

# OX2 (3H1979): sc-71760

## 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, and it is primarily expressed in lymphoid and neuronal tissue. Phylogenetic analysis of OX2R with respect to other leukocyte IgSF glycoproteins suggests that OX2R 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. and Williams, A.F. 1979. Identification of Ia glycoproteins in rat thymus and purification from rat spleen. *Eur. J. Immunol.* 9: 426-433.
2. McCaughan, G.W., Clark, M.J., Hurst, J., Grosveld, F. and Barclay, A.N. 1987. The gene for MRC OX2 membrane glycoprotein is localized on human chromosome 3. *Immunogenetics* 25: 133-135.
3. Wright, G.J., Puklavec, M.J., Willis, A.C., Hoek, R.M., Sedgwick, J.D., Brown, M.H. and Barclay, A.N. 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., Ruuls, S.R., Murphy, C.A., Wright, G.J., Goddard, R., Zurawski, S.M., Blom, B., Homola, M.E., Streit, W.J., Brown, M.H., Barclay, A.N. and Sedgwick, J.D. 2000. Downregulation of the macrophage lineage through interaction with OX2 (CD200). *Science* 290: 1768-1771.
5. Gorczynski, R.M., Yu, K. and Clark, D. 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. Nathan, C. and Muller, W.A. 2001. Putting the brakes on innate immunity: a regulatory role for CD200? *Nat. Immunol.* 2: 17-19.
7. Dick, A.D., Broderick, C., Forrester, J.V. and Wright, G.J. 2001. Distribution of OX2 antigen and OX2 receptor within retina. *Invest. Ophthalmol. Vis. Sci.* 42: 170-176.
8. Wright, G.J., Jones, M., Puklavec, M.J., Brown, M.H. and Barclay, A.N. 2001. The unusual distribution of the neuronal/lymphoid cell surface CD200 (OX2) glycoprotein is conserved in humans. *Immunology* 102: 173-179.
9. Broderick, C., Hoek, R.M., Forrester, J.V., Liversidge, J., Sedgwick, J.D. and Dick, A.D. 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 (human) mapping to 3q13.2.

## SOURCE

OX2 (3H1979) is a mouse monoclonal antibody raised against recombinant OX2CD4d3+4 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

OX2 (3H1979) is available conjugated to either phycoerythrin (sc-71760 PE) or fluorescein (sc-71760 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

## APPLICATIONS

OX2 (3H1979) is recommended for detection of OX2 cell surface antigen of human origin by flow cytometry (1 µg per 1 x 10<sup>6</sup> cells).

Suitable for use as control antibody for OX2 siRNA (h): sc-42954, OX2 shRNA Plasmid (h): sc-42954-SH and OX2 shRNA (h) Lentiviral Particles: sc-42954-V.

Molecular Weight of OX2: 41-47 kDa.

## SELECT PRODUCT CITATIONS

1. Ma, X., Chen, S., Jin, W. and Gao, Y. 2017. Th1/Th2 PB balance and CD200 expression of patients with active severe alopecia areata. *Exp. Ther. Med.* 13: 2883-2887.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.