

## Technical Data Sheet

## FITC Rat Anti-Mouse CD25

## Product Information

<b>Material Number:</b>	553071
<b>Alternate Name:</b>	IL-2 Receptor $\alpha$ chain, p55
<b>Size:</b>	0.1 mg
<b>Concentration:</b>	0.5 mg/ml
<b>Clone:</b>	7D4
<b>Immunogen:</b>	IL-2-dependent BALB/c mouse helper T-cell clone HT-2
<b>Isotype:</b>	Rat (LEW) IgM, $\kappa$
<b>Reactivity:</b>	QC Testing: Mouse
<b>Storage Buffer:</b>	Aqueous buffered solution containing $\leq 0.09\%$ sodium azide.

## Description

The 7D4 antibody reacts with CD25, the low affinity IL-2 Receptor (IL-2R $\alpha$ , p55) expressed on activated T and B lymphocytes from all mouse strains tested. IL-2R $\alpha$  by itself is not a signaling receptor. However, it can combine with IL-2 Receptor  $\beta$  (CD122) and  $\gamma$  (CD132) chains to form high-affinity, signaling receptor complexes for IL-2. Resting T and B lymphocytes and resting and activated NK cells do not express IL-2R $\alpha$ . CD25 is transiently expressed at a low level during normal B-cell development in the bone marrow on the CD45R/B220low TdT- sIg- Pre-B/Pre-B-II and CD45R/B220low TdT- sIgM+ sIgD- immature B stages, but not on the CD45R/B220low TdT+ sIg- Pro-B/Pre-B-I stage nor on CD45R/B220high TdT sIgM+ sIgD+ mature B cells. It is expressed at a higher level during a very early stage of T-cell development in fetal and adult thymus. Peripheral CD25+ CD4+ T lymphocytes called regulatory T (Treg) cells are involved in the maintenance of self-tolerance. It has also been reported that dendritic cells express CD25, recognized by mAb 7D4 (Cat. no. 553068). The 3C7 antibody recognizes an epitope of CD25 which is distinct from those recognized by mAbs 7D4 and PC61 (Cat. no. 553866), and it blocks binding of IL-2 to CD25.

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.

The antibody was conjugated with FITC under optimum conditions, and unreacted FITC was removed.

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

## Application Notes

## Application

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

## Recommended Assay Procedure:

For detection of low-density CD25 expression, we recommend the use of the PE conjugate of PC61 antibody (Cat. No. 553866) or the biotin conjugate of the 7D4 antibody (Cat. No. 553069/553070) with a "bright" second-step reagent, such as Streptavidin-PE (Cat. No. 554061).

## Suggested Companion Products

Catalog Number	Name	Size	Clone
553866	PE Rat Anti-Mouse CD25	0.2 mg	PC61
554061	PE Streptavidin	0.5 mg	(none)
553942	FITC Rat IgM $\kappa$ Isotype Control	0.25 mg	R4-22

## BD Biosciences

bdbiosciences.com

United States	Canada	Europe	Japan	Asia Pacific	Latin America/Caribbean
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 [bdbiosciences.com/how\\_to\\_order/](http://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. ©2006 BD



**BD**

**BD Biosciences**

## 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](http://www.bdbiosciences.com/pharmingen/protocols) for technical protocols.
3. Use of these products to measure activation antigens expressed on mononuclear cell subsets for the purpose of monitoring immunoregulatory status can fall under one or more claims of the following patents: US Patent Nos. 5,445,939, 5,656,446, 5,843,689; European Patent No. 319,543; Canadian Patent No. 1,296,622; Australian Patent No. 615,880; and Japanese Patent No. 2,769,156.
4. 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.

## References

- Chen J, Ma A, Young F, Alt FW. IL-2 receptor alpha chain expression during early B lymphocyte differentiation. *Int Immunol.* 1994; 6(8):1265-1268.(Biology)
- Crowley M, Inaba K, Witmer-Pack M, Steinman RM. The cell surface of mouse dendritic cells: FACS analyses of dendritic cells from different tissues including thymus. *Cell Immunol.* 1989; 118(1):108-125.(Clone-specific: Cytotoxicity)
- Garni-Wagner BA, Witte PL, Tutt MM, et al. Natural killer cells in the thymus. Studies in mice with severe combined immune deficiency. *J Immunol.* 1990; 144(3):796-803.(Biology)
- Godfrey DI, Kennedy J, Mombaerts P, Tonegawa S, Zlotnik A. Onset of TCR- $\beta$  gene rearrangement and role of TCR- $\beta$  expression during CD3-CD4-CD8-thymocyte differentiation. *J Immunol.* 1994; 152(10):4783-4792.(Biology)
- Habu S, Okumura K, Diamantstein T, Shevach EM. Expression of interleukin 2 receptor on murine fetal thymocytes. *Eur J Immunol.* 1985; 15(5):456-460. (Clone-specific: Immunohistochemistry)
- Lorenzo F, Jaulin C, Vita N, et al. Structure-function study of the p55 subunit of murine IL-2 receptor by epitope mapping. *J Immunol.* 1991; 147(9):2970-2977. (Biology)
- Malek TR, Robb RJ, Shevach EM. Identification and initial characterization of a rat monoclonal antibody reactive with the murine interleukin 2 receptor-ligand complex. *Proc Natl Acad Sci U S A.* 1983; 80(18):5694-5698.(Immunogen: Flow cytometry, Immunoprecipitation, Inhibition)
- Malek TR, Schmidt JA, Shevach EM. The murine IL 2 receptor. III. Cellular requirements for the induction of IL 2 receptor expression on T cell subpopulations. *J Immunol.* 1985; 134(4):2405-2413.(Biology)
- Moreau JL, Nabholz M, Diamantstein T, Malek T, Shevach E, Theze J. Monoclonal antibodies identify three epitope clusters on the mouse p55 subunit of the interleukin 2 receptor: relationship to the interleukin 2-binding site. *Eur J Immunol.* 1987; 17(7):929-935.(Biology)
- Ortega G, Robb RJ, Shevach EM, Malek TR. The murine IL 2 receptor. I. Monoclonal antibodies that define distinct functional epitopes on activated T cells and react with activated B cells. *J Immunol.* 1984; 133(4):1970-1975.(Clone-specific: Inhibition)
- Pollard AM, Lipscomb MF. Characterization of murine lung dendritic cells: similarities to Langerhans cells and thymic dendritic cells. *J Exp Med.* 1990; 172(1):159-167.(Clone-specific: Cytotoxicity)
- Read S, Malmstrom V, Powrie F. Cytotoxic T lymphocyte-associated antigen 4 plays an essential role in the function of CD25(+)CD4(+) regulatory cells that control intestinal inflammation. *J Exp Med.* 2000; 192(2):295-302.(Biology)
- Rolink A, Grawunder U, Winkler TH, Karasuyama H, Melchers F. IL-2 receptor alpha chain (CD25, TAC) expression defines a crucial stage in pre-B cell development. *Int Immunol.* 1994; 6(8):1257-1264.(Biology)
- Takahashi T, Tagami T, Yamazaki S, et al. Immunologic self-tolerance maintained by CD25(+)CD4(+) regulatory T cells constitutively expressing cytotoxic T lymphocyte-associated antigen 4. *J Exp Med.* 2000; 192(2):303-309.(Biology)
- Taniguchi T, Minami Y. The IL-2/IL-2 receptor system: a current overview. *Cell.* 1993; 73(1):5-8.(Biology)