

Technical Data Sheet

BV711 Mouse Anti-Human CD279 (PD-1)

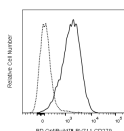
Product Information

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| Material Number: | 740814 |
| Size: | 50 µg |
| Clone: | MIH4 |
| Alternative Name: | PD1; hPD-1; hPD-I; PDCD1; PDC1; Programmed cell death 1; SLEB2 |
| Reactivity: | Human (Tested in Development) |
| Isotype: | Mouse IgG1, κ |
| Immunogen: | Human PD-1 Transfected Cell Line |
| Application: | Flow cytometry (Qualified) |
| Concentration: | 0.2 mg/ml |
| Entrez Gene ID: | 5133 |
| Storage Buffer: | Aqueous buffered solution containing ≤0.09% sodium azide. |
| Regulatory Status: | RUO |

Description

The MIH4 monoclonal antibody specifically binds to CD279, which is also known as, Programmed cell death 1 (PD-1). CD279 is a type I transmembrane glycoprotein that belongs to the Ig superfamily. CD279 is an immunoregulatory receptor that is expressed on subsets of thymocytes, activated T cells, B cells and myeloid cells. CD279 contains an immunoreceptor tyrosine-based inhibitory motif (ITIM) in its cytoplasmic region. CD273 (PD-L2) and CD274 (PD-L1) are ligands of CD279 and are members of the B7 gene family. Interaction of CD279 with its ligands results in inhibition of T cell proliferation and cytokine secretion. CD279 may play roles in supporting self-tolerance, reducing autoimmunity, or promoting T cell exhaustion associated with certain diseases.

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.



Flow cytometric analysis using BD OptiBuild™ BV711 Mouse Anti-Human CD279 (PD-1) antibody (Cat. No. 740814; solid line histogram) on human peripheral blood mononuclear cells stimulated with PHA for 3 days, with mIgG1 isotype control (dotted line histogram). Flow cytometry was performed using a BD FACSCelesta™ Flow Cytometer System.

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 |
|----------------|-------------------------------------|-------|-------|
| 563044 | BV711 Mouse IgG1, κ Isotype Control | 50 µg | RUO |

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| 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 |
| 349202 | Lysing Solution 10X Concentrate CE/IVD | 100 NA |
| 564219 | Human BD Fc Block™ RUO | 50 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 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 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

Igarashi H, Cao Y, Iwai H, et al. GITR ligand-costimulation activates effector and regulatory functions of CD4+ T cells. *Biochem Biophys Res Commun*. 2008; 369(4):1134-1138. (Immunogen: Flow cytometry).

Piao J, Kamimura Y, Iwai H, et al. Enhancement of T-cell-mediated anti-tumour immunity via the ectopically expressed glucocorticoid-induced tumour necrosis factor receptor-related receptor ligand (GITRL) on tumours. *Immunology*. 2009; 127(4):489-499. (Clone-specific: Flow cytometry).

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