

## Recombinant Human CD47Fc Chimera Protein

**Catalog Number/Size:** P1012-200: 200 ug  
P1012-500: 500 µg  
P1012-B: Bulk

**Source:** Human CD47 (Accession#AIC61946) extracellular domain (Gln19 – Pro 139) fused with human IgG1 Fc produced from HEK293 cells.

Human CD47 (Gln19-Pro139) Accession#AIC61946	GSGGGG	Human IgG1 (Asp104-Lys330)
N-terminal		C-terminal

**Structure:** Disulfide-linked homodimer

**Predicted N-terminal:** Gln 19

**Predicted Molecular Weight:** 39.6 kDa, reducing conditions

**Apparent Molecular Weight on SDS-PAGE:** 55 kDa, reducing conditions

**Formulation:** 0.22 µm filtered protein solution in 1x PBS

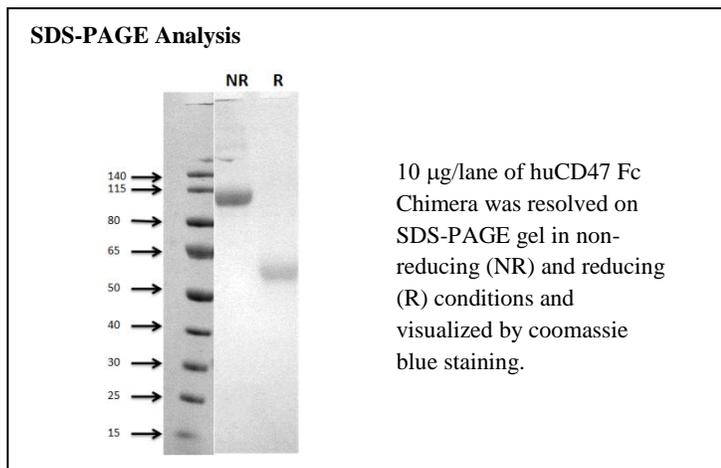
**Storage:** -20°C or below

**Estimated Purity:** >95% as determined by SDS-PAGE

**Protein Endotoxin Level:** Not measured

**Protein Aggregation:** <5% as determined by SDS-PAGE

### DATA



*Disclaimer: For research use only. Not for use in humans.*

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**Application:** Bioassay (biochemical assay)

**Product Description:** CD47 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). Alternative splicing of human CD47 generates additional isoforms with deletions in the cytoplasmic tail (3). Within the N-terminal ECD, human CD47 shares 63% amino acid 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). 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. CD47 associates *in cis* with Fas on T cells and enhances Fas-mediated apoptosis; its ligation promotes T cell anergy and dampens Th1 immune responses. 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). On dendritic cells and myeloma cells, CD47 ligation by TSP-1 induces giant cell formation and osteoclast differentiation.

**Other Names:** Integrin-Associated Protein (IAP), OA3

- References:**
1. Sarfati, M. *et al.* (2009) *Curr. Drug Targ.* **9**:842.
  2. Isenberg, J.S. *et al.* (2008) *Arterioscler. Thromb. Vasc. Biol.* **28**:615.
  3. Campbell, I.G. *et al.* (1992) *Cancer Res.* **52**:5416.
  4. Maile, L.A. *et al.* (2008) *Mol. Endocrinol.* **22**:1226.
  5. Oldenborg, P.-A. *et al.* (2000) *Science* **288**:2051.
  6. Liu, Y. *et al.* (2002) *J. Biol. Chem.* **277**:10028.
  7. Stefanidakis, M. *et al.* (2008) *Blood* **112**:1280.
  8. deVries, H.E. *et al.* (2002) *J. Immunol.* **168**:5832.

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