Human CD55/DAF Antibody

Monoclonal Mouse IgG_{2B} Clone # 278803

Catalog Number: MAB2009

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CD55/DAF in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant human CD97 is observed.
Source	Monoclonal Mouse IgG_{2B} Clone # 278803
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	NS0-derived recombinant human CD55/DAF Asp35-Ser353 Accession # P08174.4
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

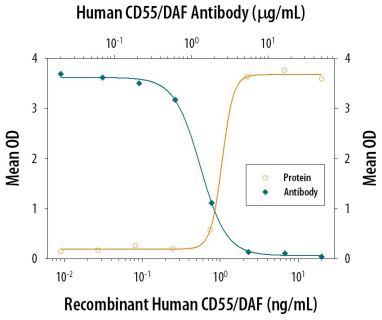
APPLICATIONS

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	1 µg/mL	Recombinant Human CD55/DAF (Catalog # 2009-CD) under non-reducing conditions only
Neutralization	Measured by its ability to neutralize CD55-mediated adhesion of human red blood cells. Hamann, J. *et al.* (1996) J. Exp. Med. **184**:1185. The Neutralization Dose (ND_{50}) is typically 0.5-2 µg/mL in the presence of 5 µg/mL Recombinant Human CD97.	

DATA

Neutralization



Cell Adhesion Mediated by CD55 and Neutralization by Human CD55/DAF Antibody. Recombinant Human CD97 (Catalog # 2529-CD), immobilized onto a microplate, supports the adhesion of human red blood cells in a dose-dependent manner (orange line). Adhesion elicited by Recombinant Human CD97 (5 µg/mL) is neutralized (green line) by increasing concentrations of Mouse Anti-Human CD55/DAF Monoclonal Antibody (Catalog # MAB2009). The ND_{50} is typically 0.5-2 µg/mL.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
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 from date of receipt, 2 to 8 °C, reconstituted. ● 6 months from date of receipt, -20 to -70 °C, reconstituted.

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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 4 to 30 SCRs (short consensus repeats; also called CCPs for C' control protein modules) in their plasma-exposed regions. SCRs are 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 human CD55 shares 53% and 84% aa identity with 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 use multiple SCR sites for infection (4).

References:

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