

## Active Recombinant Human CD47 protein, Fc/Avi-tagged,

**Cat. No.** CD47-051H    **Lot. No.** (See product label)

### SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Overview</b> | Recombinant Human CD47(Gln19-Pro139) protein, fused to Fc/Avi tag at the C-terminus, was expressed in CHO cells .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Source</b>           | CHO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>ProteinLength</b>    | Gln19-Pro139                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Description</b>      | <p>CD47, also known as Integrin-Associated Protein (IAP) and OA3, is a 40-60 kDa variably glycosylated atypical member of the immunoglobulin superfamily (1, 2). Human CD47 is an integral membrane protein that consists of a 123 amino acid (aa) extracellular domain (ECD) with a single Ig-like domain, five membrane-spanning regions with short intervening loops, and a 34 aa C-terminal cytoplasmic tail (3). Alternate splicing of human CD47 generates additional isoforms with deletions in the cytoplasmic tail (3). Within the N-terminal ECD, human CD47 shares 63% aa sequence identity with mouse and rat CD47. A portion of the N-terminal ECD can be shed from smooth muscle cells by MMP-2-mediated proteolysis (4). The ubiquitously expressed CD47 binds to SIRP family members on macrophages, neutrophils, and T cells (5, 6). These interactions prevent macrophage-mediated clearance of healthy CD47-expressing cells and promote immune cell transmigration across the vascular endothelium (5-8). The CD47-SIRP alpha interaction is species specific, and this lack of cross-species interaction has been implicated in xenotransplantation rejection (16). CD47 associates in cis with Fas</p> |

 Tel: 1-631-559-9269    1-516-512-3133

 Email: [info@creative-biomart.com](mailto:info@creative-biomart.com)     Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

on T cells and enhances Fas-mediated apoptosis; its ligation promotes T cell anergy and dampens Th1 immune responses (9-11). CD47 also associates in cis with Integrins alpha 4 beta 1, alpha V beta 3, alpha 2b beta 3, and alpha 2 beta 1 which can positively or negatively modulate Integrin-mediated function (2, 12). In the vasculature, CD47 binding by Thrombospondin-1 inhibits the angiogenic and vasorelaxant effects of nitric oxide (2, 13, 14). On dendritic cells and myeloma cells, CD47 ligation by TSP-1 induces giant cell formation and osteoclast differentiation (15).

|                             |                                                                                                                                                                                                                                                                           |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Predicted N Terminal</b> | No results obtained: Gln19 predicted                                                                                                                                                                                                                                      |
| <b>Form</b>                 | Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose.                                                                                                                                                                                                        |
| <b>Bio-activity</b>         | Measured by its binding ability in a functional ELISA. When Recombinant Human SIRPA Fc Chimera is immobilized at 0.1 µg/mL (100 µL/well), the concentration of Recombinant Human CD47 Fc Chimera Avi-tag that produces 50% of the optimal binding response is 6-48 ng/mL. |
| <b>Molecular Mass</b>       | 60-70 kDa, under reducing conditions                                                                                                                                                                                                                                      |
| <b>Endotoxin</b>            | <0.10 EU per 1 µg of the protein by the LAL method.                                                                                                                                                                                                                       |
| <b>Purity</b>               | >95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.                                                                                                                                                              |
| <b>Applications</b>         | Bioactivity                                                                                                                                                                                                                                                               |
| <b>Storage</b>              | 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                   |

 Tel: 1-631-559-9269 1-516-512-3133

 Email: [info@creative-biomart.com](mailto:info@creative-biomart.com)  Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

reconstitution.

**Reconstitution** Reconstitute at 100 µg/mL in PBS.

## GENE INFORMATION

**Gene Name** CD47 CD47 molecule [ Homo sapiens ]

**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

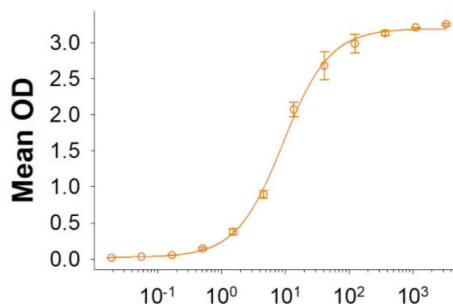
**UniProt ID** Q08722

 Tel: 1-631-559-9269 1-516-512-3133

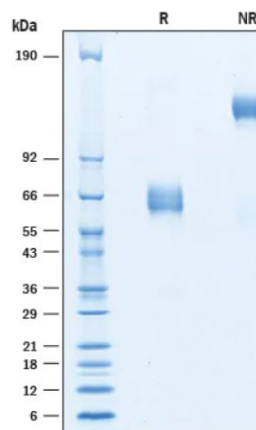
 Email: [info@creative-biomart.com](mailto:info@creative-biomart.com)  Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

## Binding Activity



## SDS-PAGE



2 µg/lane Protein was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining.

Tel: 1-631-559-9269 1-516-512-3133

Email: [info@creative-biomart.com](mailto:info@creative-biomart.com) Fax: 1-631-938-8127

45-1 Ramsey Road, Shirley, NY 11967, USA