

CD47 Protein, Human, Recombinant (aa 1-139, His)

General Information

Synonyms:	MER6;CD47 molecule;IAP;OA3
Protein Construction:	A DNA sequence encoding the human CD47 (NP_942088.1) (Met1-Pro139) was expressed with a polyhistidine tag at the C-terminus. Predicted N terminal: Gln 19
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q08722-3
Molecular Weight:	15.2 kDa (predicted); 35-44 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	<ol style="list-style-type: none">1. Measured by its binding ability in a functional ELISA. Immobilized Human SIRP alpha hFc at 2 µg/mL (100 µL/well) can bind Human CD47 His, the EC₅₀ of Human CD47 His is 5.0-25.0 ng/mL.
2. Captured Ligufalimab (IgG4) on proA Chip can bind CD47 with an affinity constant of 10.82 nM as determined in a SPR assay (Routinely tested).
3. Loaded Hu5F9-G4 (IgG4) on ProA Biosensor, can bind human CD47 protein, His Tag with an affinity constant of 3.02 nM as determined in BLI assay (Routinely tested).
Purity:	≥ 95 % as determined by SDS-PAGE. ≥ 95 % as determined by SEC-HPLC.
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS, pH7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:	Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.
Stability & Storage:	It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots. <small>Actual storage temperature shall be subject to the COA.</small>
Shipping:	In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

CD47 contains 1 Ig-like V-type (immunoglobulin-like) domain and is a receptor for the C-terminal cell binding domain of thrombospondin. It may play a role in membrane transport and signal transduction. CD47 is also a membrane protein, which is involved in the increase in intracellular calcium concentration that occurs upon cell adhesion to extracellular matrix. It is very broadly distributed on normal adult tissues, as well as ovarian tumors, being especially abundant in some epithelia and the brain. CD47 may play a role in membrane transport and/or integrin dependent signal transduction. It may prevent premature elimination of red blood cells. It also may be involved in membrane permeability changes induced following virus infection. By acting as an adhesion receptor for THBS1 on platelets, CD47 plays a role in both cell adhesion and in the modulation of integrins. It also plays an important role in memory formation and synaptic plasticity in the hippocampus. Cancer Immunotherapy Co-inhibitory Immune Checkpoint Targets Immune Checkpoint Immune Checkpoint Detection: Antibodies Immune Checkpoint Detection: ELISA Antibodies Immune Checkpoint Detection: WB Antibodies Immune Checkpoint Targets Immunotherapy Targeted Therapy

Reference

- Brown EJ, et al. (2001) Integrin-associated protein (CD47) and its ligands. *Trends Cell Biol.* 11(3): 130-5.
Oldenborg PA. (2004) Role of CD47 in erythroid cells and in autoimmunity. *Leuk Lymphoma.* 45(7): 1319-27.
Kaczorowski DJ, et al. (2007) Targeting CD47: NO limit on therapeutic potential. *Circ Res.* 100(5): 602-3.

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