

Technical Data Sheet

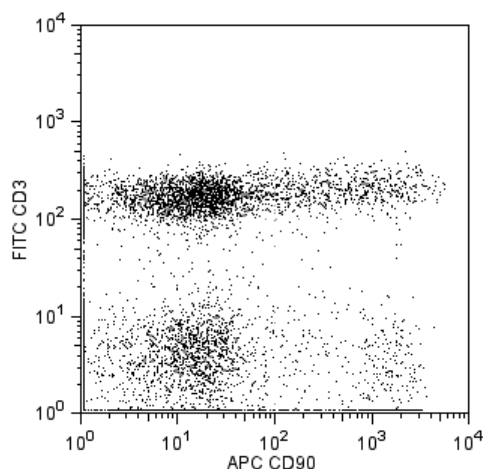
APC Mouse Anti-Rat CD90/Mouse CD90.1**Product Information**

Material Number:	561409
Alternate Name:	Rat Thy-1; Mouse Thy-1.1
Size:	50 µg
Concentration:	0.2 mg/ml
Clone:	OX-7
Immunogen:	Rat Thymocyte Thy-1 Antigen
Isotype:	Mouse (BALB/c) IgG1, κ
Reactivity:	QC Testing: Rat Tested During Development: Mouse Reported: Guinea Pig, Rabbit
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

CD90 (Thy-1) is a GPI-anchored membrane glycoprotein of the Ig superfamily which is involved in signal transduction. The OX-7 monoclonal antibody specifically binds to rat CD90 reported to be expressed by hematopoietic stem cells, early myeloid & erythroid cells, immature B lymphocytes in the bone marrow & peripheral lymphoid organs, thymocytes, recent thymic emigrants (a subset of CD45RC-peripheral T lymphocytes), neurons, glomerular mesangial cells, endothelium at inflammatory sites, mast cells, and dendritic cells. Rat dendritic epidermal T cells (DEC) have been reported to be CD90 (Thy-1) negative, unlike those of the mouse.

The OX-7 clone has been reported to crossreact with the mouse CD90.1 (Thy-1.1) alloantigen of the AKR/J and PL strains, but not CD90.2 (Thy-1.2) found on many mouse strains. In the mouse, CD90 is found on thymocytes, most peripheral T lymphocytes, some intraepithelial T lymphocytes (IEL, DEC), hematopoietic stem cells, and neurons, but not B lymphocytes. In addition, there is evidence that CD90 mediates adhesion of mouse thymocytes to mouse thymic stroma. The OX-7 clone has also been reported to crossreact with rabbit and guinea pig thymus, brain, and intestine.



Multicolor flow cytometric analysis of CD90 expression on rat splenocytes. Splenocytes from a Lewis rat were stained with APC Mouse Anti-Rat CD90 antibody (Cat. No. 561409) in conjunction with a FITC Rat Anti-Mouse CD3 antibody (Cat. No. 554832/559975). A two-color flow cytometric dot plot showing the correlated expression of CD90 versus CD3 was derived from gated events based on the forward and side light-scatter characteristics of viable splenocytes. Flow cytometry was performed using a BD™ LSR II Flow Cytometry System.

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

The antibody was conjugated to APC under optimum conditions, and unconjugated antibody and free APC were removed.

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

BD Biosciences

bdbiosciences.com

United States	Canada	Europe	Japan	Asia Pacific	Latin America/Caribbean
877.232.8995	888.268.5430	32.53.720.550	0120.8555.90	65.6861.0633	0800.771.7157

For country-specific contact information, visit bdbiosciences.com/how_to_order/

Conditions: The information disclosed herein is not to be construed as a recommendation to use the above product in violation of any patents. BD Biosciences will not be held responsible for patent infringement or other violations that may occur with the use of our products. Purchase does not include or carry any right to resell or transfer this product either as a stand-alone product or as a component of another product. Any use of this product other than the permitted use without the express written authorization of Becton Dickinson and Company is strictly prohibited.

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Not for resale.

BD, BD Logo and all other trademarks are the property of Becton, Dickinson and Company. ©2011 BD



Application Notes

Application

Flow cytometry

Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 ml	(none)
554832	FITC Mouse Anti-Rat CD3	0.5 mg	G4.18
559975	FITC Mouse Anti-Rat CD3	0.1 mg	G4.18

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharming/en/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. This APC-conjugated reagent can be used in any flow cytometer equipped with a dye, HeNe, or red diode laser.
5. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/colors.

