Mouse Fcγ RIIIB/CD16b Antibody

Monoclonal Rat IgG_{2B} Clone # 1107512

Catalog Number: MAB11725

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects a synthetic peptide specific for mouse CD16b around amino acid 60 in Direct ELISA.
Source	Monoclonal Rat IgG_{2B} Clone # 1107512
Purification	Protein A or G purified from hybridoma culture supernatant
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose.

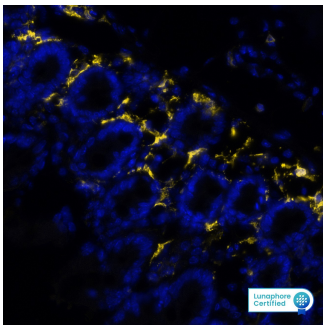
APPLICATIONS

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	Mouse liver tissue
Multiplex Immunofluorescence	10 µg/mL	Perfusion fixed paraffin-embedded sections of Mouse Colon, Spleen, Thymus and Stomach
Immunohistochemistry	3-25 µg/mL	Perfusion fixed paraffin-embedded sections of mouse liver and thymus

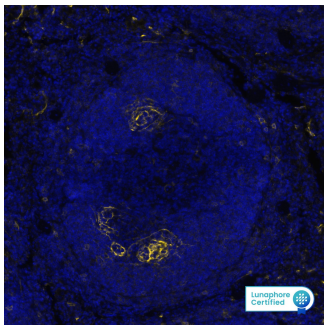
DATA

Multiplex Immunofluorescence



Detection of CD16b in Mouse Colon via seqIF™ staining on COMET™ CD16b was detected in perfusion fixed paraffin-embedded sections of mouse Colon using Rat Anti-Mouse CD16b, Monoclonal Antibody (Catalog #MAB11725) at 10ug/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™ 555 Goat anti-Rat IgG Secondary Antibody at 1:100 at 37 ° Celsius for 2 minutes. (Yellow; Lunaphore Catalog # DR555RT) and counterstained with DAPI (blue; Lunaphore Catalog # DR100).Specific staining was localized to the cytoplasm. Protocol available in COMET™ Panel Builder.

Multiplex Immunofluorescence



Detection of CD16b in Mouse Spleen via seqIF™ staining on COMET™ CD16b was detected in perfusion fixed paraffin-embedded sections of mouse Spleen using Rat Anti-Mouse CD16b, Monoclonal Antibody (Catalog #MAB11725) at 10ug/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™ 555 Goat anti-Rat IgG Secondary Antibody at 1:100 at 37 ° Celsius for 2 minutes. (Yellow; Lunaphore Catalog # DR555RT) and counterstained with DAPI (blue; Lunaphore Catalog # DR100).Specific staining was localized to the cytoplasm. Protocol available in COMET™ Panel Builder.

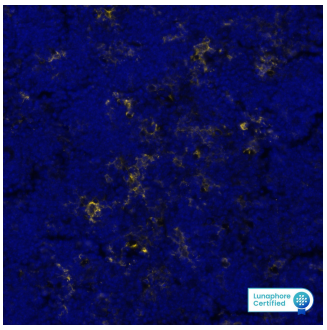
Bio-Techne®
Global | bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL: 1.612.379.2956
USA | TEL: 800.343.7475 Canada | TEL: 855.668.8722 Europe | Middle East | Africa TEL: +44.0.1235.529449
China | info.cn@bio-techne.com TEL: 400.821.3475

Mouse Fcγ RIIIB/CD16b Antibody

Monoclonal Rat IgG_{2B} Clone # 1107512

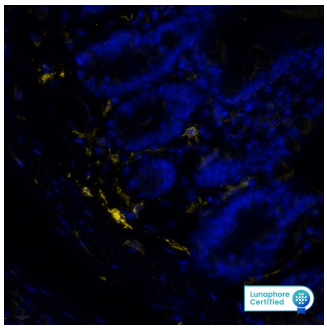
Catalog Number: MAB11725

Multiplex Immunofluorescence



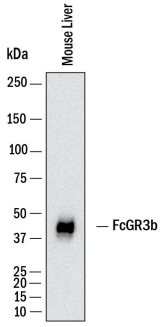
CD16b Antibody in Mouse Thymus via seqIF™ staining on COMET™ CD16b was detected in perfusion fixed paraffin-embedded sections of mouse Thymus using Rat Anti-Mouse CD16b, Monoclonal Antibody (Catalog #MAB11725) at 10ug/mL at 37° Celsius for 4 minutes. Before incubation with the primary antibody, tissue 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™ 555 Goat anti-Rat IgG Secondary Antibody at 1:100 at 37 ° Celsius for 2 minutes. (Yellow; Lunaphore Catalog # DR555RT) and counterstained with DAPI (blue; Lunaphore Catalog # DR100).Specific staining was localized to the cytoplasm. Protocol available in COMET™ Panel Builder.

Multiplex Immunofluorescence



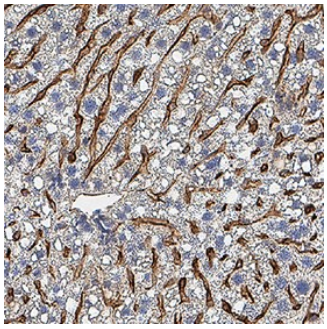
Detection of CD16b in Mouse Stomach via seqIF™ staining on COMET™ CD16b was detected in perfusion fixed paraffin-embedded sections of mouse Stomach using Rat Anti-Mouse CD16b, Monoclonal Antibody (Catalog #MAB11725) at 10ug/mL at 37° Celsius for 4 minutes. Before incubation with the primary antibody, 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™ 555 Goat anti-Rat IgG Secondary Antibody at 1:100 at 37 ° Celsius for 2 minutes. (Yellow; Lunaphore Catalog # DR555RT) and counterstained with DAPI (blue; Lunaphore Catalog # DR100).Specific staining was localized to the cytoplasm. Protocol available in COMET™ Panel Builder.

