

Rat Anti-Mouse Foxp3

Cat. No.	Form	Quantity
12400-01	Purified (UNLB) Antibody	0.1 mg
12400-02	Fluorescein (FITC) Conjugate	0.1 mg
12400-31	*Alexa Fluor [®] 647 (AF647) Conjugate	0.1 mg

DESCRIPTION

Clone SB168a
Ig Isotype Rat IgG2a
Immunogen N-terminal recombinant Mouse Foxp3
Specificity Mouse Foxp3 (Mr ~57 kDa). Does not cross react with Human Foxp3.

T regulatory cells (Originally called T suppressor cells) are a subpopulation of T cells. Their major roles are to suppress excess immune response of other cells and to maintain tolerance of self-antigens. Initially, researchers used CD4 and CD25 (IL-2 receptor) to identify T suppress subpopulation and purified CD4+CD25+ T cells were used for T cells Suppression Assay, however some other activated T cells also express CD25.^{1,2} The most convincing molecular marker of Treg cells is Forkhead box protein 3 (Foxp3) which is expressed in the nucleus.³ Anti-Foxp3 antibodies are now widely applied to identify the roles of Treg cells in the development of many diseases, such as cancer, autoimmune disease, and organ transplantation.^{4,5,6} Scientists found that the over-activation of Treg cells may cause cancer cells to escape from immune surveillance⁵. Conversely, patients with autoimmune diseases such as psoriasis, systemic lupus erythematosus (SLE) have relative dysfunction of Foxp3 positive cells.^{7,8} Immunologists are trying to induce immune tolerance in organ transplantation using Treg cells.⁶

RESEARCH APPLICATIONS

- Flow cytometry

CHARACTERIZATION

To insure acceptable performance, each batch of product is tested by flow cytometry to conform to characteristics of a standard reference reagent. Representative flow data are included in this product insert.

WORKING DILUTIONS

Flow Cytometry: FITC conjugate $\leq 1.0 \mu\text{g}/10^6$ cells
AF647 conjugate $\leq 0.2 \mu\text{g}/10^6$ cells

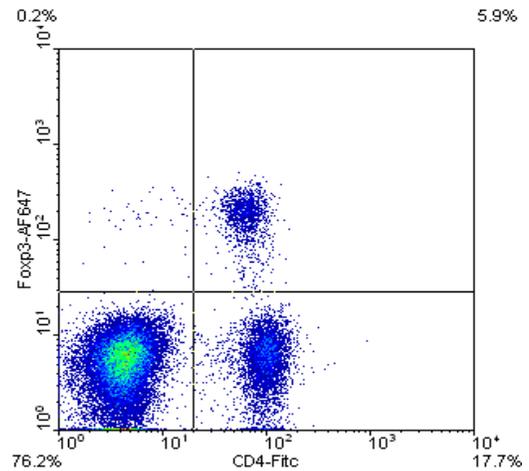
Other Applications: Since applications vary, you should determine the optimum working dilution of the product that is appropriate for your specific need.

For Research Use Only. Not for Diagnostic or Therapeutic Use.

Flow Cytometry

Product: Rat Anti-Mouse Foxp3
Cat. No.: 12400-31
Amount Used: 0.1 µg/10⁶ cells

Staining of Balb/c Splenocytes with Mouse CD4-FITC (Cat. No. 1540-02) and Mouse Foxp3-AF647. Cells in



HANDLING AND STORAGE

- The purified (UNLB) antibody is supplied as 0.1 mg of purified immunoglobulin in 0.1 mL of borate buffered saline, pH 8.2. *No preservatives or amine-containing buffer salts added.* Store at 2-8°C.
- The fluorescein (FITC) and Alexa Fluor[®] 647 (AF647) conjugates are supplied as 0.1 mg in 0.2 mL PBS/NaN₃. Store at 2-8°C.

REFERENCES

1. Fehérvári Z, Sakaguchi S. Development and function of CD25+CD4+ regulatory T cells. *Curr Opin Immunol.* 2004 Apr; 16(2):203-8. Review.
2. Gallimore A, Sakaguchi S. Regulation of tumor immunity by CD25+ T cells. *Immunology.* 2002 Sep; 107(1):5-9. Review.
3. Zhang L, Zhao Y (June 2007). "The regulation of Foxp3 expression in regulatory CD4(+)CD25(+)T cells: multiple pathways on the road". *J. Cell. Physiol.* 211 (3): 590–597.
4. Sakaguchi S, Sakaguchi N, Shimizu J, Yamazaki S, Sakihama T, Itoh M, Kuniyasu Y, Nomura T, Toda M, Takahashi T. Immunologic tolerance maintained by CD25+ CD4+ regulatory T cells: their common role in controlling autoimmunity, tumor immunity, and transplantation tolerance. *Immunol Rev.* 2001 Aug; 182:18-32
5. Elkord E, Alcantar-Orozco EM, Dovedi SJ, Tran DQ, Hawkins RE, Gilham DE. T regulatory cells in cancer: recent advances and therapeutic potential. *Expert Opin Biol Ther.* 2010 Nov; 10(11):1573-86.
6. FOXP3(+) regulatory T cells: From suppression of rejection to induction of renal allograft tolerance. Dummer CD, Carpio VN, Gonçalves LF, Manfro RC, Veronese FV. *Transpl Immunol.* 2011 Sep 13.
7. Horwitz DA.. Identity of mysterious CD4+CD25-Foxp3+ cells in SLE. *Arthritis Res Ther* 2010;12(1):101
8. Bovenschen HJ, van de Kerkhof PC, van Erp PE, Woestenenk R, Joosten I, Koenen HJ. Foxp3+ regulatory T cells of psoriasis patients easily differentiate into IL-17A-producing cells and are found in lesional skin. *J Invest Dermatol.* 2011 Sep; 131(9):1853-60

* Alexa Fluor[®] 488 and Alexa Fluor[®] 647 is provided under an agreement between Molecular Probes, Inc. (a wholly owned subsidiary of Invitrogen Corporation), and Southern Biotechnology Associates, Inc., and the manufacture, use, sale or import of this product may be subject to one or more U.S. patents, pending applications, and corresponding non-U.S. equivalents, owned by Molecular Probes, Inc. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The buyer cannot sell or otherwise transfer (a) this product (b) its components or (c) materials made using this product or its components to a third party or otherwise use this product or its components or materials made using this product or its components for Commercial Purposes. Commercial Purposes means any activity by a party for consideration and may include, but is not limited to: (1) use of the product or its components in manufacturing; (2) use of the product or its components to provide a service, information, or data; (3) use of the product or its components for therapeutic, diagnostic or prophylactic purposes; or (4) resale of the product or its components, whether or not such product or its components are resold for use in research. For information on purchasing a license to this product for any other use, contact Molecular Probes, Inc., Business Development, 29851 Willow Creek Road, Eugene, OR 97402, USA, Tel: (541) 465-8300. Fax: (541) 335-0504.