

CD47 (OX101): sc-53050



The Power to Question

BACKGROUND

CD47 is an integral membrane protein that plays a role in the regulation of cation fluxes across cell membranes. Specifically, CD47 is involved in the increase in intracellular calcium concentration that occurs upon cell adhesion to the extracellular matrix. It is also a receptor for the C-terminal cell binding domain of thrombospondin (SIRP). CD47 is absent from Rh-null erythrocytes, but does play a role in cell adhesion in non-erythroid cells and may prevent premature elimination of erythrocytes. It may also be involved in membrane permeability changes following viral infection. CD47 is expressed on hemopoietic cells, epithelial cells, endothelial cells and fibroblasts and is strongly expressed in brain and mesenchymal cells.

CHROMOSOMAL LOCATION

Genetic locus: Cd47 (mouse) mapping to 16 B5.

SOURCE

CD47 (OX101) is a mouse monoclonal antibody raised against thymocytes of rat origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD47 (OX101) is available conjugated to agarose (sc-53050 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53050 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53050 PE), fluorescein (sc-53050 FITC), Alexa Fluor® 488 (sc-53050 AF488), Alexa Fluor® 546 (sc-53050 AF546), Alexa Fluor® 594 (sc-53050 AF594) or Alexa Fluor® 647 (sc-53050 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53050 AF680) or Alexa Fluor® 790 (sc-53050 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

CD47 (OX101) is recommended for detection of CD47 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells).

Suitable for use as control antibody for CD47 siRNA (m): sc-35007, CD47 shRNA Plasmid (m): sc-35007-SH and CD47 shRNA (m) Lentiviral Particles: sc-35007-V.

Molecular Weight of CD47: 47-60 kDa.

Positive Controls: rat brain extract: sc-2392 or rat hypothalamus extract: sc-395022.

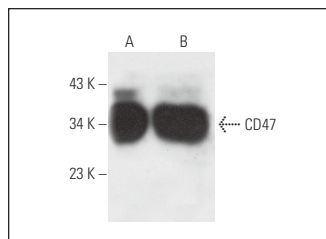
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

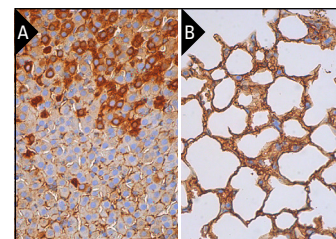
RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



CD47 (OX101): sc-53050. Western blot analysis of CD47 expression in rat brain (A) and rat hypothalamus (B) tissue extracts.



CD47 (OX101): sc-53050. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse adrenal gland tissue showing membrane and cytoplasmic staining of glandular cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse lung tissue showing membrane and cytoplasmic staining of pneumocytes and macrophages (B).

SELECT PRODUCT CITATIONS

- Maxhimer, J.B., et al. 2009. Thrombospondin-1/CD47 blockade following ischemia-reperfusion injury is tissue protective. *Plast. Reconstr. Surg.* 124: 1880-1889.
- Csányi, G., et al. 2012. Thrombospondin-1 regulates blood flow via CD47 receptor-mediated activation of NADPH oxidase 1. *Arterioscler. Thromb. Vasc. Biol.* 32: 2966-2973.
- Martinelli, R., et al. 2013. Novel role of CD47 in rat microvascular endothelium: signaling and regulation of T-cell transendothelial migration. *Arterioscler. Thromb. Vasc. Biol.* 33: 2566-2576.
- Lin, Y., et al. 2014. CD47 blockade reduces ischemia-reperfusion injury and improves outcomes in a rat kidney transplant model. *Transplantation* 98: 394-401.
- Li, Y., et al. 2019. CD47 deficiency protects cardiomyocytes against hypoxia/reoxygenation injury by rescuing autophagic clearance. *Mol. Med. Rep.* 19: 5453-5463.
- Li, Y., et al. 2020. CD47 antibody suppresses isoproterenol-induced cardiac hypertrophy through activation of autophagy. *Am. J. Transl. Res.* 12: 5908-5923.
- Zhou, Y., et al. 2022. Co-delivery of phagocytosis checkpoint and STING agonist by a Trojan horse nanocapsule for orthotopic glioma immunotherapy. *Theranostics* 12: 5488-5503.
- Omatsu, M., et al. 2023. THBS1-producing tumor-infiltrating monocyte-like cells contribute to immunosuppression and metastasis in colorectal cancer. *Nat. Commun.* 14: 5534.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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