

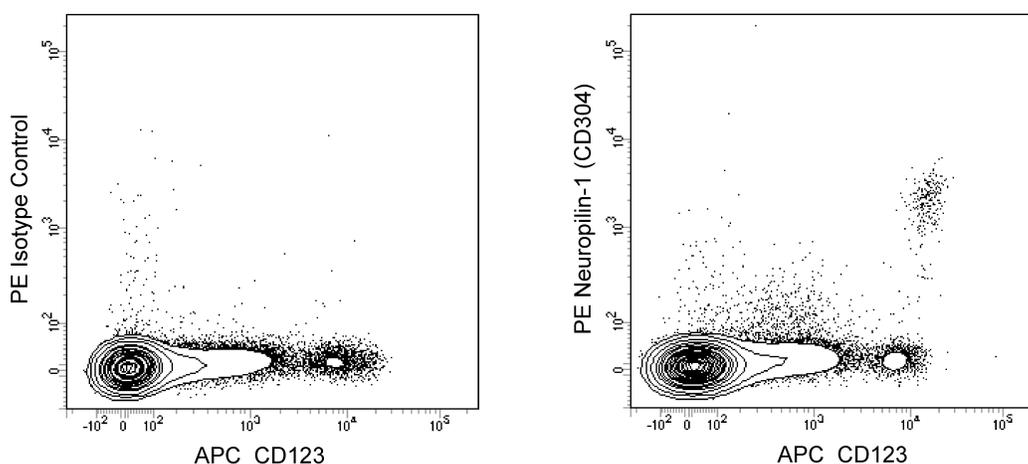
Technical Data Sheet

PE Mouse Anti-Human Neuropilin-1 (CD304)**Product Information**

Material Number:	565951
Alternate Name:	Neuropilin; NRP; NP1; Blood dendritic cell antigen 4; BDCA-4; VEGF165R
Size:	100 Tests
Vol. per Test:	5 µl
Clone:	U21-1283
Immunogen:	Recombinant Human Neuropilin-1
Isotype:	Mouse IgG2b, κ
Reactivity:	QC Testing: Human
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The U21-1283 monoclonal antibody specifically recognizes Neuropilin-1 (NRP1) which is also known as CD304, Blood dendritic cell antigen 4 (BDCA4), or Vascular endothelial cell growth factor 165 receptor (VEGF165R). CD304 is a type I transmembrane glycoprotein that is involved in the development of the nervous and cardiovascular systems. It mediates the interaction, growth, survival, and migration of a variety of normal or tumor cells. CD304 is expressed on neurons, thymocytes, regulatory T cells, a subset of T follicular helper cells, dendritic cells, endothelial cells, and certain tumor cells. Neuropilin-1 has a very short cytoplasmic domain and interacts with various coreceptors to form ligand-binding, signal-transducing receptor complexes. CD304 complexes with Plexin-A family members to bind chemorepellent Class 3 Semaphorins and to guide neuronal axon growth. It also functions as a coreceptor with VEGFR2/CD309 to stimulate angiogenesis in response to VEGF165. CD304 serves to mediate the interactions between some T cells and dendritic cells.



Two-color flow cytometric analysis of Neuropilin-1 (CD304) expression on human peripheral blood lymphoid cells
Human peripheral blood mononuclear cells were stained with APC Mouse Anti-Human CD123 antibody (Cat. No. 560087) and either PE Mouse IgG2b, κ Isotype Control (Cat. No. 555058; Left Plot) or PE Mouse Anti-Human Neuropilin-1 (CD304) antibody (Cat. No. 565951/565952; Right Plot). Two-color flow cytometric contour plots showing the correlated expression of CD123 versus Neuropilin-1 (CD304) [or Ig Isotype control staining] were derived from gated events with the forward and side light-scatter characteristics of viable lymphoid cells. Flow cytometric analysis was performed using a BD LSRFortessa™ Cell Analyzer 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
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565951 Rev. 1



Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 mL	(none)
554657	Stain Buffer (BSA)	500 mL	(none)
555058	PE Mouse IgG2b, κ Isotype Control	0.1 mg	27-35
560087	APC Mouse anti-Human CD123	100 Tests	7G3
565952	PE Mouse Anti-Human Neuropilin-1 (CD304)	25 Tests	U21-1283

Product Notices

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use 1×10^6 cells in a 100- μ l experimental sample (a test).
2. Please refer to www.bdbiosciences.com/pharming/en/protocols for technical protocols.
3. 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.
4. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
5. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
6. An isotype control should be used at the same concentration as the antibody of interest.

References

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- Mizui M, Kumanogoh A, Kikutani H. Immune semaphorins: novel features of neural guidance molecules. *J Clin Immunol.* 2009; 29(1):1-11. (Biology)
- Pan Q et al. Neuropilin-1 binds to VEGF121 and regulates endothelial cell migration and sprouting. *J Biol Chem.* 2007; 282(33):24049-24056. (Biology)
- Renand A, Milpied P, Rossignol J, et al. Neuropilin-1 expression characterizes T follicular helper (T_{fh}) cells activated during B cell differentiation in human secondary lymphoid organs. *PLoS ONE.* 2013; 8(12):e85589. (Biology)
- Soker S, Takashima S, Miao HQ, Neufeld G, Klagsbrun M. Neuropilin-1 is expressed by endothelial and tumor cells as an isoform-specific receptor for vascular endothelial growth factor. *Cell.* 1998; 92(6):735-45. (Biology)

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