Western Blot



Detection of Mouse Fcγ RIIIB/CD16b by Western Blot. Western Blot shows lysates of mouse liver tissue. PVDF membrane was probed with 2 µg/ml of Rat Anti-Mouse Fcγ RIIIB/CD16b Monoclonal Antibody (Catalog # MAB11725) followed by HRP-conjugated Anti-Rat IgG Secondary Antibody (Catalog # HAF005). A specific band was detected for Fcγ RIIIB/CD16b at approximately 40 kDa (as indicated). This experiment was conducted under reducing conditions and using Western Blot Buffer Group 1.

Immunohistochemistry



Detection of Fcγ RIIIB/CD16b in Mouse Liver. Fcγ RIIIB/CD16b was detected in perfusion fixed paraffin-embedded sections of mouse liver using Rat Anti-Mouse Fcγ RIIIB/CD16b Monoclonal Antibody (Catalog # MAB11725) 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-Rat IgG Secondary Antibody (Catalog # HAF005) and counterstained with hematoxylin (blue). Specific staining was localized to the membrane. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

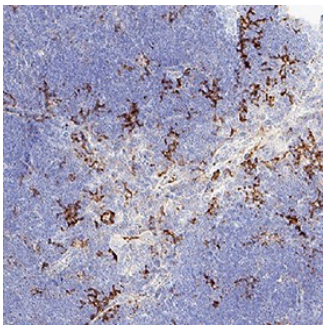
Bio-Techne®
Global | bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL: 1.612.379.2956
USA | TEL: 800.343.7475 Canada | TEL: 855.668.8722 Europe | Middle East | Africa TEL: +44.0.1235.529449
China | info.cn@bio-techne.com TEL: 400.821.3475

Mouse Fcγ RIIIB/CD16b Antibody

Monoclonal Rat IgG_{2B} Clone # 1107512

Catalog Number: MAB11725

Immunohistochemistry



Detection of Fcγ RIIIB/CD16b in Mouse Thymus.
Fcγ RIIIB/CD16b was detected in perfusion fixed paraffin-embedded sections of mouse thymus using Rat Anti-Mouse Fcγ RIIIB/CD16b Monoclonal Antibody (Catalog # MAB11725) 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-Rat IgG Secondary Antibody (Catalog # HAF005) and counterstained with hematoxylin (blue). Specific staining was localized to the membrane. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

PREPARATION AND STORAGE

Reconstitution	Reconstitute lyophilized material at 0.2 mg/ml in sterile PBS. For liquid material, refer to CoA for concentration.
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.

BACKGROUND

Receptors for the Fc region of IgG (Fc γ Rs) are members of the Ig superfamily that function in the activation or inhibition of immune responses such as degranulation, phagocytosis, ADCC (antibody-dependent cellular toxicity), cytokine release, and B cell proliferation (1-3). The Fc γ Rs have been divided into three classes based on close relationships in their extracellular domains; these groups are designated Fc γ RI (also known as CD64), Fc γ RII (CD32), and Fc γ RIII (CD16). Each group may be encoded by multiple genes and exist in different isoforms depending on species and cell type. The CD64 proteins are high affinity receptors (~10^{-8}-10^{-9} M) capable of binding monomeric IgG, whereas the CD16 and CD32 proteins bind IgG with lower affinities (~10^{-6}-10^{-7} M) only recognizing IgG aggregates surrounding multivalent antigens (1, 4). Fc γ Rs that deliver an activating signal either have an intrinsic immunoreceptor tyrosine-based activation motif (ITAM) within their cytoplasmic domains or associate with one of the ITAM-bearing adapter subunits, Fc Rγ or ζ (3, 5). The only inhibitory member in human and mouse, Fc γ RIIb, has an intrinsic cytoplasmic immunoreceptor tyrosine-based inhibitory motif (ITIM). The coordinated functioning of activating and inhibitory receptors is necessary for successful initiation, amplification, and termination of immune responses (5).

Mouse CD16 is encoded by a single gene. The protein product is a type I transmembrane protein having two extracellular Ig-like domains. It is expressed on a variety of myeloid and lymphoid cells (4) and associates with Fc Rγ to deliver an activating signal upon ligand binding (5). Mouse CD32 is closely related to mouse CD16 throughout its extracellular domain (95% amino acid sequence identity), but has a divergent cytoplasmic domain and functions as an inhibitory receptor. Together these proteins constitute an activating/inhibiting receptor pair to regulate immune responses (5).

References:

1. van de Winkel, J. and P. Capes (1993) Immunol. Today **14**:215.
2. Raghaven, M. and P. Bjorkman (1996) Annu. Rev. Cell Dev. Biol. **12**:181.
3. Ravetch, J. and S. Bolland (2001) Annu. Rev. Immunol. **19**:275.
4. Takai, T. (2002) Nature Rev. Immunol. **2**:580.
5. Ravetch, J. and L. Lanier (2000) Science **290**:84.

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 Europe | Middle East | Africa TEL: +44.0.1235.529449
China | info.cn@bio-techne.com TEL: 400.821.3475