

Technical Data Sheet

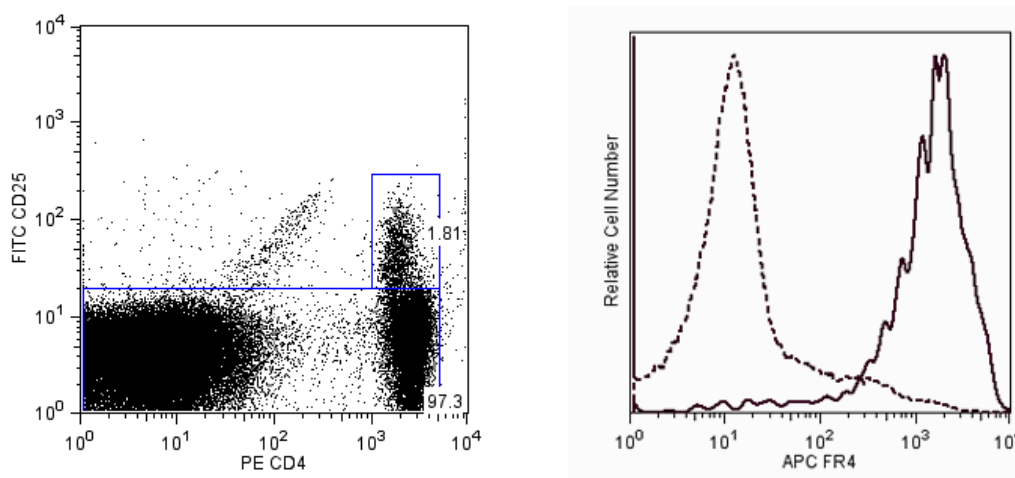
APC Rat anti-Mouse FR4 (Folate receptor 4)

Product Information

Material Number:	560318
Alternate Name:	Folate receptor 4, FBP, FBP3, FRdelta, FRd
Size:	0.1 mg
Concentration:	0.2 mg/ml
Clone:	12A5
Immunogen:	Mouse CD4+ CD25+ T cells
Isotype:	Rat IgG1
Reactivity:	QC Tested: Mouse
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The monoclonal antibodies TH6 and 12A5 recognize **Folate Receptor 4 (FR4)**, also known as the membrane **folate-binding protein 3 (FBP3)**. FR4 is a heavily glycosylated 35 kD receptor expressed exclusively in lymphoid tissue and an isoform of the family of receptors that recognize the essential nutrient folic acid. Natural T regulatory cells constitutively express high levels of FR4. Differential expression of FR4 in combination with CD25 can distinguish four functionally distinct CD4+ T cell subpopulations; Natural Tregs, effector T cells, memory-like T cells and Naïve T cells. FR4hi CD25+ expressing CD4+ T cells also express high amounts of Foxp3, GITR and CTLA-4. Monoclonal antibody TH6 and 12A5 stained CD25+CD4+ T cells at a higher level than other CD4+ or CD8+ T cells. In addition, in vivo injection of TH6 monoclonal antibody reduced the number of CD25+CD4+ T cells and CD25-CD4+ T cells in peripheral blood. Clone 12A5 has been demonstrated to work in western blot. Clones TH6 and 12A5 do not block one another in a flow cytometric assay.



Flow cytometric analysis of APC anti-mouse FR4 on mouse splenocytes. Splenocytes from BALB/c mice were stained simultaneously with FITC Rat Anti-Mouse CD25 (clone 7D4, Cat. No. 553072), PE Rat Anti-Mouse CD4 (clone RM4-5, Cat. No. 553048) and APC Rat anti-Mouse FR4. The left panel shows the gated lymphocyte populations used to generate the histograms in the right panel. The histogram shows expression of FR4 as CD4+CD25+ gated lymphocytes (solid line) and CD25- gated lymphocytes (dashed line). Flow cytometry was performed on a BD FACSCalibur™ System.

Preparation and Storage

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

The antibody was conjugated to APC under optimum conditions, and unconjugated antibody and free APC were removed.

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

Application Notes

Application

Flow cytometry

Routinely Tested

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Suggested Companion Products

Catalog Number	Name	Size	Clone
554686	APC Rat IgG1, κ Isotype Control	0.1 mg	R3-34
553072	FITC Rat Anti-Mouse CD25	0.5 mg	7D4
553048	PE Rat Anti-Mouse CD4	0.1 mg	RM4-5

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharming/protocols for technical protocols.
3. This APC-conjugated reagent can be used in any flow cytometer equipped with a dye, HeNe, or red diode laser.
4. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
5. 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

Rothberg KG, Ying YS, Kolhouse JF, Kamen BA, Anderson RG. The glycopospholipid-linked folate receptor internalizes folate without entering the clathrin-coated pit endocytic pathway. *J Cell Biol.* 1990; 110(3):637-649. (Biology)

Spiegelstein O, Eudy JD, Finnell RH. Identification of two putative novel folate receptor genes in humans and mouse. *Gene.* 2000; 258(1-2):117-125. (Biology)

Yamaguchi T, Hirota K, Nagahama K et al. Control of immune responses by antigen-specific regulatory T cells expressing the folate receptor. *Immunity.* 2007; 27(1):145-159. (Biology)

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