

Recombinant Human CD47 Protein, C-His-tagged

Cat. No. CD47-199H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human CD47 Protein with C-His tag was expressed in E. coli.
Species	Human
Source	E.coli
Description	CD47 is a five-pass transmembrane protein expressed on all normal cells. It binds to the SIRPα that is expressed on myeloid cells including macrophages, and neuronal cells in the central nervous system. Binding of CD47 to SIRPα promotes phosphorylation of tyrosine residues in the immunoreceptor tyrosine-based inhibitory motifs (ITIM) within the SIRPα cytoplasmic tail, inhibiting macrophage phagocytosis towards CD47-expressing cells. In this way, CD47 serves as "don't eat me" signal or a marker of "self", functioning as an innate immune checkpoint. Additionally, CD47 was reported to modulate lymphocyte cell activation and proliferation. CD47 is over-expressed in many types of cancer. The expression level of CD47 on cancer cells is negatively associated with the response to therapies, and low expression on tumor cells is associated with a better prognosis and survival. Reagents that can block CD47-SIRPα interaction are being actively pursued for therapeutic applications. In addition to SIRPα, other proteins have been reported to bind to CD47. Thrombospondin 1 (TSP1) competes with SIRPα to bind to CD47 in the extracellular region and activates signaling pathways downstream CD47. CD47 can laterally associate with VEGFR2, FAS, and certain integrins in different contexts, and influences their downstream signaling. CD47 can be shed from the cell surface by proteolytic cleavage. In addition, CD47 is present on extracellular vesicles including

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exosomes, suggesting additional extracellular signaling potential. CD47 is a five-pass transmembrane protein expressed on all normal cells. It binds to the SIRP α that is expressed on myeloid cells including macrophages, and neuronal cells in the central nervous system. Binding of CD47 to SIRP α promotes phosphorylation of tyrosine residues in the immunoreceptor tyrosine-based inhibitory motifs (ITIM) within the SIRP α cytoplasmic tail, inhibiting macrophage phagocytosis towards CD47-expressing cells. In this way, CD47 serves as "don't eat me" signal or a marker of "self", functioning as an innate immune checkpoint. Additionally, CD47 was reported to modulate lymphocyte cell activation and proliferation. CD47 is over-expressed in many types of cancer. The expression level of CD47 on cancer cells is negatively associated with the response to therapies, and low expression on tumor cells is associated with a better prognosis and survival. Reagents that can block CD47-SIRP α interaction are being actively pursued for therapeutic applications. In addition to SIRP α , other proteins have been reported to bind to CD47. Thrombospondin 1 (TSP1) competes with SIRP α to bind to CD47 in the extracellular region and activates signaling pathways downstream CD47. CD47 can laterally associate with VEGFR2, FAS, and certain integrins in different contexts, and influences their downstream signaling. CD47 can be shed from the cell surface by proteolytic cleavage. In addition, CD47 is present on extracellular vesicles including exosomes, suggesting additional extracellular signaling potential.

Molecular Mass ~14 kDa

AA Sequence QLLFNKTKSVEFTFCNDTVVIPCFVTNMEAQNTTEVYVKWKFKGRDIYTFDGALNKS
TVPTDFSSAKIEVSQLLKGDASLKMDKSDAVSHTGNYTCEVTELTREGETIIEELKYRV
VSWFSPNE

Purity Transferred into competent cells and the supernatant was purified by NI column affinity chromatography and the purity is > 85% (by SDS-PAGE).

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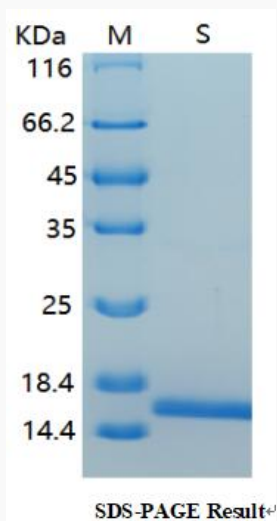
Notes	For research use only, not for use in diagnostic procedure.
Storage	Store at 4 centigrade short term. Aliquot and store at -20 centigrade long term. Avoid freeze-thaw cycles.
Concentration	≥0.5 mg/mL
Storage Buffer	PBS, 4M Urea, pH7.4
GENE INFORMATION	
Gene Name	CD47 CD47 molecule [Homo sapiens (human)]
Official Symbol	CD47
Synonyms	CD47; CD47 molecule; CD47 antigen (Rh related antigen, integrin associated signal transducer) , MER6; leukocyte surface antigen CD47; antigen identified by monoclonal 1D8; antigenic surface determinant protein OA3; CD47 glycoprotein; IAP; integrin associated protein; OA3; Rh related antigen; Rh-related antigen; integrin-associated protein; integrin-associated signal transducer; CD47 antigen (Rh-related antigen, integrin-associated signal transducer); MER6;
Gene ID	961
mRNA Refseq	NM_001777
Protein Refseq	NP_001768
MIM	601028
UniProt ID	Q08722

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SDS-PAGE



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