SANTA CRUZ BIOTECHNOLOGY, INC.

OX2 (OX90): sc-53100

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

OX2 (CD200, MOX2), a member of the immunoglobulin superfamily (IgSF), is a 248 residue cell surface glycoprotein that is expressed in lymphoid cells, neurons and endothelium. OX2 receptor (OX2R) is a membrane protein with up to 70% of its weight derived from N-linked glycosylation; it is primarily expressed in lymphoid and neuronal tissue. Phylogenetic analysis of OX2R with respect to other leukocyte IgSF glycoproteins suggests that OXR2 and OX2 share a common ancestral protein. The cytoplasmic portion of OX2R contains NPXY motifs that are known to interact with PTB/PID binding domains. The interaction between OX2 and OX2R may contribute to pathways that suppress and limit macrophage induced inflammatory damage in tissue.

REFERENCES

1. McMaster, W.R. et al. 1979. Identification of Ia glycoproteins in rat thymus and purification from rat spleen. Eur. J. Immunol. 9: 426-433.
2. McCaughan, G.W., et al. 1987. The gene for MRC OX2 membrane glycoprotein is localized on human chromosome 3. Immunogenetics 25: 133-135.
3. Wright, G.J., et al. 2000. Lymphoid/neuronal cell surface OX2 glycoprotein recognizes a novel receptor on macrophages implicated in the control of their function. Immunity 13: 233-242.
4. Hoek, R.M., et al. 2000. Down-regulation of the macrophage lineage through interaction with OX2 (CD200). Science 290: 1768-1771.
5. Gorczynski, R.M., et al. 2000. Receptor engagement on cells expressing a ligand for the tolerance-inducing molecule OX2 induces an immunoregulatory population that inhibits alloreactivity *in vitro* and *in vivo*. J. Immunol. 165: 4854-4860.
6. Dick, A.D., et al. 2001. Distribution of OX2 antigen and OX2 receptor within retina. Invest. Ophthalmol. Vis. Sci. 42: 170-176.
7. Nathan, C., et al. 2001. Putting the brakes on innate immunity: a regulatory role for CD200? Nat. Immunol. 2: 17-19.
8. Broderick, C., et al. 2002. Constitutive retinal CD200 expression regulates resident microglia and activation state of inflammatory cells during experimental autoimmune uveoretinitis. Am. J. Pathol. 161: 1669-1677.

CHROMOSOMAL LOCATION

Genetic locus: Cd200 (mouse) mapping to 16 B5.

SOURCE

OX2 (OX90) is a rat monoclonal antibody raised against OX2 of mouse origin.

STORAGE

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

PROTOCOLS

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

PRODUCT

Each vial contains 200 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

OX2 (OX90) is available conjugated to agarose (sc-53100 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-53100 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53100 PE), fluorescein (sc-53100 FITC), Alexa Fluor® 488 (sc-53100 AF488), Alexa Fluor® 546 (sc-53100 AF546), Alexa Fluor® 594 (sc-53100 AF594) or Alexa Fluor® 647 (sc-53100 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53100 AF680) or Alexa Fluor® 790 (sc-53100 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

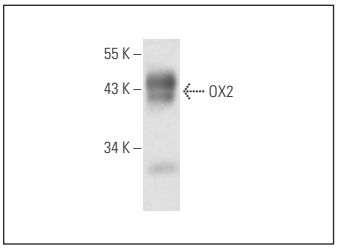
OX2 (OX90) is recommended for detection of OX2 cell surface antigen of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for OX2 siRNA (m): sc-42955, OX2 shRNA Plasmid (m): sc-42955-SH and OX2 shRNA (m) Lentiviral Particles: sc-42955-V.

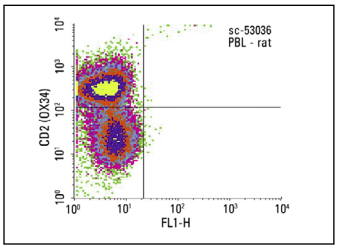
Molecular Weight of OX2: 41-47 kDa.

Positive Controls: J774.A1 cell lysate: sc-3802, mouse brain extract: sc-2253 or IB4 whole cell lysate: sc-364780.

DATA



OX2 (OX90): sc-53100. Western blot analysis of OX2 expression in mouse brain tissue extract.



OX2 (OX90): sc-53100. Indirect FCM analysis of mouse peripheral blood leukocytes stained with OX2 (OX90), followed by PE-conjugated goat anti-rat IgG: sc-3740. Quadrant markers were set based on the isotype control, normal rat IgG_{2a}: sc-3883.

SELECT PRODUCT CITATIONS

1. Tripathi, D., et al. 2018. Alcohol enhances type 1 interferon-α production and mortality in young mice infected with *Mycobacterium tuberculosis*. PLoS Pathog. 14: e1007174.
2. Wei, Y., et al. 2021. The critical role of Hedgehog-responsive mesenchymal progenitors in meniscus development and injury repair. Elife 10: e62917.

RESEARCH USE

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