

Technical Data Sheet

Purified NA/LE Mouse Anti-Rat CD8a

Product Information

Material Number:	562180
Alternate Name:	Cd8a; CD8 α ; CD8 alpha; OX-8 membrane antigen
Size:	0.5 mg
Concentration:	1.0 mg/ml
Clone:	OX-8
Immunogen:	High-molecular-weight rat thymocyte glycoproteins
Isotype:	Mouse (BALB/c) IgG1, κ
Reactivity:	QC Testing: Rat
Storage Buffer:	No azide/low endotoxin: Aqueous buffered solution containing no preservative, 0.2 μ m sterile filtered. Endotoxin level is \leq 0.01 EU/ μ g (\leq 0.001 ng/ μ g) of protein as determined by the LAL assay.

Description

The OX-8 antibody reacts with the hinge-like membrane-proximal domain of the 32 kDa α chain of the CD8 differentiation antigen. A truncated CD8 α' isoform has not been detected in the rat. The CD8 α and β chains (CD8a and CD8b, respectively) form a heterodimer on the surface of most thymocytes and a subpopulation of mature T lymphocytes (i.e., MHC class I-restricted T cells, including most T suppressor/cytotoxic cells). Intestinal intrapithelial lymphocytes, many CD8 $^+$ T cells of athymic rats, many activated CD4 $^+$ T cells, and most NK cells express CD8a without CD8b. It has been suggested that the expression of the CD8a/CD8b heterodimer is restricted to thymus-derived T lymphocytes. OX-8 antibody does not react with resting CD4 $^+$ T helper cells. CD8 is an antigen coreceptor on the T-cell surface which interacts with MHC class I molecules on antigen-presenting cells. It participates in T-cell activation through its association with the T-cell receptor complex and protein tyrosine kinase Ick. Macrophages have also been reported to express CD8 α and β chains, which are involved in signal transduction. Soluble OX-8 mAb partially blocks in vitro MLR and CTL activity.

Preparation and Storage

Store undiluted at 4°C.

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

This preparation contains no preservatives, thus it should be handled under aseptic conditions.

Application Notes

Application

Flow cytometry	Routinely Tested
----------------	------------------

Product Notices

- Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
- Since applications vary, each investigator should titrate the reagent to obtain optimal results.

References

Barclay AN. The localization of populations of lymphocytes defined by monoclonal antibodies in rat lymphoid tissues. *J Immunol.* 1981; 42(4):593-600. (Clone-specific: Immunohistochemistry)

Bierer BE, Sleckman BP, Ratnofsky SE, Burakoff SJ. The biologic roles of CD2, CD4, and CD8 in T-cell activation. *Annu Rev Immunol.* 1989; 7:579-599. (Biology)

Brideau RJ, Carter PB, McMaster WR, Mason DW, Williams AF. Two subsets of rat T lymphocytes defined with monoclonal antibodies. *Eur J Immunol.* 1980; 10:609-615. (Immunogen: Flow cytometry)

Classon BJ, Brown MH, Garnett D, et al. The hinge region of the CD8 alpha chain: structure, antigenicity, and utility in expression of immunoglobulin superfamily domains. *Int Immunol.* 1992; 4(2):215-225. (Clone-specific)

Hirji N, Lin TJ, Befus AD. A novel CD8 molecule expressed by alveolar and peritoneal macrophages stimulates nitric oxide production. *J Immunol.* 1997; 158(4):1833-1840. (Clone-specific: Stimulation)

Hirji N, Lin TJ, Bissonnette E, Belosevic M, Befus AD. Mechanisms of macrophage stimulation through CD8: macrophage CD8alpha and CD8beta induce nitric oxide production and associated killing of the parasite *Leishmania major*. *J Immunol.* 1998; 160(12):6004-6011. (Clone-specific: Stimulation)

Janeway CA Jr. The T cell receptor as a multicomponent signalling machine: CD4/CD8 coreceptors and CD45 in T cell activation. *Annu Rev Immunol.* 1992; 10:645-674. (Biology)

Johnson P, Gagnon J, Barclay AN, Williams AF. Purification, chain separation and sequence of the MRC OX-8 antigen, a marker of rat cytotoxic T lymphocytes. *EMBO J.* 1985; 4(10):2539-2545. (Clone-specific: Immunoaffinity chromatography)

Kuhnlein P, Park JH, Herrmann T, Elbe A, Hunig T. Identification and characterization of rat gamma/delta T lymphocytes in peripheral lymphoid organs, small intestine, and skin with a monoclonal antibody to a constant determinant of the gamma/delta T cell receptor. *J Immunol.* 1994; 153(3):979-986. (Biology)

Mason DW, Arthur RP, Dallman MJ, Green JR, Spickett GP, Thomas ML. Functions of rat T-lymphocyte subsets isolated by means of monoclonal antibodies. *Immunol Rev.* 1983; 74:57-82. (Clone-specific: Blocking)

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



Mitnacht R, Bischof A, Torres-Nagel N, Hunig T. Opposite CD4/CD8 lineage decisions of CD4+8+ mouse and rat thymocytes to equivalent triggering signals: correlation with thymic expression of a truncated CD8 alpha chain in mice but not rats. *J Immunol.* 1998; 160(2):700-707. (Clone-specific: Immunohistochemistry, Western blot)

Scriba A, Grau V, Steiniger B. Phenotype of rat monocytes during acute kidney allograft rejection: increased expression of NKR-P1 and reduction of CD43. *Scand J Immunol.* 1998; 47(4):332-342. (Biology)

Thomas ML, Green JR. Molecular nature of the W3/25 and MRC OX-8 marker antigens for rat T lymphocytes: comparisons with mouse and human antigens. *Eur J Immunol.* 1983; 13(10):855-858. (Clone-specific: Immunoprecipitation)

Torres-Nagel N, Kraus E, Brown MH, et al. Differential thymus dependence of rat CD8 isoform expression.. *Eur J Immunol.* 1992; 22(11):2841-2848. (Clone-specific: Blocking, Immunoprecipitation, Western blot)

Wallgren AC, Karlsson-Parra A, Korsgren O. The main infiltrating cell in xenograft rejection is a CD4+ macrophage and not a T lymphocyte. *Transplantation* . 1995; 60(6):594-601. (Clone-specific: Immunohistochemistry)