

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse CD177 in direct ELISAs.
Source	Monoclonal Rabbit IgG Clone # 1171A
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Human embryonic kidney cell line HEK293-derived recombinant mouse CD177 Accession # Q8R2S8
Conjugate	Alexa Fluor 750 Excitation Wavelength: 749 nm Emission Wavelength: 775 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
Flow Cytometry	0.25-1 µg/10 ⁶ cells	Mouse splenocytes

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.

BACKGROUND

CD177 is a member of the uPAR/CD59/Ly6 superfamily (1). Mature mouse CD177 is a 796 amino acid (aa) protein that contains four uPAR/Ly6 domains, while human CD177 contains only two. Within common regions, mouse CD177 shares 55% and 77% aa sequence identity with human and rat CD177, respectively. CD177 is expressed on the surface of neutrophils through a glycosylphosphatidylinositol (GPI) anchor (2-4). It is nearly absent from neutrophils from paroxysmal nocturnal hemoglobinuria patients who are deficient in the ability to synthesize GPI linkages (4, 5). It is up-regulated on granulocytes from polycythemia vera and thalassemia patients (6, 7). CD177 binds to PECAM-1 on vascular endothelial cells, an interaction which mediates neutrophil adhesion to the vascular wall and neutrophil transmigration (8). It associates *in cis* with the Integrin MAC-1 (CD11b/CD18) (9). CD177 also associates *in cis* with Proteinase 3 (PR3) and is required for cell surface PR3 expression (9-11). PR3 is normally found in intracellular vesicles, but once at the cell surface it can serve as an autoimmune target for anti-neutrophil cytoplasmic antibodies (ANCA) (12). The ANCA targeting of CD177-PR3 complexes triggers neutrophil activation and vasculitis (9, 12).

References:

1. Stroncek, D.F. (2007) *Curr. Opin. Hematol.* **14**:688.
2. Skubitz, K.M. *et al.* (1991) *J. Leukoc. Biol.* **49**:163.
3. Kissel, K. *et al.* (2001) *Eur. J. Immunol.* **31**:1301.
4. Klippel, S. *et al.* (2002) *Blood* **100**:2441.
5. Boccuni, P. *et al.* (2000) *Crit. Rev. Oncol. Hematol.* **33**:25.
6. Temerinac, S. *et al.* (2000) *Blood* **95**:2569.
7. Zol, K. *et al.* (2008) *Brit. J. Haematol.* **141**:100.
8. Sachs, U.J.H. *et al.* (2007) *J. Biol. Chem.* **282**:23603.
9. Jerke, U. *et al.* (2011) *J. Biol. Chem.* **286**:7070.
10. von Vietinghoff, S. *et al.* (2007) *Blood* **109**:4487.
11. Kuckleburg, C.J. *et al.* (2012) *J. Immunol.* **188**:2419.
12. van Timmeren, M.M. and P. Heeringa (2012) *Curr. Opin. Rheumatol.* **24**:8.

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