Technical Data Sheet

InVivoMAb anti-rat CD47

Attention: Use of this product constitutes an agreement to Bio X Cell's Terms and Conditions which are included with this product in print and can also be found at https://bioxcell.com/terms-and-conditions.

Lot Specific Information

Lot Number: **Lot Specific***
Volume: **Lot Specific***
Concentration: **Lot Specific* (generally 4 to 11 mg/ml) ***
Total Protein: **Lot Specific***

*This information will be noted on the certificate of analysis that ships with this product.

Product Information

Catalog Number:	**BE0446**
Clone:	**OX-101**
Isotype:	Mouse IgG1, κ
Recommended Isotype Control(s):	InVivoMAb mouse IgG1 isotype control, unknown specificity
Recommended Dilution Buffer:	InVivoPure pH 7.0 Dilution Buffer
Immunogen:	Rat thymocytes
Reported Applications:	*in vivo* blockade of CD47 *in vitro* blockade of CD47 Functional assays Immunohistochemistry (frozen) Flow cytometry Immunoprecipitation Western blot
Formulation:	PBS, pH 7.0 Contains no stabilizers or preservatives
Endotoxin:	≤1EU/mg (≤0.001EU/μg) Determined by LAL gel clotting assay
Purity:	≥95% Determined by SDS-PAGE
Sterility:	0.2 μm filtered
Production:	Purified from cell culture supernatant in an animal-free facility
Purification:	Protein G
RRID:	
Molecular Weight:	150 kDa

Description

The OX101 monoclonal antibody reacts with CD47, an immunoglobulin superfamily protein that is ubiquitously expressed in various cells, including platelets and RBCs. CD47 is a heavily N-glycosylated multi-pass transmembrane protein with extracellular, helical, and cytoplasmic domains. This protein was originally identified as integrin-associated protein (IAP) and ovarian carcinoma antigen OA3, but subsequent studies identified CD47 as a "marker of self" on murine RBCs to prevent RBC clearance by splenic red pulp macrophages in the bloodstream by binding to SIRPα. CD47 binding partners include SIRPα, SIRPγ, TSP1, VEGFR-2, Serpin A1, Integrins ($\alpha v^2 3$, $\alpha M^2 2$, $\alpha 4^2 1$, etc.), BNIP3, CDC42, PI3K, Src, and others. CD47 functions as a cognate receptor for TSP1, and the CD47-TSP1 pathway plays a significant role in the pathophysiology of vascular disease, wherein CD47-TSP1 signaling acts via adenylate cyclase activation, stimulation of apoptosis, and regulation of nitric oxide and Nox1. Besides various normal cells, CD47 is also expressed in various tumor cells, and studies have established CD47 as a biomarker of malignant tumors. By blocking the CD47-SIRPα interaction in cancer cells, scientists have found that the CD47-SIRPα axis acts as a tumor phagocytosis checkpoint, telling macrophages "don't eat me". This signaling is thought to be a way for many tumor cells to escape the immune system. The CD47-SIRPα signaling

axis controls immunity through the Hedgehog/SMO/Gli1 signaling pathway, and the blockade of CD47 or targeting its binding protein SIRPα is known to upregulate both innate and adaptive anti-tumor immune responses. Targeting CD47 and its regulators is emerging as a promising therapeutic approach in cancer immunotherapy, and preclinical experiments have indicated CD47 blockade to demonstrate potent anti-cancer activity in several hematologic cancers.

Storage

Store at the stock concentration at 4°C . **Do not freeze.**
It is not uncommon for a floccule or precipitate to appear during storage. The floccule is typically buffer salts precipitating out of solution or a small bit of protein aggregation. For information on how to remove floccules or precipitates see our FAQ's at https://bioxcell.com/faqs.

Protocol Information

Since applications vary, each investigator should use the application references as a guide to help estimate the appropriate dose or concentration. The dose or concentration can be further optimized experimentally in a dose response or titration experiment.

Application References

For a complete list of references, visit https://bioxcell.com/be0446?bxcs=9k1b3a#tab_references or scan the QR code below.

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