

Thy-1 (53-2.1): sc-18914

BACKGROUND

Over 100 cell surface markers have been identified through the use of monoclonal antibodies. Many of these markers have proven useful in identifying specific subpopulations of cells within mixed colonies. Accordingly, these molecules have been assigned a "cluster of differentiation" (CD) designation. One such marker, designated Thy-1 (also referred to as CDw90), is a phosphatidyl-anchored cell surface glycoprotein which when coexpressed with CD34 on cells from normal human bone marrow, identifies a subpopulation that includes putative hematopoietic, pluripotent stem cells. Thy-1⁺ cells from bone marrow have been implicated in syngeneic graft versus host disease and may serve to regulate autoreactivity after bone marrow transplant.

REFERENCES

- Holter, W., et al. 1991. Phenotypical and functional characterization of leukocytes-the CD-system. *Wien. Klin. Wochenschr.* 103: 247-262.
- Bryson, J.S., et al. 1993. Thy1⁺ bone marrow cells regulate the induction of murine syngeneic graft-versus-host disease. *Transplantation* 56: 941-945.
- Kim, Y.B., et al. 1994. CD11/CD18 panel report for swine CD workshop. *Vet. Immunol. Immunopathol.* 43: 289-291.
- Firer, M.A., et al. 1995. The Thy-1 molecule: its properties and functions. *Israel J. Med. Sci.* 31: 382-386.
- Holden, J.T., et al. 1995. Characterization of Thy-1 (CDw90) expression in CD34⁺ acute leukemia. *Blood* 86: 60-65.
- Fujita, N., et al. 1995. Apoptosis inhibition by anti-M, 23,000 (Thy-1) monoclonal antibodies without inducing bcl-2 expression. *Cell Growth Differ.* 6: 355-362.
- Campos, L., et al. 1996. Expression of Thy-1 antigen (CDw90) on adult acute leukemia blast cells. *Blood* 87: 413-414.

CHROMOSOMAL LOCATION

Genetic locus: Thy1 (mouse) mapping to 9 A5.1.

SOURCE

Thy-1 (53-2.1) is a rat monoclonal antibody immunized with antigen from mouse thymus or spleen.

PRODUCT

Each vial contains 200 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available azide-free for biological studies, sc-18914 L, 200 µg/0.1 ml.

Thy-1 (53-2.1) is available conjugated to either phycoerythrin (sc-18914 PE) or fluorescein (sc-18914 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

STORAGE

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

APPLICATIONS

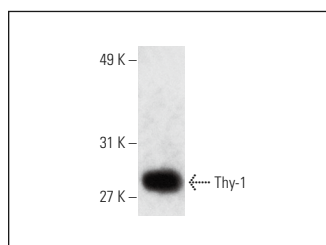
Thy-1 (53-2.1) is recommended for detection of Thy-1 of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells).

Suitable for use as control antibody for Thy-1 siRNA (m): sc-36667, Thy-1 shRNA Plasmid (m): sc-36667-SH and Thy-1 shRNA (m) Lentiviral Particles: sc-36667-V.

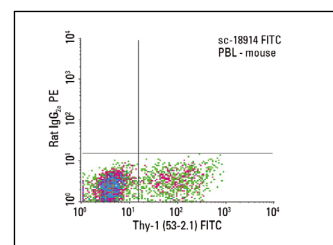
Molecular Weight of Thy-1 glycosylation: 25-37 kDa.

Positive Controls: mouse brain extract: sc-2253, BW5147 cell lysate: sc-3800 or CTLL-2 cell lysate: sc-2242.

DATA



Thy-1 (53-2.1): sc-18914. Western blot analysis of Thy-1 expression in mouse brain extract.



Thy-1 (53-2.1) FITC: sc-18914 FITC. FCM analysis of mouse peripheral blood leukocytes. Quadrant markers were set based on the isotype control, normal rat IgG_{2a}-FITC: sc-2831.

SELECT PRODUCT CITATIONS

- Inaki, K., et al. 2004. Laminar organization of the developing lateral olfactory tract revealed by differential expression of cell recognition molecules. *J. Comp. Neurol.* 479: 243-256.
- Sullivan, S., et al. 2006. Nuclear reprogramming of somatic cells by embryonic stem cells is affected by cell cycle stage. *Cloning Stem Cells* 8: 174-188.
- Liu, S.Q., et al. 2008. Formation of smooth muscle α -Actin filaments in CD34⁺ bone marrow cells on arterial elastic laminae: potential role of SH2 domain-containing protein tyrosine phosphatase-1. *Matrix Biol.* 27: 282-294.
- Johnson, J.R., et al. 2012. Caspase-activated cell-penetrating peptides reveal temporal coupling between endosomal release and apoptosis in an RGC-5 cell model. *Bioconjug. Chem.* 23: 1783-1793.

RESEARCH USE

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



See **Thy-1 (aThy-1A1): sc-53456** for Thy-1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.