

Technical Data Sheet

BV421 Mouse Anti-Human ROR1

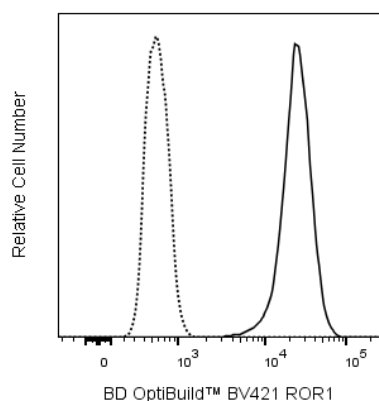
Product Information

Material Number:	743012
Size:	50 µg
Clone:	4A5
Alternative Name:	Neurotrophic tyrosine kinase, receptor-related 1; NTRKR1
Reactivity:	Tested in Development: Human
Isotype:	Mouse BALB/c IgG2b, κ
Immunogen:	Human ROR1 cDNA
Application:	Flow cytometry (Qualified)
Concentration:	0.2 mg/ml
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.
Regulatory Status:	RUO

Description

The 4A5 monoclonal antibody binds to the glycosylated type I membrane protein ROR1 (Receptor-tyrosine-kinase-like Orphan Receptor 1). The ROR1 and ROR2 related proteins are highly conserved evolutionarily and are primarily expressed during embryogenesis. ROR1 is not expressed on normal peripheral blood lymphocytes. ROR1 is similar to tropomyosin receptor kinase (Trk family) neurotropic receptors and shares a cysteine-rich domain with Frizzled receptors for Wnt-family signaling proteins, which are involved in the regulation of embryogenesis and carcinogenesis. Furthermore, there is mounting evidence that aberrant ROR1 expression contributes to human malignancy.

The antibody was conjugated to BD Horizon™ BV421 which is part of the BD Horizon Brilliant™ Violet family of dyes. With an Ex Max of 407-nm and Em Max at 421-nm, BD Horizon BV421 can be excited by the violet laser and detected in the standard Pacific Blue™ filter set (eg, 450/50-nm filter). BD Horizon BV421 conjugates are very bright, often exhibiting a 10 fold improvement in brightness compared to Pacific Blue conjugates.



Flow cytometric analysis using BD OptiBuild™ BV421 Mouse Anti-Human ROR1 antibody (Cat. No. 743012; solid line histogram) on NCCIT cells, with corresponding Isotype Control (dotted line histogram). Flow cytometry was performed using a BD LSRFortessa™ X-20 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 BD Horizon BV421 under optimal conditions that minimize unconjugated dye and antibody.

Recommended Assay Procedure

For optimal and reproducible results, BD Horizon Brilliant Stain Buffer should be used anytime two or more BD Horizon Brilliant dyes (including BD OptiBuild Brilliant reagents) are used in the same experiment. Fluorescent dye interactions may cause staining artifacts which may affect data interpretation. The BD Horizon Brilliant Stain Buffer was designed to

minimize these interactions. More information can be found in the Technical Data Sheet of the BD Horizon Brilliant Stain Buffer (Cat. No. 563794).

Suggested Companion Products

Catalog Number	Name	Size	Clone
564219	Human BD Fc Block™	50 µg	Fc1
554656	Stain Buffer (FBS)	500 mL	
554657	Stain Buffer (BSA)	500 mL	
563794	Brilliant Stain Buffer	100 Tests	
555899	Lysing Buffer	100 mL	
349202	Lysing Solution 10X Concentrate	100 mL	
562748	BV421 Mouse IgG2b, κ Isotype Control	50 µg	27-35

Product Notices

1. This antibody was developed for use in flow cytometry.
2. The production process underwent stringent testing and validation to assure that it generates a high-quality conjugate with consistent performance and specific binding activity. However, verification testing has not been performed on all conjugate lots.
3. Researchers should determine the optimal concentration of this reagent for their individual applications.
4. An isotype control should be used at the same concentration as the antibody of interest.
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.
6. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
7. Please refer to www.bdbiosciences.com/us/s/resources for technical protocols.
8. BD Horizon Brilliant Stain Buffer is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,575,303; 8,354,239.
9. BD Horizon Brilliant Violet 421 is covered by one or more of the following US patents: 8,158,444; 8,362,193; 8,575,303; 8,354,239.
10. Pacific Blue™ is a trademark of Molecular Probes, Inc., Eugene, OR.

References

Fukuda T, Chen L, Endo T, et al. Antisera induced by infusions of autologous Ad-CD154-leukemia B cells identify ROR1 as an oncofetal antigen and receptor for Wnt5a. *Proc Natl Acad Sci U S A*. 2008; 105(8):3047. (Immunogen: Flow cytometry).

Cui B, Zhang S, Chen L, Yu J, et al. Targeting ROR1 inhibits epithelial-mesenchymal transition and metastasis. *Cancer Res*. 2013; 73(12):3649-3660. (Biology).

Zhang S, Chen L, Wang-Rodriguez J, et al. The onco-embryonic antigen ROR1 is expressed by a variety of human cancers. *Am J Pathol*. 2012; 181(6):1903-1910. (Clone-specific: Flow cytometry, Immunocytochemistry (cytospins), Immunohistochemistry, Immunoprecipitation).

Zhang S, Chen L, Cui B, et al. ROR1 is expressed in human breast cancer and associated with enhanced tumor-cell growth. *PLoS ONE*. 7(3)(Clone-specific: Immunohistochemistry).

Broome HE, Rassenti LZ, Wang HY, Meyer LM, Kipps TJ. ROR1 is expressed on hematogones (non-neoplastic human B-lymphocyte precursors) and a minority of precursor-B acute lymphoblastic leukemia. *Leuk Res*. 2011; 35(10):1390-1394. (Clone-specific: Flow cytometry).

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