

## Anti-CD47 [ZF1] Bulk Size Ab03103-3.0-BT

This chimeric mouse antibody was made using the variable domain sequences of the original Human IgG1 format for improved compatibility with existing reagents assays and techniques.

**Isotype and Format:** Mouse IgG2b, Lambda

**Clone Number:** ZF1

**Alternative Name(s) of Target:** IAP; MER6; OV-3; Leukocyte surface antigen CD47; Antigenic surface determinant protein OA3; Integrin-associated protein; Protein MER6; ovarian cancer marker

**UniProt Accession Number of Target Protein:** Q08722

**Published Application(s):** Block, ELISA, FC

**Published Species Reactivity:** Human

**Immunogen:** The original antibody was isolated after screening of three  $\lambda$ 3-H3,  $\lambda$ 3-H5 and  $\lambda$ 1-H3 phage display single-chain variable fragments (scFvs) libraries by panning against recombinant protein antigen CD47-His. The variable domain genes of the antibody were cloned into a pair of eukaryotic cell expression vectors and co-transfected into FreeStyle HEK293T cells for expression and obtaining the IgG antibody.

**Specificity:** This antibody binds the extracellular domain of the human CD47, which is broadly distributed on normal adult tissues, as well as ovarian tumors, and is especially abundant in some epithelia and the brain. IAP or integrin associated protein has a role in both cell adhesion by acting as an adhesion receptor for THBS1 on platelets, and in the modulation of integrins. It further plays an important role in memory formation and synaptic plasticity in the hippocampus. It also acts as a receptor for SIRPA. Binding to SIRPA prevents maturation of immature dendritic cells and inhibits cytokine production by mature dendritic cells.

**Application Notes:** This antibody displayed high specificity and affinity for CD47 protein, which were comparable to those for humanized anti-CD47 blocking antibody B6H12. This antibody is could efficiently block the physical interaction of immobilized recombinant human CD47 to human and mouse SIRP $\alpha$  in blocking assay in vitro and was capable of inducing in vitro macrophage-mediated phagocytosis as robust as B6H12. It binds recombinant human CD47 in a dose dependent manner in an ELISA. This antibody was also capable of recognizing cell-surface expressed CD47 in a flow cytometry. The binding affinity of the IgG version of this antibody toward CD47 was determined to be  $3.50 \pm 0.16$  nM using surface plasmon resonance. ZF1 treatment could induce robust phagocytosis of leukemic cancer cells by macrophage in vitro, and protect BALB/c nude mice from cancer killing by engrafted leukemic cells (CCRF and U937) to a similar extent as humanized B6H12 did (PMID: 27863402).

**Antibody First Published in:** Zeng et al. A fully human anti-CD47 blocking antibody with therapeutic

potential for cancer. Oncotarget. 2016 Dec 13; 7(50): 83040–83050. [PMID:27863402](#)

**Note on publication:** Describes the generation of a human fully blocking anti-CD47 antibody.

## Product Form

**Size:** 1 mg Purified antibody in bulk size.

**Purification:** Protein A affinity purified

**Supplied In:** PBS only.

**Storage Recommendation:** Store at 4°C for up to 3 months. Note, this antibody is provided without added preservatives, it is therefore recommended this antibody be handled under sterile conditions. For longer storage, aliquot and store at -20°C.

**Concentration:** 1 mg/ml.

Important note – This product is for research use only. It is not intended for use in therapeutic or diagnostic procedures for humans or animals.