OX2 (OX2): sc-53099



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

- 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.
- 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. Down-regulation of the macrophage lineage through interaction with OX2 (CD200). Science 290: 1768-1771.
- 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. Down-regulation of the macrophage lineage through interaction with OX2 (CD200). Science 290: 1768-1771.
- 7. Nathan, C. and Muller, W.A. 2001. Putting the brakes on innate immunity: a regulatory role for CD200? Nat. Immunol. 2: 17-19.
- 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.
- 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.

STORAGE

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

CHROMOSOMAL LOCATION

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

SOURCE

OX2 (OX2) 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 (OX2) is available conjugated to either phycoerythrin (sc-53099 PE) or fluorescein (sc-53099 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

OX2 (OX2) 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), flow cytometry (1 g per 1 x 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

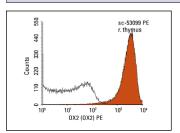
Suitable for use as control antibody for OX2 siRNA (m): sc-42955, OX2 shRNA Plasmid (m): sc-42955-SH and OX2 shRNA (m) Lentiviral Particles: sc-42955-V.

Molecular Weight of OX2: 41-47 kDa.

RECOMMENDED SUPPORT REAGENTS

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

DATA



OX2 (OX2): sc-53099. Indirect FCM analysis of rat thymocytes stained with OX2 (OX2), followed by PE-conjugated goat anti-mouse IgG: sc-3738. Black line histogram represents the isotype control, normal mouse IgG₁: sc-3877.

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.