Technical Data Sheet

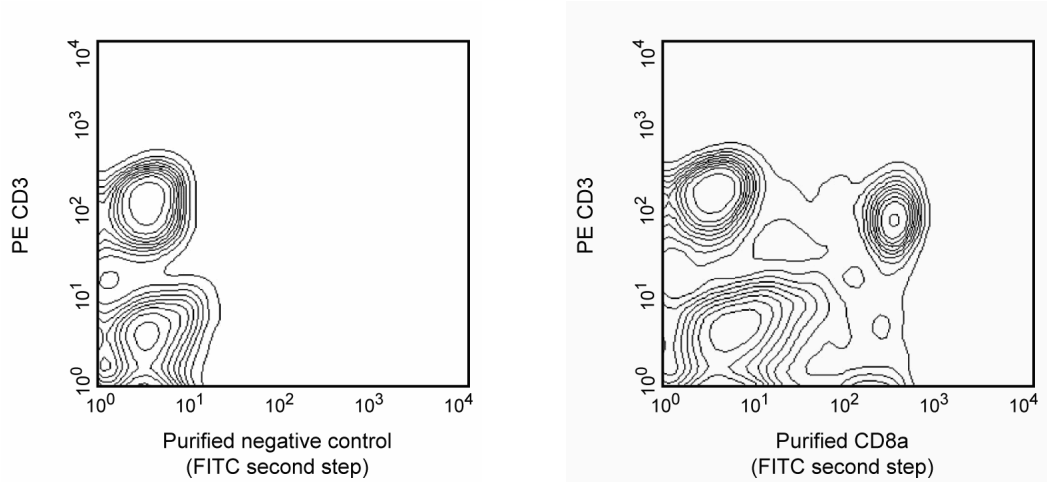
Purified Mouse Anti-Rat CD8a

Product Information

Material Number:	**554854**
Size:	0.5 mg
Concentration:	0.5 mg/ml
Clone:	OX-8
Immunogen:	High-molecular-weight rat thymocyte glycoproteins
Isotype:	Mouse (BALB/c) IgG1, κ
Reactivity:	QC Testing: Rat
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

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.
This antibody is routinely tested by flow cytometric analysis. Other applications were tested at BD Biosciences Pharmingen during antibody development only or reported in the literature.



The expression of CD8a on rat splenocytes. *Single-cell suspensions of Lewis splenocytes were simultaneously stained with PE-conjugated anti-rat CD3 mAb G4.18 (Cat. No. 554833) and purified mAb OX-8 (right panel), followed by FITC-conjugated anti-mouse IgG1 mAb A85-1 (Cat. No. 553443). Note that the CD8a+CD3- population represents NK cells. Flow cytometry was performed on a BD FACScan™ flow cytometry system.*

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at 4° C.

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Application Notes

Application

Flow cytometry	Routinely Tested
Immunoprecipitation	Reported
Immunoaffinity Chromatography	Reported
Western blot	Reported
Immunohistochemistry-frozen	Reported
Immunohistochemistry-zinc-fixed	Reported
Immunohistochemistry-paraffin	Reported
Blocking	Reported
Stimulation	Reported

Recommended Assay Procedure:

For IHC, we recommend the use of purified OX-8 mAb in our special formulation for immunohistochemistry, Cat. No. 550298.

Suggested Companion Products

Catalog Number	Name	Size	Clone
557273	Purified Mouse IgG1, κ Isotype Control	0.5 mg	MOPC-31C
555988	FITC Goat Anti-Mouse IgG/IgM	0.5 mg	Polyclonal

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/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. Sodium azide is a reversible inhibitor of oxidative metabolism; therefore, antibody preparations containing this preservative agent must not be used in cell cultures nor injected into animals. Sodium azide may be removed by washing stained cells or plate-bound antibody or dialyzing soluble antibody in sodium azide-free buffer. Since endotoxin may also affect the results of functional studies, we recommend the NA/LE™ (No Azide/Low Endotoxin) antibody format, if available, for in vitro and in vivo use.

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)

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: Immunoprecipitation, 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)

Stitz L, Sobbe M, Bilzer T. Preventive effects of early anti-CD4 or anti-CD8 treatment on Borna disease in rats. *J Virol.* 1992; 66(6):3316-3323.(Clone-specific: Blocking)

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)