

# Technical Data Sheet

## BUV737 Mouse Anti-Human ROR1

### Product Information

Material Number:	748964
Size:	50 µg
Clone:	4A5
Alternative Name:	Neurotrophic tyrosine kinase, receptor-related 1; NTRKR1
Reactivity:	Human (Tested in Development)
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™ BUV737 which is part of the BD Horizon Brilliant™ Ultraviolet family of dyes. This dye is a tandem fluorochrome of BD Horizon BUV395 with an Ex Max of 348-nm and an acceptor dye with an Em Max at 737-nm. BD Horizon Brilliant BUV737 can be excited by the ultraviolet laser (355 nm) and detected with a 740/35 filter. Due to the excitation of the acceptor dye by other laser lines, there may be significant spillover into channels detecting Alexa Fluor® 700-like dyes (eg, 712/20-nm filter).

Due to spectral differences between labeled cells and beads, using BD™ CompBeads can result in incorrect spillover values when used with BD Horizon BUV737 reagents. Therefore, the use of BD CompBeads or BD CompBeads Plus to determine spillover values for these reagents is not recommended. Different BUV737 reagents (eg, CD4 vs. CD45) can have slightly different fluorescence spillover therefore, it may also be necessary to use clone specific compensation controls when using these reagents.

### 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 BUV737 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
612768	BUV737 Mouse IgG2b, κ Isotype Control	50 µg	27-35
349202	Lysing Solution 10X Concentrate	100 NA	
564219	Human BD Fc Block™	50 mg	
554656	Stain Buffer (FBS)	500 mL	
554657	Stain Buffer (BSA)	500 mL	

## 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 [wwwbdbiosciences.com/colors](http://wwwbdbiosciences.com/colors).
7. Please refer to [wwwbdbiosciences.com/us/s/resources](http://wwwbdbiosciences.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 Ultraviolet 737 is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,227,187; 8,575,303; 8,354,239.

## References

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- 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: Flow cytometry).
- 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).
- Zhang S, Chen L, Cui B, et al. ROR1 is expressed in human breast cancer and associated with enhanced tumor-cell growth. *PLoS ONE.* 2012; 7(3). (Clone-specific: Flow cytometry).
- 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).

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