Recombinant Human CD55/DAF

Catalog Number: 2009-CD/CF

DESCRIPTION

Source

Mouse myeloma cell line, NS0-derived

N-terminal Sequence Analysis	Asp35
Predicted Molecular Mass	36.0 kDa

SPECIFICATIONS

SDS-PAGE	61-75 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human (rh) CD55/DAF is coated at 1 µg/mL (100 µL/well), the concentration of rhCD97 that produces 50% of the optimal binding response is found to be approximately 0.5-2.5 µg/mL.
Endotoxin Level	<1.0 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 200 µg/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, 2 to 8 °C under sterile conditions after reconstitution. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

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:

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