

CD53 (OX80): sc-53057

BACKGROUND

The CD53 antigen is a member of the tetraspanin membrane protein family that is expressed in the lymphoid-myeloid lineage. The tetraspanin superfamily (CD9, CD37, CD53, CD63, CD81 and CD82) comprises a group of cell-surface proteins that are involved in cell activation and signal transduction as well as in cell adhesion, motility and metastasis. Tetraspanin transmembrane proteins have a metastasis suppressor effect by acting as cell motility brakes in tumor cells. Human neutrophils express high levels of CD53, an N-glycosylated pan-leukocyte antigen, and the true homolog of the rat MRC-OX-44 antigen. CD53 is expressed on B cells, monocytes, macrophages, neutrophils, single (CD4 or CD8) positive thymocytes and peripheral T cells. The CD53 gene maps to human chromosome 1p21-p13.3.

REFERENCES

1. Bazil, V., Stefanova, I., Hilgert, I., Kristofova, H., Vanek, S., Bukovsky, A. and Horejsi, V. 1989. Monoclonal antibodies against human leucocyte antigens. III. Antibodies against CD45R, CD6, CD44 and two newly described broadly expressed glycoproteins MEM-53 and MEM-102. *Folia Biol. (Praha)* 35: 289-297.
2. Knapp, W., Dörken, B., Gilks, W.R., Rieber, E.P., Schmidt, R.E., Stein, H. and Von dem Borne, A.E.G.K., eds. 1989. *Leucocyte Typing IV*. New York: Oxford University Press.
3. Angelisova, P., Vlcek, C., Stefanova, I., Lipoldova, M. and Horejsi, V. 1990. The human leucocyte surface antigen CD53 is a protein structurally similar to the CD37 and MRC OX-44 antigens. *Immunogenetics* 32: 281-285.
4. Bellacosa, A., Lazo, P.A., Bear, S.E. and Tschlis, P.N. 1991. The rat leukocyte antigen MRC OX-44 is a member of a new family of cell surface proteins which appear to be involved in growth regulation. *Mol. Cell. Biol.* 11: 2864-2872.
5. Olweus, J., Lund-Johansen, F. and Horejsi, V. 1993. CD53, a protein with four membrane-spanning domains, mediates signal transduction in human monocytes and B cells. *J. Immunol.* 151: 707-716.
6. Rasmussen, A.M., Blomhoff, H.K., Stokke, T., Horejsi, V. and Smeland, E.B. 1994. Cross-linking of CD53 promotes activation of resting human B lymphocytes. *J. Immunol.* 153: 4997-5007.
7. Okochi, H., Kato, M., Nashiro, K., Yoshie, O., Miyazono, K. and Furue, M. 1997. Expression of tetra-spans transmembrane family (CD9, CD37, CD53, CD63, CD81 and CD82) in normal and neoplastic human keratinocytes: an association of CD9 with $\alpha 3\beta 1$ integrin. *Br. J. Dermatol.* 137: 856-863.
8. Mollinedo, F., Martin-Martin, B., Gajate, C. and Lazo, P.A. 1998. Physiological activation of human neutrophils downregulates CD53 cell surface antigen. *J. Leukoc. Biol.* 63: 699-706.
9. Beinert, T., Munzing, S., Possinger, K. and Krombach, F. 2000. Increased expression of the tetraspanins CD53 and CD63 on apoptotic human neutrophils. *J. Leukoc. Biol.* 67: 369-373.

CHROMOSOMAL LOCATION

Genetic locus: CD53 (human) mapping to 1p13; Cd53 (mouse) mapping to 3 F2.3.

SOURCE

CD53 (OX80) is a rat monoclonal antibody raised against tissue/cell preparation on mouse cell line RAW264.7.

PRODUCT

Each vial contains 200 μ g IgM in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as phycoerythrin (sc-53057 PE) or fluorescein (sc-53057 FITC) conjugates for flow cytometry, 100 tests.

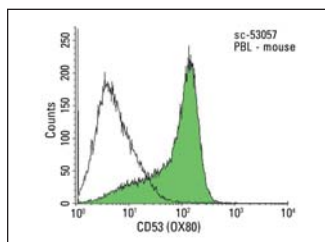
APPLICATIONS

CD53 (OX80) is recommended for detection of CD53 cell surface antigen of mouse origin by flow cytometry (1 μ g per 1×10^6 cells).

Suitable for use as control antibody for CD53 siRNA (m): sc-42797.

Molecular Weight of CD53: 35-45 kDa.

DATA



CD53 (OX80): sc-53057. Indirect FCM analysis of mouse peripheral blood leukocytes stained with CD53 (OX80), followed by FITC-conjugated goat anti-rat IgM. Black line histogram represents the isotype control, normal rat IgM: sc-3885.

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 or our catalog for detailed protocols and support products.