

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CD55/DAF.
Source	Monoclonal Mouse IgG ₁ Clone # 278810
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	NS0-derived recombinant human CD55/DAF Asp35-Ser353 Accession # P08174.4
Conjugate	Alexa Fluor 350 Excitation Wavelength: 346 nm Emission Wavelength: 442 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	Human whole blood

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

CD55, also known as DAF or decay-accelerating factor, is a 70-75 kDa member of the RCA family of proteins. Human RCA (regulators of complement/C' activation) proteins are products of chromosome 1 genes that are ubiquitously expressed on cells exposed to plasma complement proteins (1-4). A hallmark of RCA proteins is the presence of four to 30 SCRs (short consensus repeats; also called CCPs for C' control protein modules) in their plasma-exposed regions. SCRs are characterized by a 60-65 amino acid (aa) module that contains a highly conserved Trp residue and two internal disulfide bonds that create a β-barrel structure (1). Human CD55 is synthesized as a 381 aa precursor that contains a 34 aa signal sequence, a 319 aa mature region and a 28 aa C-terminal prosegment (5, 6). The mature region contains four SCR modules and a C-terminal O-glycosylated extension (7). Following cleavage of the prosegment, a serine is exposed that serves as an anchor for a GPI-linkage (8). Multiple polymorphisms are found in the molecule. Alternate splicing also exists. One form that may not be translated shows an intron insertion in the prosegment, resulting in a 79 aa substitution for the standard C-terminal 20 aas of the prosegment (6). Another form generates a truncated 199 aa precursor that cannot be membrane-bound and may not be secreted (9). Mature CD55 is 53% and 84% aa identical to mouse and monkey CD55, respectively. CD55 is known to bind CD97 via the first SCR (4). It also binds physiologically-generated C3 convertases with its second and third SCRs (7, 10). Binding results in an accelerated "decay", or dissociation of active C3 convertases, thus blocking the development of C' attack complexes on nonforeign cells (1, 2). Finally, viruses and bacteria are also known to utilize multiple SCR sites for infection (4).

References:

1. Herbert, A. *et al.* (2002) *Biochem. Soc. Trans.* **30**:990.
2. Miwa, T. and W-C. Song (2001) *Int. Immunopharmacol.* **1**:445.
3. Hourcade, D. *et al.* (2000) *Immunopharmacology* **49**:103.
4. Lea, S. (2002) *Biochem. Soc. Trans.* **30**:1014.
5. Medof, M.E. *et al.* (1987) *Proc. Natl. Acad. Sci. USA* **84**:2007.
6. Caras, I.W. *et al.* (1987) *Nature* **325**:545.
7. Lukacik, P. *et al.* (2004) *Proc. Natl. Acad. Sci. USA* **101**:1279.
8. Moran, P. *et al.* (1991) *J. Biol. Chem.* **266**:1250.
9. Lublin, D.M. *et al.* (1994) *Blood* **84**:1276.
10. Williams, P. *et al.* (2003) *J. Biol. Chem.* **278**:10691.

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.