Technical Data Sheet

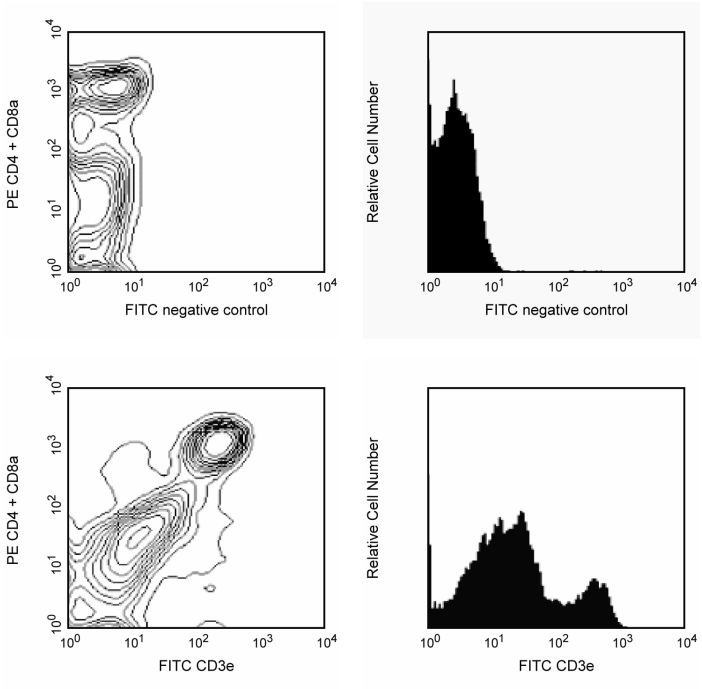
FITC Hamster Anti-Mouse CD3e

Product Information

Material Number:	**561827**
Alternate Name:	CD3ε chain
Size:	25 µg
Concentration:	0.5 mg/ml
Clone:	145-2C11
Immunogen:	H-2Kb specific cytotoxic T lymphocyte clone BM10-37
Isotype:	Armenian Hamster IgG1, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing protein stabilizer and ≤0.09% sodium azide.

Description

The 145-2C11 antibody reacts with the 25-kDa ε chain of the T-cell receptor-associated CD3 complex, which is expressed on thymocytes, mature T lymphocytes, and NK-T cells. The cytoplasmic domain of CD3e participates in the signal transduction events which activate several cellular biochemical pathways as a result of antigen recognition. Soluble 145-2C11 antibody can activate either unprimed (naive) or primed (memory/preactivated) T cells *in vivo* or *in vitro*, in the presence of Fc receptor-bearing accessory cells. In contrast, plate-bound 145-2C11 can activate T cells in the absence of accessory cells. Soluble 145-2C11 antibody has been reported to induce re-directed lysis of Fc receptor-bearing target cells by CTL clones and can also block lysis of specific target cells by antigen-specific CTL's. Under some conditions, T-cell activation by 145-2C11 antibody has been reported to result in apoptotic cell death. The 145-2C11 antibody does not cross-react with rat leukocytes and it has been reported that pre-incubation of thymus cell suspensions at 37°C for 2-4 hours prior to staining enhances the ability of anti-CD3ε and anti-αβ TCR mAbs to detect the T-cell receptor on immature thymocytes.



CD3e expression in spleen and thymus. *C57BL/6 splenocytes were simultaneously stained with PE Rat anti-Mouse CD4 mAb (Clone RM4-5), PE Rat anti-Mouse CD8a mAb (Clone 53-6.7), and FITC Hamster anti-Mouse CD3e mAb (bottom left panel). C57BL/6 thymocytes were also stained with FITC Hamster anti-Mouse CD3e mAb (bottom right panel) or unstained (top right panel). Flow cytometry was performed on a BD FACScan™ flow cytometry system.*

Preparation and Storage

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

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.

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Application Notes

Application

Flow cytometry	Routinely Tested
Fluorescence microscopy	Reported

Suggested Companion Products

Catalog Number	Name	Size	Clone
553971	FITC Hamster IgG1 κ Isotype Control	0.25 mg	A19-3
553032	PE Rat Anti-Mouse CD8a	0.1 mg	53-6.7
561095	PE Rat Anti-Mouse CD8a	25 µg	53-6.7
561837	PE Rat Anti-Mouse CD4	25 µg	RM4-5
553048	PE Rat Anti-Mouse CD4	0.1 mg	RM4-5
554656	Stain Buffer (FBS)	500 ml	(none)

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. Although hamster immunoglobulin isotypes have not been well defined, BD Biosciences Pharmingen has grouped Armenian and Syrian hamster IgG monoclonal antibodies according to their reactivity with a panel of mouse anti-hamster IgG mAbs. A table of the hamster IgG groups, Reactivity of Mouse Anti-Hamster Ig mAbs, may be viewed at http://www.bdbiosciences.com/documents/hamster_chart_11x17.pdf.
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.
5. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/colors.
6. An isotype control should be used at the same concentration as the antibody of interest.

References

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Leo O, Foo M, Sachs DH, Samelson LE, Bluestone JA. Identification of a monoclonal antibody specific for a murine T3 polypeptide. *Proc Natl Acad Sci U S A.* 1987; 84(5):1374-1378. (Immunogen: Activation, Blocking, Cytotoxicity, Immunoprecipitation, Stimulation)

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Portoles P, Rojo J, Golby A, et al. Monoclonal antibodies to murine CD3 epsilon define distinct epitopes, one of which may interact with CD4 during T cell activation. *J Immunol.* 1989; 142(12):4169-4175. (Biology: Activation, Immunoprecipitation, Stimulation)

Shinkai Y, Alt FW. CD3 epsilon-mediated signals rescue the development of CD4+CD8+ thymocytes in RAG-2-/- mice in the absence of TCR beta chain expression. *Int Immunol.* 1994; 6(7):995-1001. (Biology: Activation, Stimulation)