

Mouse CD47 Alexa Fluor® 647-conjugated Antibody

Monoclonal Rat IgG₁ Clone # 974222

Catalog Number: FAB18661R

100 µg

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse CD47 in direct ELISAs.
Source	Monoclonal Rat IgG ₁ Clone # 974222
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived mouse CD47 Gln19-Pro158 Accession # NP_034711
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. *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	HEK293 Human Cell Line Transfected with Mouse CD47 and eGFP

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. <ul style="list-style-type: none"> 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

CD47, also known as Integrin-Associated Protein (IAP) and OA3, is a 40-60 kDa variably glycosylated atypical member of the immunoglobulin superfamily (1, 2). Mouse CD47 is an integral membrane protein that consists of a 122 amino acid (aa) extracellular domain (ECD) with a single Ig-like domain, five membrane-spanning regions with short intervening loops, and a 16 aa C-terminal cytoplasmic tail (3). Alternate splicing of mouse CD47 generates an additional isoform with an insertion of 21 aa following the Ig-like domain (3). Within the N-terminal ECD, mouse CD47 shares 63% and 84% aa sequence identity with human and rat CD47, respectively. A portion of the N-terminal ECD can be shed from smooth muscle cells by MMP-2-mediated proteolysis (4). The ubiquitously expressed CD47 binds to SIRP family members on macrophages, neutrophils, and T cells (5, 6). These interactions prevent macrophage-mediated clearance of healthy CD47-expressing cells and promote immune cell transmigration across the vascular endothelium (5-8). The CD47-SIRPα interaction is species specific, and this lack of cross-species interaction has been implicated in xenotransplantation rejection (16). CD47 associates *in cis* with Fas on T cells and enhances Fas-mediated apoptosis; its ligation promotes T cell anergy and dampens Th1 immune responses (9-11). CD47 also associates *in cis* with Integrins α4β1, αVβ3, α2bβ3, and α2β1 which can positively or negatively modulate Integrin-mediated function (2, 12). In the vasculature, CD47 binding by Thrombospondin-1 inhibits the angiogenic and vasorelaxant effects of nitric oxide (2, 13, 14). On dendritic cells and myeloma cells, CD47 ligation by TSP-1 induces giant cell formation and osteoclast differentiation (15).

References:

1. Sarfati, M. *et al.* (2009) *Curr. Drug Targ.* **9**:842.
2. Isenberg, J.S. *et al.* (2008) *Arterioscler. Thromb. Vasc. Biol.* **28**:615.
3. Lindberg, F.P. *et al.* (1993) *J. Cell Biol.* **123**:485.
4. Maile, L.A. *et al.* (2008) *Mol. Endocrinol.* **22**:1226.
5. Oldenborg, P.-A. *et al.* (2000) *Science* **288**:2051.
6. Liu, Y. *et al.* (2002) *J. Biol. Chem.* **277**:10028.
7. Stefanidakis, M. *et al.* (2008) *Blood* **112**:1280.
8. de Vries, H.E. *et al.* (2002) *J. Immunol.* **168**:5832.
9. Manna, P.P. *et al.* (2005) *J. Biol. Chem.* **280**:29637.
10. Avicé, M.-N. *et al.* (2001) *J. Immunol.* **167**:2459.
11. Bouguermouh, S. *et al.* (2008) *J. Immunol.* **180**:8073.
12. Barazi, H.O. *et al.* (2002) *J. Biol. Chem.* **277**:42859.
13. Isenberg, J.S. *et al.* (2009) *Nitric Oxide* **21**:52.
14. Isenberg, J.S. *et al.* (2009) *Matrix Biol.* **28**:110.
15. Kukreja, A. *et al.* (2009) *Blood* **114**:3413.
16. Wang H. *et al.* (2007) *Blood* **109**:836.

Mouse CD47 Alexa Fluor® 647-conjugated Antibody

Monoclonal Rat IgG₁ Clone # 974222

Catalog Number: FAB18661R

100 µg

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.