# OX2 (2Q1778): sc-71761



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 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 la glycoproteins in rat thymus and purification from rat spleen. Eur. J. Immunol. 9: 426-433.
- 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.
- 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.
- 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.
- 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.
- 7. 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.
- 8. Nathan, C. and Muller, W.A. 2001. Putting the brakes on innate immunity: a regulatory role for CD200. Nat. Immunol. 2: 17-19.
- 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 (mouse) mapping to 16 B5.

### **SOURCE**

OX2 (201778) is a mouse monoclonal antibody raised against full length OX2 of rat origin.

#### **PRODUCT**

Each vial contains 200  $\mu g \ lgG_1$  kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

OX2 (2Q1778) is available conjugated to either phycoerythrin (sc-71761 PE) or fluorescein (sc-71761 FITC), 200 μg/ml, for WB (RGB), IF, IHC(P) and FCM.

#### **APPLICATIONS**

OX2 (201778) is recommended for detection of a monomorphic determinant of OX2 of mouse and rat origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1  $\mu$ g per 1 x 10<sup>6</sup> cells).

Suitable for use as control antibody for OX2 siRNA (m): sc-42955, OX2 siRNA (r): sc-270249, OX2 shRNA Plasmid (m): sc-42955-SH, OX2 shRNA Plasmid (r): sc-270249-SH, OX2 shRNA (m) Lentiviral Particles: sc-42955-V and OX2 shRNA (r) Lentiviral Particles: sc-270249-V.

Molecular Weight of OX2: 41-47 kDa.

#### RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Immunofluorescence: use m-lgG $\kappa$  BP-FITC: sc-516140 or m-lgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941or UltraCruz® Hard-set Mounting Medium: sc-359850.

# **SELECT PRODUCT CITATIONS**

 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  $4^{\circ}$  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 for detailed protocols and support products.

**Santa Cruz Biotechnology, Inc.** 1.800.457.3801 831.457.3801 **Europe** +00800 4573 8000 49 6221 4503 0 **www.scbt.com**