human IL-33 Antibody (Catalog # MAB36253)
ELISA Detection	0.1-0.4 µg/mL	Human IL-33 Biotinylated Antibody (Catalog # BAF3625)
Standard		Recombinant Human IL-33 (Catalog # 3625-IL)

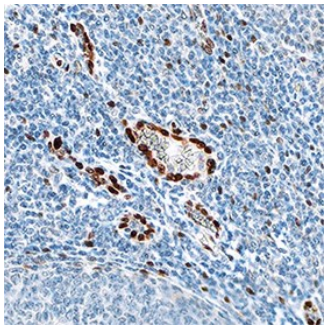
DATA

Western Blot



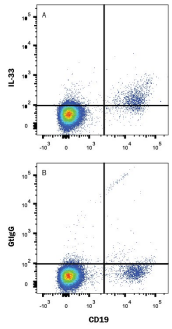
Detection of Human IL-33 by Western Blot. Western blot shows lysates of HEK293 human embryonic kidney cell line either mock transfected or transfected with human IL-33. PVDF membrane was probed with 1 µg/mL of Goat Anti-Human IL-33 Monoclonal Antibody (Catalog # MAB36253) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). A specific band was detected for IL-33 at approximately 30 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



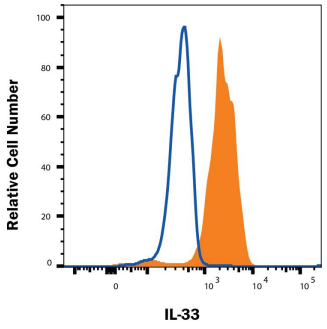
IL-33 in Human Tonsil. IL-33 was detected in immersion fixed paraffin-embedded sections of human tonsil using Goat Anti-Human IL-33 Monoclonal Antibody (Catalog # MAB36253) at 0.1 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Specific staining was localized to nuclei in epithelial cells. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

Intracellular Staining by Flow Cytometry



Detection of IL-33 in Human Peripheral Blood Lymphocytes by Flow Cytometry. Human peripheral blood lymphocytes were stained with (A) Goat Anti-Human IL-33 Monoclonal Antibody (Catalog # MAB36253) or (B) Goat IgG control antibody (Catalog # Catalog # AB-108-C) followed by anti-Goat IgG PE-conjugated secondary antibody (Catalog # F0107) and Mouse anti-Human CD19 APC-conjugated Monoclonal Antibody (Catalog # FAB4867A). To facilitate intracellular staining, cells were fixed with Flow Cytometry Fixation Buffer (Catalog # FC004) and permeabilized with methanol. View our protocol for Staining Intracellular Molecules.

Intracellular Staining by Flow Cytometry



Detection of IL-33 in HUVECs by Flow Cytometry. HUVECs were stained with Goat Anti-Human IL-33 Monoclonal Antibody (Catalog # MAB36253, filled histogram) or Goat IgG control antibody (Catalog # AB-108-C, open histogram) followed by anti-Goat IgG PE-conjugated secondary antibody (Catalog # F0107). To facilitate intracellular staining, cells were fixed with Flow Cytometry Fixation Buffer (Catalog # FC004) and permeabilized with methanol. View our protocol for Staining Intracellular Molecules.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449

Human IL-33 Antibody

Recombinant Monoclonal Goat IgG Clone # 40015C
Catalog Number: MAB36253

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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 identifed 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.

Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 **Canada** TEL 855 668 8722 **China** TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449