

Mouse IL-33 Alexa Fluor® 405-conjugated Antibody

Monoclonal Rat IgG_{2A} Clone # 396118

Catalog Number: IC3626V

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DESCRIPTION			
Species Reactivity	Mouse		
Specificity	Detects mouse IL-33 in direct ELISAs.		
Source	Monoclonal Rat IgG _{2A} Clone # 396118		
Purification	Protein A or G purified from hybridoma culture supernatant		
Immunogen	E. coli-derived recombinant mouse IL-33 Ser109-Ile266 Accession # Q8BVZ5		
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 nm		
Formulation	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
Intracellular Staining by Flow Cytometry	0.25-1 μg/10 ⁶ cells	See Below

IL-33

Detection of IL-33 in bEnd.3 Mouse Cell Line by Flow Cytometry. bEnd.3 mouse endothelioma cell line was stained with Rat Anti-Mouse IL-33 Alexa Fluor® 405-conjugated Monoclonal Antibody (Catalog # IC3626V, filled histogram) or isotype control antibody (Catalog # IC006V, open histogram). To facilitate intracellular staining, cells were fixed with Flow Cytometry Fixation Buffer (Catalog # FC004) and permeabilized with Flow Cytometry Permeabilized with Flow Cytometry 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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100 µg

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 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 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 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 mouse IL-33 share approximately 55% and 90% amino acid (aa) sequence identity with human and rat IL-33, respectively. Mouse IL-33 shares less than 25% 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.
- Schmitz, J. et al. (2005) Immunity 23:479.
- 4. Black, R.A. et al. (1989) J. Biol. Chem. 264:5323.
- 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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