

Technical Data Sheet

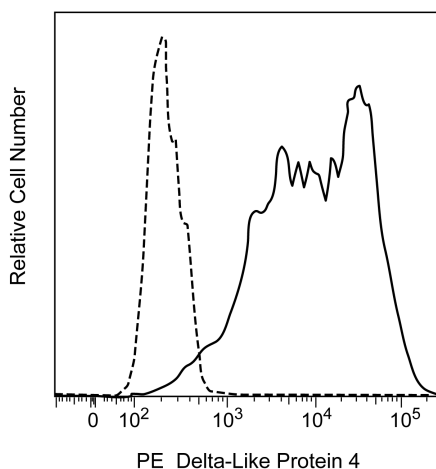
PE Rat Anti-Mouse Delta-Like Protein 4

Product Information

Material Number:	563802
Alternate Name:	Delta like-4; Delta4; Dll4; DL4; DL-4
Size:	50 µg
Concentration:	0.2 mg/ml
Clone:	9A1.5
Immunogen:	Mouse DL4 Extracellular Domain Recombinant Protein
Isotype:	Rat (LOU) IgG1, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The 9A1.5 monoclonal antibody specifically binds to an extracellular domain of Delta-Like Protein 4 that is encoded by the *Dll4* gene. Delta-Like Protein 4 is a type 1 transmembrane glycoprotein that is also known as Delta-like 4, Delta-like Ligand 4, Delta4 and DL4. It is a member of the Delta/Serrate/Jagged Family of Notch ligands. Notch ligands are classified by the presence of specific structural motifs including an N-terminal Delta-Serrate-LAG-2 (DSL) domain necessary for Notch binding, EGF repeats, and the DOS domain (a specialized EGF repeat). The Notch family of transmembrane receptors and their ligands control cell-fate "decisions" during the development of many organs in a wide variety of animal species. Delta-Like Protein 4 activates cellular signaling pathways by binding to Notch1 and Notch4 receptors. It is involved in embryonic vascular development and tumor angiogenesis, and is induced by vascular endothelial growth factor (VEGF)-A and hypoxia. Delta-Like Protein 4 and Notch receptor signaling are also intimately involved in the regulation of innate and adaptive immunity. Delta-Like Protein 4 is highly expressed by cortical thymic epithelial cells (TEC). Interaction between Delta-Like Protein 4-positive TEC and Notch1 expressed by T cell precursors drives T cell lineage commitment, expansion and maturation within the thymus. Delta-Like Protein 4 is also expressed by dendritic cells and plays a role in peripheral T helper cell differentiation. Blocking of Delta-Like Protein 4 and Notch receptor interactions serves to diminish autoimmune diseases in mouse model systems.



Flow cytometric analysis of mouse Delta-Like Protein 4 expression on Dll4-transfected 293-F cells. Untransfected (dashed line histogram) and Dll4-transfected (solid line histogram) 293-F cells were fixed with BD Cytotfix™ Fixation Buffer (Cat. No. 554655). The cells were then washed and stained with PE Rat Anti-Mouse Delta-Like Protein 4 antibody (Cat. No. 563802) using BD Biosciences Protocol for Immunofluorescent Staining. The fluorescence histograms were derived from gated events with the forward and side light-scatter characteristics of intact cells. Flow cytometry was performed using a BD FACSCanto™ II Flow Cytometer 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 R-PE under optimum conditions, and unconjugated antibody and free PE were removed.

Application Notes

Application

Flow cytometry

Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 ml	(none)

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Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. 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.
3. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
4. Please refer to www.bdbiosciences.com/pharming/en/protocols for technical protocols.

References

Fiorini E, Ferrero I, Merck E, et al. Cutting edge: thymic crosstalk regulates delta-like 4 expression on cortical epithelial cells. *J Immunol.* 2008; 181(12):8199-8203. (Immunogen: ELISA, Fluorescence microscopy, Immunofluorescence)

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Koch U, Fiorini E, Benedito R, et al. Delta-like 4 is the essential, nonredundant ligand for Notch1 during thymic T cell lineage commitment. *J Exp Med.* 2008; 205(11):2515-2523. (Clone-specific: Flow cytometry)

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