Technical Data Sheet

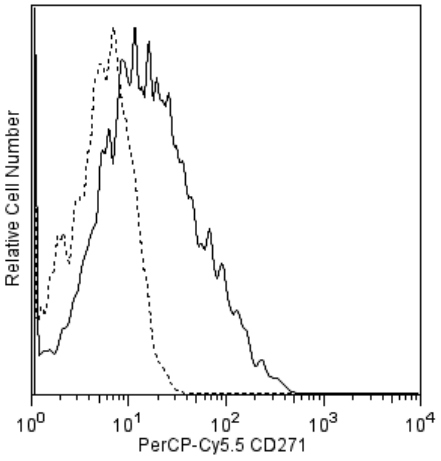
PerCP-Cy™5.5 Mouse Anti-Human CD271

Product Information

Material Number:	**560834**
Alternate Name:	NFGR; TNFRSF16; Tumor necrosis factor receptor superfamily member 16
Size:	50 tests
Vol. per Test:	5 µl
Clone:	C40-1457
Isotype:	Mouse IgG1, κ
Reactivity:	QC Testing: Human
Workshop:	N/A
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The C40-1457 monoclonal antibody specifically reacts with CD271, the nerve growth factor receptor (NGFR). CD271 is a transmembrane 75 kDa protein that has been found localized to neuronal axons, Schwann cells, and perineural cells of peripheral nerves. It is also expressed by cells in some epithelial, mesenchymal and lymphoid tissues. NGFR is the receptor for nerve growth factor (NGF), a polypeptide that is essential for normal development of the nervous system. NGF promotes survival and differentiation of sympathetic and sensory neurons during embryological development of peripheral neurons. NGF binds to two distinctive surface receptors expressed by target cells, the p140-TrkA (NTRK1) and the p75 NGFR. High affinity binding of NGF requires that both receptor molecules be expressed. NGFR has been found on human and rat lymphocytes. A subset of lymphoid cells in the spleen, lymph nodes, and follicular dentritic cells in germinal centers of reactive lymph nodes were found to express CD271. It has been reported that NGFR interaction with its ligand, NGF, may play a role in immunoregulation. NGF may function as a B-cell growth factor.



Flow cytometric analysis of CD271 expression on Reh cells. *Human Reh cells were stained with either PerCP-Cy™5.5 Mouse Anti-Human CD271 antibody (Cat. No. 560834; solid line histogram) or with a PerCP-Cy™5.5 Mouse IgG1, κ Isotype Control (Cat. No. 550795 used at a matching concentration; dashed line histogram). The fluorescence histograms were derived from events with the forward and side light-scatter characteristics of viable cells. Flow cytometry was performed using a BD™ LSR 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 PerCP-Cy5.5 under optimum conditions, and unconjugated antibody and free PerCP-Cy5.5 were removed. Storage of PerCP-Cy5.5 conjugates in unoptimized diluent is not recommended and may result in loss of signal intensity.

Application Notes

Application

Flow cytometry	Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
550795	PerCP-Cy™5.5 Mouse IgG1 κ Isotype Control	0.1 mg	MOPC-21
554656	Stain Buffer (FBS)	500 ml	(none)

BD Biosciences

bdbiosciences.com

United States	Canada	Europe	Japan	Asia Pacific	Latin America/Caribbean
877.232.8995	888.268.5430	32.53.720.550	0120.8555.90	65.6861.0633	0800.771.7157

For country-specific contact information, visit **bdbiosciences.com/how_to_order/**

Product Notices

1. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
2. Cy is a trademark of Amersham Biosciences Limited. This conjugated product is sold under license to the following patents: US Patent Nos. 5,486,616; 5,569,587; 5,569,766; 5,627,027.
3. Please observe the following precautions: Absorption of visible light can significantly alter the energy transfer occurring in any tandem fluorochrome conjugate; therefore, we recommend that special precautions be taken (such as wrapping vials, tubes, or racks in aluminum foil) to prevent exposure of conjugated reagents, including cells stained with those reagents, to room illumination.
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. This PerCP-conjugated product is sold under license to the following patent: US Patent No. 4,876,190.
6. PerCP-Cy5.5–labelled antibodies can be used with FITC- and R-PE–labelled reagents in single-laser flow cytometers with no significant spectral overlap of PerCP-Cy5.5, FITC, and R-PE fluorescence.
7. PerCP-Cy5.5 is optimized for use with a single argon ion laser emitting 488-nm light. Because of the broad absorption spectrum of the tandem fluorochrome, extra care must be taken when using dual-laser cytometers, which may directly excite both PerCP and Cy5.5™. We recommend the use of cross-beam compensation during data acquisition or software compensation during data analysis.
8. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/colors.
9. This product is subject to proprietary rights of Amersham Biosciences Corp. and Carnegie Mellon University and made and sold under license from Amersham Biosciences Corp. This product is licensed for sale only for research. It is not licensed for any other use. If you require a commercial license to use this product and do not have one return this material, unopened to BD Biosciences, 10975 Torreyana Rd, San Diego, CA 92121 and any money paid for the material will be refunded.
10. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
11. PerCP is a photosynthetic accessory pigment from Glenodinium species of dinoflagellates, which is excited by the 488-nm light of an Argon ion laser and fluoresces at 675 nm. Therefore, PerCP-labelled antibodies can be used with FITC- and R-PE–labelled reagents in most single-laser flow cytometers with no significant spectral overlap of PerCP fluorescence with that of FITC or R-PE. PerCP has been reported to undergo significant photobleaching, the magnitude of which increases as laser power is increased or beam focus is narrowed. For third-color flow¬cytometric analysis using ≥25-mW laser power, we recommend PE-Cy5-, PE-Cy7–, or PerCP-Cy5.5-conjugated reagents.
12. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

Brodie C, Gelfand EW. Functional nerve growth factor receptors on human B lymphocytes. Interaction with IL-2. *J Immunol.* 1992; 148(11):3492-3497. (Biology)

Chesa PG, Rettig WJ, Thomson TM, Old LJ, Melamed MR. Immunohistochemical analysis of nerve growth factor receptor expression in normal and malignant human tissues. *J Histochem Cytochem.* 1988; 36(4):383-389. (Biology)

Hempstead BL, Martin-Zanca D, Kaplan DR, Parada LF, Chao MV. High-affinity NGF binding requires coexpression of the trk proto-oncogene and the low-affinity NGF receptor. *Nature.* 1991; 350(6320):678-683. (Biology)

Thompson SJ, Schatteman GC, Gown AM, Bothwell M. A monoclonal antibody against nerve growth factor receptor. Immunohistochemical analysis of normal and neoplastic human tissue. *Am J Clin Pathol.* 1989; 92(4):415-423. (Biology)