Technical Data Sheet

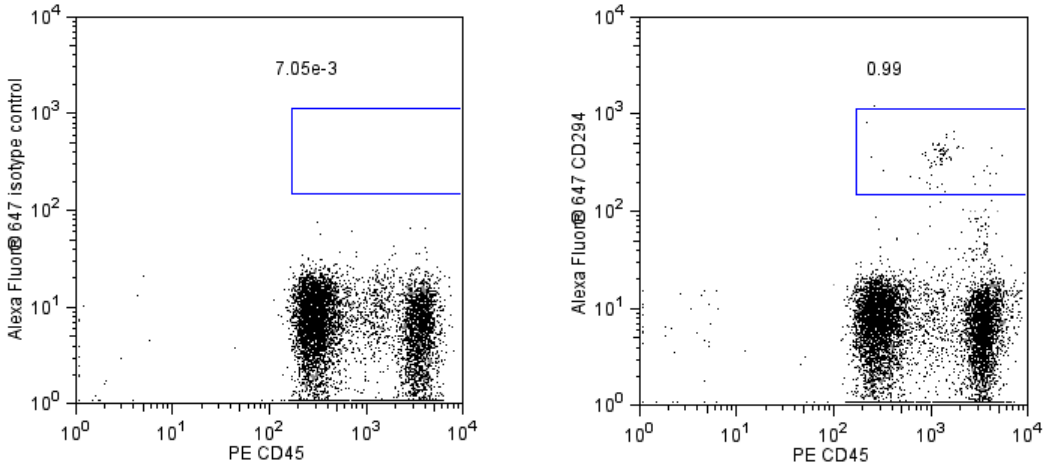
Alexa Fluor® 647 Rat Anti-Human CD294

Product Information

Material Number:	**558042**
Alternate Name:	CRTH2; PTGDR2 ; Prostaglandin D2 receptor 2; DL1R; DP2; GPR44
Size:	0.1 mg
Concentration:	0.2 mg/ml
Clone:	BM16
Immunogen:	Human CRTH2 Transfected Cell Line
Isotype:	Rat (WI) IgG2a, κ
Reactivity:	QC Testing: Human
Workshop:	VIII
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The BM16 monoclonal antibody specifically binds to CD294. CD294 is encoded by *PTGDR2* (Prostaglandin D2 receptor 2) and is also known as CRTH2 (chemoattractant receptor-homologous molecule expressed on Th2 cells), GPR44 (G protein-coupled receptor 44), DL1R, and DP2. CD294 is a member of the G protein-coupled leukocyte chemoattractant receptor family and it is expressed on Th2, but not Th1 type cells. CD294 is detectable on CD4+ T cells in fresh PBMC but not on B cells and NK cells. CD294 is also expressed on peripheral blood basophils and eosinophils, suggesting its involvement allergic reactions. Phenotypic analysis of CD4+ T cells expressing CRTH2 demonstrated that they were also CD45RA-negative and CD45RO+ and CD25+. These cells produce Th2- but little or no Th1-type cytokines upon stimulation with PMA and Ionomycin.



Flow cytometric analysis of CD294 expression on human peripheral blood cells. *Whole blood was stained with PE mouse anti-human CD45 (Cat. No. 555483/560975) and either Alexa Fluor® 647Rat Anti-Human CD294 antibody (Cat. No. 558042/561797; right panel) or with an Alexa Fluor® 647 Rat IgG2a, κ Isotype Control (Cat. No. 557690; left panel). The erythrocytes were lysed with BD Pharm Lyse™ Lysing Buffer (Cat. No. 555899). The fluorescence histograms were derived from events with the forward and side light-scatter characteristics of whole blood 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 to Alexa Fluor® 647 under optimum conditions, and unreacted Alexa Fluor® 647 was removed.

Application Notes

Application

Flow cytometry	Routinely Tested

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Suggested Companion Products

Catalog Number	Name	Size	Clone
557690	Alexa Fluor® 647 Rat IgG2a, κ Isotype Control	0.1 mg	R35-95
554656	Stain Buffer (FBS)	500 ml	(none)
561797	Alexa Fluor® 647 Rat Anti-Human CD294	25 µg	BM16
560975	PE Mouse Anti-Human CD45	25 tests	HI30

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. 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.
4. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
5. An isotype control should be used at the same concentration as the antibody of interest.
6. The Alexa Fluor®, Pacific Blue™, and Cascade Blue® dye antibody conjugates in this product are sold under license from Molecular Probes, Inc. for research use only, excluding use in combination with microarrays, or as analyte specific reagents. The Alexa Fluor® dyes (except for Alexa Fluor® 430), Pacific Blue™ dye, and Cascade Blue® dye are covered by pending and issued patents.
7. Alexa Fluor® 647 fluorochrome emission is collected at the same instrument settings as for allophycocyanin (APC).
8. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.

References

Cosmi L, Annunziato F, Galli MIG , Maggi RME , Nagata K, Romagnani S. CRTH2 is the most reliable marker for the detection of circulating human type 2 Th and type 2 T cytotoxic cells in health and disease. *Eur J Immunol.* 2000; 30(10):2972-2979. (Biology)

Nagata K, Hirai H, Tanaka K, et al. CRTH2, an orphan receptor of T-helper-2-cells, is expressed on basophils and eosinophils and responds to mast cell-derived factor(s). *FEBS Lett.* 1999; 459(2):195-199. (Biology)

Nagata K, Tanaka K, Ogawa K, et al. Selective expression of a novel surface molecule by human Th2 cells in vivo. *J Immunol.* 1999; 162(3):1278-1286. (Biology)

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