

Anti-CD47 [A4] Bulk Size Ab01061-23.9-BT

This chimeric rabbit antibody was made using the variable domain sequences of the original VHH format, for improved compatibility with existing reagents, assays and techniques.

Isotype and Format: Rabbit IgG-Fc fusion, His-Tagged

Clone Number: A4

Alternative Name(s) of Target: IAP; CD47 antigen; CD47 glycoprotein; Integrin-associated protein; Leukocyte surface antigen CD47; MER6; OA3; Rh-related antigen

UniProt Accession Number of Target Protein: Q61735

Published Application(s): antagonist, Blocking, functional assays, in vitro, in vivo, FC

Published Species Reactivity: Mouse

Immunogen: This mouse CD47-specific antagonist nanobody was raised by immunising alpacas with the extracellular Ig-like V-type domain (ECD) of mouse CD47. Subsequently, peripheral blood lymphocytes (PBLs) were isolated from immunized alpacas, and the extracted RNA was used to construct a VHH phage display library. The antibody was generated by panning against the mouse CD47 ECD.

Specificity: This nanobody is specific for murine CD47, a glycosylated five transmembrane protein with a small cytoplasmic domain. CD47 is involved in adhesion through interactions with SIRP (signal regulator protein) and is non-covalently associated with $\beta 3$ integrins

Application Notes: This nanobody has been shown to bind with high affinity and specificity to mouse CD47, as characterized by SPR and FACS (Sokolosky et al 2016). In vitro functional assays suggest that this nanobody potently blocks SIRP α binding to tumor cell-surface CD47, while broadly recognizing mouse hematopoietic and red blood cells without causing erythropenia (Sokolosky et al 2016). The original nanobody was reported to bind immobilized mouse CD47 with a binding affinity of $K_d = \sim 12$ pM (Sokolosky et al 2016). Consistent with its species-specific binding properties, this nanobody has been found not to influence human macrophage phagocytosis of human tumor cells. Furthermore, this nanobody has been used to investigate the biological consequences of antagonizing CD47 in syngeneic mouse disease models (Sokolosky et al 2016).

Antibody First Published in: Sokolosky et al. Durable antitumor responses to CD47 blockade require adaptive immune stimulation. Proc Natl Acad Sci U S A. 2016 May 10;113(19):E2646-54. [PMID:27091975](https://pubmed.ncbi.nlm.nih.gov/27091975/)

Note on publication: Describes the original generation of this mouse CD47-specific antagonist nanobody, its characterisation by SPR and FACS, and its applications in functional in vitro and in vivo assays to reveal that durable antitumor responses to CD47 blockade require adaptive immune stimulation.

Product Form

Size: 1 mg Purified antibody in bulk size.

Purification: Purified by Immobilized Metal Affinity Chromatography

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.