Technical Data Sheet

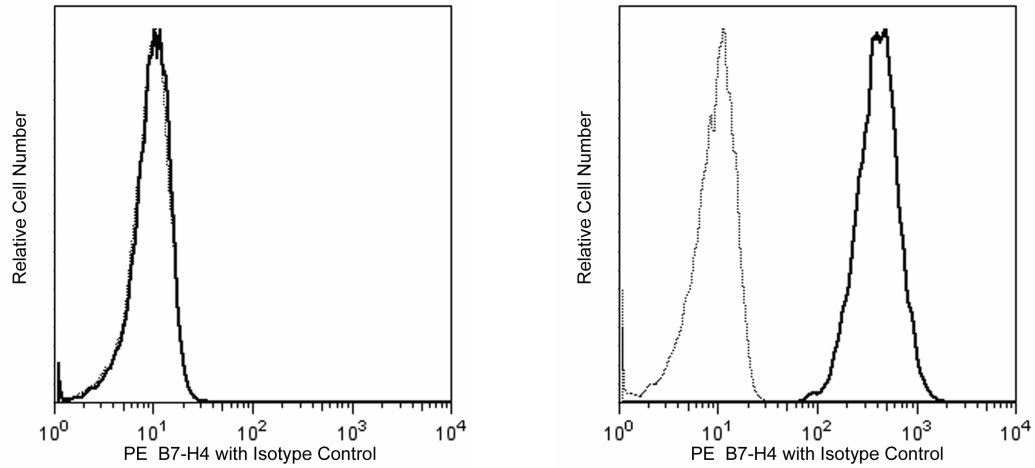
PE Mouse anti-Human B7-H4

Product Information

Material Number:	**562507**
Alternate Name:	VTCN1; VCTN1; B7 family member, H4; B7H4; B7h.5; B7S1; B7X
Size:	50 Tests
Vol. per Test:	5 µl
Clone:	MIH43
Immunogen:	Recombinant Human B7-H4 protein
Isotype:	Mouse IgG1, κ
Reactivity:	QC Testing: Human
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The MIH43 monoclonal antibody specifically binds to human B7-H4 (B7 family member, H4) that is encoded by the *VTCN1* (V-set domain containing T cell activation inhibitor 1) gene. B7-H4 is a type I membrane glycoprotein with a calculated molecular weight of 30.89 kDa. It is also known as VCTN1, B7h.5, B7S1 (B7 superfamily member 1) or B7X. B7-H4 is a newly discovered member of the B7 family of costimulatory proteins. B7-H4 is not constitutively expressed on peripheral tissues. Its expression can be induced on macrophages, dendritic cells, B cells and T cells. By binding to its putative receptor, the function of B7-H4 was initially reported to be a negative regulator of T cell activation, proliferation and differentiation related to cytokine production and cytotoxic effector cell functions. B7-H4 is reportedly overexpressed in a variety tumors. B7-H4 expression by tumor macrophages appears to play a role in suppression antigen-specific T cell mediated immunity. Recent studies indicate that B7-H4 can also be a positive regulator of T cell responses. B7-H4 can be involved innate immunity as well, eg, by inhibiting neutrophil expansion.



Flow cytometric analysis of human B7-H4 protein expression on B7-H4-transfected cells. *Non-transfected (Left Panel) and B7-H4-transfected (Right Panel) mouse P815 mastocytoma cells were stained with either PE Mouse IgG1, κ Isotype Control (Cat. No. 554680; dotted line histogram) or PE Mouse anti-Human B7-H4 (Cat. No. 562507; solid line histogram). Flow cytometric fluorescence histograms showing the expression of B7-H4 (or Ig Isotype staining) on non-transfected or transfected cells were derived from gated 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 R-PE under optimum conditions, and unconjugated antibody and free PE were removed.

Application Notes

Application

Flow cytometry	Routinely Tested

BD Biosciences

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Suggested Companion Products

Catalog Number	Name	Size	Clone
554680	PE Mouse IgG1, κ Isotype Control	0.1 mg	MOPC-21
554656	Stain Buffer (FBS)	500 mL	(none)
554657	Stain Buffer (BSA)	500 mL	(none)

Product Notices

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use 1 × 10^6 cells in a 100-µl experimental sample (a test).
2. An isotype control should be used at the same concentration as the antibody of interest.
3. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
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. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
6. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

Choi IH, Zhu G, Sica GL, et al. Genomic organization and expression analysis of B7-H4, an immune inhibitory molecule of the B7 family. *J Immunol.* 2003; 171(9):4650-4654. (Biology)

Kryczek I, Zou L, Rodriguez P, et al. B7-H4 expression identifies a novel suppressive macrophage population in human ovarian carcinoma. *J Exp Med.* 2006; 203(4):871-881. (Biology)

Quandt D, Fiedler E, Boettcher D, Marsch WCh, Seliger B. B7-h4 expression in human melanoma: its association with patients' survival and antitumor immune response. *Clin Cancer Res.* 2011; 17(10):3100-11. (Biology)

Sica GL, Choi IH, Zhu G, et al. B7-H4, a molecule of the B7 family, negatively regulates T cell immunity. *Immunity.* 2003; 18(6):849-861. (Biology)