References

Bañuls MP, Alvarez A, Ferrero I, Zapata A, Ardavin C. Cell-surface marker analysis of rat thymic dendritic cells. *Immunology*. 1993; 79(2):298-304. (Biology)

Campbell DG, Gagnon J, Reid KB, Williams AF. Rat brain Thy-1 glycoprotein. The amino acid sequence, disulphide bonds and an unusual hydrophobic region. *Biochem J*. 1981; 195(1):15-30. (Biology)

Chen-Woan M, Delaney CP, Fournier V, et al. In vitro characterization of rat bone marrow-derived dendritic cells and their precursors. *J Leukoc Biol*. 1996; 59(2):196-207. (Biology)

Crook K and Hunt SV. Enrichment of early fetal-liver hemopoietic stem cells of the rat using monoclonal antibodies against the transferrin receptor, Thy-1, and MRC-OX82. *Dev Immunol*. 1996; 4:235-246. (Biology)

Dráberová L, Amoui M, and Dráber P. Thy-1-mediated activation of rat mast cells: the role of Thy-1 membrane microdomains. *Immunology*. 1996; 87(1):141-148. (Clone-specific: Activation, Western blot)

Elbe A, Kilgus O, Hünig T, and Stingl G. T-cell receptor diversity in dendritic epidermal T cells in the rat. *J Invest Dermatol*. 1993; 102:74-79. (Biology)

Ferrero I, Bañuls M, Alvarez A, Ardavin C. Rat thymic dendritic cells: cell surface marker variations in culture. *Immunol Lett*. 1993; 37(2-3):241-247. (Biology)

Garnett D, Barclay AN, Carmo AM, Beyers AD. The association of the protein tyrosine kinases p56lck and p60fyn with the glycosyl phosphatidylinositol-anchored proteins Thy-1 and CD48 in rat thymocytes is dependent on the state of cellular activation. *Eur J Immunol*. 1993; 23(10):2540-2544. (Clone-specific: Immunoprecipitation)

He HT, Naquet P, Caillol D, Pierres M. Thy-1 supports adhesion of mouse thymocytes to thymic epithelial cells through a Ca2(+)-independent mechanism. *J Exp Med*. 1991; 173(2):515-518. (Biology)

Hermans MH, Opstelten D. In situ visualization of hemopoietic cell subsets and stromal elements in rat and mouse bone marrow by immunostaining of frozen sections. *J Histochem Cytochem*. 1991; 39(12):1627-1634. (Clone-specific: Immunohistochemistry)

Hosseinzadeh H, Goldschneider I. Recent thymic emigrants in the rat express a unique antigenic phenotype and undergo post-thymic maturation in peripheral lymphoid tissues. *J Immunol*. 1993; 150(5):1670-1679. (Biology)

Ishizu A, Ishikura H, Nakamaru Y et al. Thy-1 induced on rat endothelium regulates vascular permeability at sites of inflammation. *Int Immunol*. 1995; 7:1939-1947. (Clone-specific: Immunoprecipitation)

Kawachi H, Orikasa M, Matsui K, et al. Epitope-specific induction of mesangial lesions with proteinuria by a MoAb against mesangial cell surface antigen. *Clin Exp Immunol*. 1992; 88(3):399-404. (Clone-specific: Western blot)

Liu L, Zhang M, Jenkins C, MacPherson GG. Dendritic cell heterogeneity in vivo: two functionally different dendritic cell populations in rat intestinal lymph can be distinguished by CD4 expression. *J Immunol*. 1998; 161(3):1146-1155. (Biology)

Mason DW, Williams AF. The kinetics of antibody binding to membrane antigens in solution and at the cell surface. *Biochem J*. 1980; 187(1):1-20. (Immunogen)

Nakashima I, Zhang YH, Rahman SM, et al. Evidence of synergy between Thy-1 and CD3/TCR complex in signal delivery to murine thymocytes for cell death. *J Immunol*. 1991; 147(4):1153-1162. (Biology)

Paul LC, Rennke HG, Milford EL, and Carpenter CB. Thy-1.1 in glomeruli of rat kidneys. *Kidney Int*. 1984; 25:771-777. (Clone-specific: Electron microscopy, Immunohistochemistry)

Payer E, Elbe A, Stingl G. Circulating CD3+/T cell receptor V gamma 3+ fetal murine thymocytes home to the skin and give rise to proliferating dendritic epidermal T cells. *J Immunol*. 1991; 146(8):2536-2543. (Biology)