

Technical Data Sheet

BV711 Rat Anti-Mouse CD137

Product Information

Material Number:	740707
Size:	50 µg
Clone:	1AH2
Alternative Name:	4-1BB; Tnfrsf9; Ly-63; ILA
Reactivity:	Mouse (Tested in Development)
Isotype:	Rat SD, also known as Sprague-Dawley (outbred) IgG1, κ
Immunogen:	Recombinant mouse 4-1BB
Application:	Flow cytometry (Qualified)
Concentration:	0.2 mg/ml
Entrez Gene ID:	21942
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.
Regulatory Status:	RUO

Description

The 1AH2 monoclonal antibody specifically binds to CD137. CD137 is a member of the TNFR/NGFR superfamily that is likewise known as Tnfrsf9, 4-1BB, Ly-63, or ILA. Monomers or multimeric forms of CD137 are expressed, upon activation, on the surface of splenic T lymphocytes, thymocytes, intestinal intraepithelial T lymphocytes (IEL), and some T cell lines and clones. While stimulating T cells by IL-2, IL-4, or anti-CD28 alone does not result in the expression of CD137; addition of IL-2, IL-4, anti-CD28, or syngeneic accessory cells to splenic T cells stimulated via TCR/CD3 can result in a high level CD137 expression. CD137 is also reportedly expressed on IL-2 activated NK cells, but not on freshly isolated NK cells. CD137 physically associates with p56 [lck] through a Cys-Arg-Cys-Pro binding site in its cytoplasmic domain; the same motif in the cytoplasmic tail of the CD4 and CD8a molecules is responsible for association with p56 [lck]. A signaling function for the CD137 molecule in mouse T cells is indicated by reports in which cross-linking of CD137 with 1AH2 mAb resulted in enhanced proliferation of CD3e-activated splenic T cells and IEL and in enhanced cytolytic activity of IEL in response to immobilized anti-CD3e. In addition to extracellular matrix proteins which bind to CD137, the CD137L (4-1BBL) serves as a ligand for CD137. This molecule has also been detected on LPS-activated macrophages, and anti-IgM antibody-activated splenic B cells. Interaction between T and B cells through CD137/CD137L is reported to play a role in antigen presentation, further supporting a costimulatory role for CD137 in the immune response of T lymphocytes.

The antibody was conjugated to BD Horizon™ BV711 which is part of the BD Horizon Brilliant™ Violet family of dyes. This dye is a tandem fluorochrome of BD Horizon BV421 with an Ex Max of 405-nm and an acceptor dye with an Em Max at 711-nm. BD Horizon BV711 can be excited by the violet laser and detected in a filter used to detect Cy™5.5 / Alexa Fluor® 700-like dyes (eg, 712/20-nm filter). Due to the excitation and emission characteristics of the acceptor dye, there may be moderate spillover into the Alexa Fluor® 700 and PerCP-Cy5.5 detectors. However, the spillover can be corrected through compensation as with any other dye combination.

Preparation and Storage Section

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 BV711 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
563283	BV711 Rat IgG1, κ Isotype Control RUO	50 µg	
554656	Stain Buffer (FBS) RUO	500 mL	

554657	Stain Buffer (BSA) RUO	500 mL
563794	Brilliant Stain Buffer RUO	100 Tests
555899	Lysing Buffer RUO	100 mL
553141	Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™) 2.4G2 RUO	0.1 mg

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.
7. Please refer to 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 Violet 711 is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,227,187; 8,455,613; 8,575,303; 8,354,239.
10. Cy is a trademark of Amersham Biosciences Limited.
11. Alexa Fluor® is a registered trademark of Life Technologies Corporation.

References

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