

## Technical Data Sheet

Purified Mouse Anti-Rat  $\alpha\beta$  T-Cell Receptor

## Product Information

Material Number:	554911
Size:	0.5 mg
Concentration:	0.5 mg/ml
Clone:	R73
Immunogen:	Rat T blasts and rat erythrocytes
Isotype:	Mouse (BALB/c) IgG1, $\kappa$
Reactivity:	QC Testing: Rat
Storage Buffer:	Aqueous buffered solution containing $\leq 0.09\%$ sodium azide.

## Description

The R73 antibody reacts with the  $\alpha\beta$  T-cell Receptor (TCR) found on most peripheral T lymphocytes, intestinal intraepithelial lymphocytes, and thymocytes. It does not react with  $\gamma\delta$  TCR-bearing cells. Cross-linked R73 mAb induces T-cell differentiation and activation. In vivo treatment with mAb R73 can suppress immune function of peripheral  $\alpha\beta$  TCR-expressing T cells, and reduce the severity of experimental autoimmune, transplant rejection, and graft-versus-host responses.

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.

## Preparation and Storage

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

Store undiluted at 4° C.

## Application Notes

## Application

Flow cytometry	Routinely Tested
Immunohistochemistry-zinc-fixed	Reported
Immunohistochemistry-frozen	Reported
Immunohistochemistry-paraffin	Reported
Immunoprecipitation	Reported
Western blot	Reported
Stimulation	Reported
Depletion	Reported
(Co)-stimulation	Reported
Cytotoxicity	Reported

## Suggested Companion Products

Catalog Number	Name	Size	Clone
554833	PE Mouse Anti-Rat CD3	0.2 mg	G4.18
553443	FITC Rat Anti-Mouse IgG1	0.5 mg	A85-1
557273	Purified Mouse IgG1, $\kappa$ 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 [wwwbdbiosciences.com/pharmingen/protocols](http://wwwbdbiosciences.com/pharmingen/protocols) for technical protocols.

## BD Biosciences

[wwwbdbiosciences.com](http://wwwbdbiosciences.com)

United States 877.232.8995 Canada 888.259.0187 Europe 32.53.720.550 Japan 0120.8555.90 Asia Pacific 65.6861.0633 Latin America/Caribbean 55.11.5185.9995

For country-specific contact information, visit [wwwbdbiosciences.com/how\\_to\\_order/](http://wwwbdbiosciences.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. ©2007 BD



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

- Brenan M, Rees DJ. Sequence analysis of rat integrin alpha E1 and alpha E2 subunits: tissue expression reveals phenotypic similarities between intraepithelial lymphocytes and dendritic cells in lymph. *Eur J Immunol.* 1997; 27(11):3070-3079.(Clone-specific: Western blot)
- Fangmann J, Schwinger R, Wonigeit K. Unusual phenotype of intestinal intraepithelial lymphocytes in the rat: predominance of T cell receptor alpha/beta+/CD2-cells and high expression of the RT6 alloantigen. *Eur J Immunol.* 1991; 21(3):753-760.(Biology)
- Gaede K, Nazet M, Bosse D, Hunig, Heesemann J. Treatment of arthritis in Lewis rats by a monoclonal antibody against alpha beta T cell receptor: differential sensitivity of Yersinia-induced arthritis versus adjuvant arthritis. *Clin Immunol Immunopathol.* 1995; 77(3):339-348.(Clone-specific: Depletion, Immunohistochemistry)
- Hasegawa T, Tanaka T, Yoshikai Y. The appearance and role of gamma delta T cells in the peritoneal cavity and liver during primary infection with *Listeria monocytogenes* in rats. *Int Immunol.* 1992; 4(10):1129-1136.(Clone-specific: Depletion)
- Heidecke CD, Hancock WW, Jakobs F, et al. alpha/beta-T cell receptor-directed therapy in rat cardiac allograft recipients. Treatment prior to alloantigen exposure prevents sensitization and abrogates accelerated rejection. *Transplantation.* 1995; 59(1):78-84.(Clone-specific: Depletion, Immunohistochemistry)
- Heidecke CD, Hancock WW, Westerholt S, et al. alpha/beta-T cell receptor-directed therapy in rat allograft recipients. Long-term survival of cardiac allografts after pretreatment with R73 mAb is associated with upregulation of Th2-type cytokines. *Transplantation.* 1996; 61(6):948-956.(Clone-specific: Depletion, Immunohistochemistry)
- Hunig T, Wallny HJ, Hartley JK, Lawetzky A, Tiefenthaler G. A monoclonal antibody to a constant determinant of the rat T cell antigen receptor that induces T cell activation. Differential reactivity with subsets of immature and mature T lymphocytes. *J Exp Med.* 1989; 169(1):73-86.(Immunogen: (Co)-stimulation, Immunohistochemistry, Immunoprecipitation)
- Jung S, Kramer S, Schluesener HJ, Hunig T, Toyka K, Hartung HP. Prevention and therapy of experimental autoimmune neuritis by an antibody against T cell receptors-alpha/beta. *J Immunol.* 1992; 148(12):3768-3775.(Clone-specific: Depletion)
- Kiely PD, Thiru S, Oliveira DB. Inflammatory polyarthritis induced by mercuric chloride in the Brown Norway rat. *Lab Invest.* 1995; 73(2):284-293.(Clone-specific: Depletion)
- Mitnacht R, Tacke M, Hunig T. Expression of cell interaction molecules by immature rat thymocytes during passage through the CD4+8+ compartment: developmental regulation and induction by T cell receptor engagement of CD2, CD5, CD28, CD11a, CD44 and CD53. *Eur J Immunol.* 1995; 25(2):328-332.(Clone-specific: (Co)-stimulation)
- Pieters RH, Punt P, Bol M, van Dijken JM, Seinen W, Penninks AH. The thymus atrophy inducing organotin compound DBTC stimulates TcR alpha beta-CD3 signalling in immature rat thymocytes. *Biochem Biophys Res Commun.* 1995; 214(2):552-558.(Clone-specific: (Co)-stimulation, Depletion, Immunohistochemistry)
- Wang M, Qu X, Stepkowski SM, Chou TC, Kahan BD. Beneficial effect of graft perfusion with anti-T cell receptor monoclonal antibodies on survival of small bowel allografts in rat recipients treated with brequinar alone or in combination with cyclosporine and sirolimus. *Transplantation.* 1996; 61(3):458-464.(Clone-specific: Depletion)
- Yoshino S, Cleland LG. Depletion of alpha/beta T cells by a monoclonal antibody against the alpha/beta T cell receptor suppresses established adjuvant arthritis, but not established collagen-induced arthritis in rats. *J Exp Med.* 1992; 175(4):907-915.(Clone-specific: Depletion, Immunohistochemistry)
- Yoshino S, Cleland LG, Mayrhofer G, Brown RR, Schwab JH. Prevention of chronic erosive streptococcal cell wall-induced arthritis in rats by treatment with a monoclonal antibody against the T cell antigen receptor alpha beta. *J Immunol.* 1991; 146(12):4187-4189.(Clone-specific: Depletion)

## BD Biosciences

[www.bdbiosciences.com](http://www.bdbiosciences.com)

<b>United States</b>	<b>Canada</b>	<b>Europe</b>	<b>Japan</b>	<b>Asia Pacific</b>	<b>Latin America/Caribbean</b>
877.232.8995	888.259.0187	32.53.720.550	0120.8555.90	65.6861.0633	55.11.5185.9995

For country-specific contact information, visit [www.bdbiosciences.com/how\\_to\\_order/](http://www.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. ©2007 BD

