Human CD23/Fcε RII Antibody

Monoclonal Mouse IgG Clone # 1128812
Catalog Number: MAB11836

DESCRIPTION

Species Reactivity	Human
Specificity	Detects recombinant human CD23 protein in Direct ELISA.
Source	Monoclonal Mouse IgG Clone # 1128812
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	NS0-derived recombinant human CD23 Met150-Ser321 Accession # P06734
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
Immunohistochemistry	0.25-25 µg/mL	Immersion fixed paraffin-embedded sections of tonsil
COMET	1 µg/mL	Immersion fixed paraffin-embedded sections of human tonsil and Hodgkin Lymphoma.

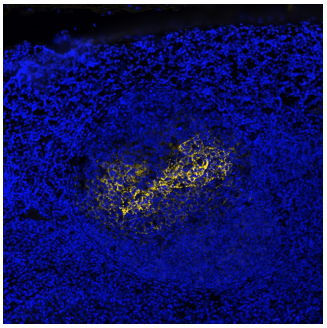
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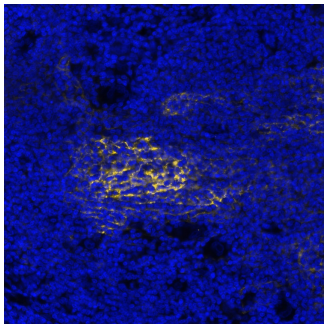
DATA

Multiplex Immunofluorescence



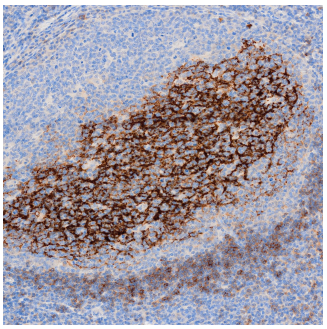
CD23 in Human Tonsil via seqIF™ staining on COMET™ CD23 was detected in immersion fixed paraffin-embedded sections of human tonsil using Mouse Anti-Human CD23, Monoclonal Antibody (Catalog # MAB11836) at 1 µg/mL at 37 ° Celsius for 4 minutes. Before incubation with the primary antibody, tissue underwent an all-in-one dewaxing and antigen retrieval preprocessing using PreTreatment Module (PT Module) and Dewax and HIER Buffer H (pH 9; Epredia Catalog # TA-999-DHBH). Tissue was stained using the Alexa Fluor™ 647 Goat anti-Mouse IgG Secondary Antibody at 1:200 at 37 ° Celsius for 2 minutes. (Yellow; Lunaphore Catalog # DR647MS) and counterstained with DAPI (blue; Lunaphore Catalog # DR100). Specific staining was localized to the membrane. Protocol available in COMET™ Panel Builder.

Multiplex Immunofluorescence



CD23 in Human Hodgkin Lymphoma via seqIF™ staining on COMET™ CD23 was detected in immersion fixed paraffin-embedded sections of human Hodgkin Lymphoma using Mouse Anti-Human CD23, Monoclonal Antibody (Catalog # MAB11836) at 1ug/mL at 37 ° Celsius for 4 minutes. Before incubation with the primary antibody, tissue underwent an all-in-one dewaxing and antigen retrieval preprocessing using PreTreatment Module (PT Module) and Dewax and HIER Buffer H (pH 9; Epredia Catalog # TA-999-DHBH). Tissue was stained using the Alexa Fluor™ 647 Goat anti-Mouse IgG Secondary Antibody at 1:200 at 37 ° Celsius for 2 minutes. (Yellow; Lunaphore Catalog # DR647MS) and counterstained with DAPI (blue; Lunaphore Catalog # DR100). Specific staining was localized to the membrane. Protocol available in COMET™ Panel Builder.

IHC Paraffin-embedded



Immersion fixed paraffin-embedded sections of tonsil CD23/Fcε RII was detected in immersion fixed paraffin-embedded sections of tonsil using Mouse Anti-Human CD23/Fcε RII Monoclonal Antibody (Catalog # MAB11836) at 5 µg/ml overnight at 4 °C. 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 the HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007) and counterstained with hematoxylin (blue). Specific staining was localized to the membrane. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Reconstitute lyophilized material at 0.2 mg/ml in sterile PBS. For liquid material, refer to CoA for concentration.
Shipping	Lyophilized product is shipped at ambient temperature. Liquid small pack size (-SP) is shipped with polar packs. Upon receipt, store 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

CD23 (also named B cell differentiation antigen) is a member of subgroup II of the C-type (Ca^{++}-dependent) lectin superfamily (1-5). Human CD23 is a 47 kDa type II transmembrane glycoprotein that is expressed by a wide variety of cell types (6-10). The full-length receptor is 321 amino acids (aa) in length and contains a 274 aa extracellular region, a 26 aa transmembrane segment, and a 21 aa cytoplasmic domain. The extracellular region contains a C-type lectin domain and a connecting stalk with coiled-coil topography (3, 11). The lectin domain binds both protein and carbohydrate in an apparently Ca^{++} independent manner (11). The coiled-coil region contributes to oligomerization (11, 12). The lectin domain in human CD23 (aa 162-284) is 64%, 62% and 68% aa identical to the lectin domains in mouse, rat and bovine CD23, respectively. In the cytoplasmic region, two FC isoforms exist which arise from alternate start sites (6, 12). The “a” (or long) isoform begins with the sequence MEEGQYS and is constitutively expressed by B cells. It is believed to participate in IgE-mediated endocytosis (13). The “b” (or short) isoform begins with MNPPSQ and is induced on a wide variety of cell types by IL-4 (6). Fcb reportedly contributes to IgE-mediated phagocytosis (13). Fcb expressing cells include eosinophils, monocytes, visceral smooth muscle and intestinal epithelium (6, 14, 15). At least four soluble forms of CD23 are known to exist. They range in molecular weight from 25 kDa to 37 kDa, with the 25 kDa form predominating in sera (16). Soluble CD23 (sFc) is generated by metalloprotease (ADAM8; ADAM15; ADAM28) and cysteine-protease activity (16-18). Cleavage usually occurs between aa 150-160 (7, 8). It is unclear if sequential metalloprotease-cysteine protease activity is necessary for the generation of all soluble forms. Both soluble and membrane-bound CD23 show bioactivity. Ligands for CD23 include CD21, IgE, CD11b, and CD11c (19-21). CD23 binding to CD11b and Cd11c on monocytes results in oxidative product generation and proinflammatory cytokine release (21). On B cells, sCD23 induces IgE secretion by binding CD21. Conversely, secreted IgE will, in turn, bind B cell membrane CD23, rendering it unavailable for cleavage, and thus shutting down IgE production (11).

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