Human AICL/CLEC-2B Antibody

Monoclonal Mouse IgG_{2A} Clone # 1064941

Catalog Number: MAB90591

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human AICL/CLEC-2B in direct ELISA.
Source	Monoclonal Mouse IgG_{2A} Clone # 1064941
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese Hamster Ovary cell line, CHO-derived human AICL/CLEC-2B Lys26-His149 Accession # Q92478
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose.

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	2 µg/mL	U937 human histiocytic lymphoma cell line
Immunocytochemistry	8 µg/mL	10% Formalin fixed U937 human histiocytic lymphoma cell line (Positive), T47D human breast cancer cell line (Negative) and A431 human epithelial carcinoma cell line (Negative)
Immunohistochemistry	5 µg/mL	Formalin fixed paraffin embedded human tonsil

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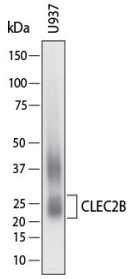
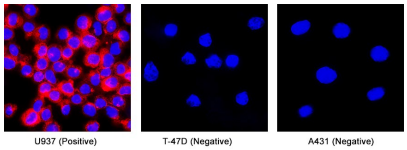
DATA

Western Blot



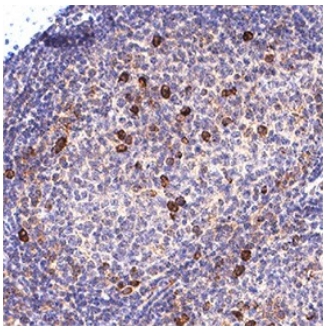
Detection of Human AICL/CLEC-2B by Western Blot. Western blot shows lysates of U937 human histiocytic lymphoma cell line. PVDF membrane was probed with 2 µg/ml of Mouse Anti-Human AICL/CLEC-2B Monoclonal Antibody (Catalog # MAB90591) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for AICL/CLEC-2B at approximately 24-26 kDa (as indicated). This experiment was conducted under reducing conditions and using Western Blot Buffer Group 1.

Immunocytochemistry/ Immunofluorescence



Detection of AICL/CLEC-2B in U937 cells (positive), T-47 cells (negative) and A431 cells (negative). AICL/CLEC-2B was detected in 10% Formalin fixed U937 human histiocytic lymphoma cell line (Positive), absent in T47D human breast cancer cell line (Negative) and absent in A431 human epithelial carcinoma cell line (Negative) using Mouse Anti-Human AICL/CLEC-2B Monoclonal Antibody (Catalog # MAB90591) at 8 µg/ml for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to the membrane. View our protocol for Fluorescent ICC Staining of Non-adherent Cells.

Immunohistochemistry



Detection of AICL/CLEC-2B in Human Tonsil. AICL/CLEC-2B was detected in Formalin fixed paraffin-embedded sections of Human Tonsil using Mouse Anti-Human AICL/CLEC-2B Monoclonal Antibody (Catalog # MAB90591) at 5 µg/ml for 1 hour at room temperature followed by incubation with the Anti-Mouse IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC001). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using VisUCyte Antigen Retrieval Reagent-Basic (Catalog # VCTS021). Tissue was stained using DAB (brown) and counterstained with Hematoxylin (blue). Specific staining was localized to Cytoplasmic. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

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.
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.

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BACKGROUND

Activation-induced C-type lectin (AICL), also known as CLEC2B, is a 30-35 kDa variably glycosylated type-2 transmembrane member of the C-type lectin-like receptor (CTLR) family. AICL belongs to the subgroup of CLEC2 proteins that also includes CLEC2A/KACL, CLEC2D/LLT, and CD69/CLEC2C, all of which are encoded by the natural killer gene complex (1). Human AICL contains a single C-type lectin domain in its extracellular region and a 7 amino acid cytoplasmic tail (2). AICL is expressed on monocytes, macrophages, and granulocytes (3), and it is upregulated on TLR-activated monocytes and IL-12 + IL-18 activated NK cells (3, 4). AICL is an activating receptor that triggers TNF production by monocytes (3). It binds to NKp80 on NK cells, resulting in NK cell mediated lysis of the AICL expressing monocyte (3). In addition, the AICL-NKp80 axis mediates interactions between activated and resting NK cells (4).

References:

1. Li, Y. *et al.* (2014) Front. Immunol. **5**:123.
2. Hamann, J. *et al.* (1997) Immunogenetics **45**:295.
3. Welte, S. *et al.* (2006) Nat. Immunol. **7**:1334.
4. Klimosch, S.N. *et al.* (2013) Blood **122**:2380.

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