

Technical Data Sheet

R718 Rat Anti-Human CD294 (CRTH2)

Product Information

Material Number:	751948
Size:	50 µg
Clone:	BM16
Alternative Name:	CRTH2; PTGDR2 ; Prostaglandin D2 receptor 2; DL1R; DP2; GPR44
Reactivity:	Tested in Development:Human
Isotype:	Rat WI, also known as Wistar (outbred) IgG2a, κ
Application:	Flow cytometry(Qualified)
Concentration:	0.2 mg/ml
Workshop No.:	VIII 80349
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.
Regulatory Status:	RUO

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. CD294 is expressed on Th2 cells and type-2 innate lymphoid cells (ILC2), 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.

The antibody was conjugated to BD Horizon Red 718, which has been developed exclusively for BD Biosciences as a better alternative to Alexa Fluor® 700. BD Horizon Red 718 can be excited by the red laser (628 – 640 nm) and, with an Em Max around 718 nm, it can be detected using a 730/45 nm filter. Due to similar excitation and emission properties, we do not recommend using R718 in combination with APC-R700 or Alexa Fluor® 700.

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 the dye under optimum conditions that minimize unconjugated dye and antibody.

Recommended Assay Procedure

BD™ CompBeads can be used as surrogates to assess fluorescence spillover (Compensation). When fluorochrome conjugated antibodies are bound to BD CompBeads, they have spectral properties very similar to cells. However, for some fluorochromes there can be small differences in spectral emissions compared to cells, resulting in spillover values that differ when compared to biological controls. It is strongly recommended that when using a reagent for the first time, users compare the spillover on cells and BD CompBead to ensure that BD CompBeads are appropriate for your specific cellular application.

Suggested Companion Products

Catalog Number	Name	Size
564219	Human BD Fc Block™	50 µg
554656	Stain Buffer (FBS)	500 mL
554657	Stain Buffer (BSA)	500 mL
555899	Lysing Buffer	100 mL
349202	Lysing Solution 10X Concentrate	100 mL
566941	R718 Rat IgG2a, κ Isotype Control	50 µg

Product Notices

1. Researchers should determine the optimal concentration of this reagent for their individual applications.
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. An isotype control should be used at the same concentration as the antibody of interest.
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. Alexa Fluor® is a registered trademark of Life Technologies Corporation.
6. Please refer to <http://regdocs.bd.com> to access safety data sheets (SDS).
7. Please refer to www.bdbiosciences.com/us/s/resources for technical protocols.
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References

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. (Clone-specific: Flow cytometry).

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. (Clone-specific: Flow cytometry).

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. (Immunogen: Blocking, Cell separation, Flow cytometry, Western blot).

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United States 877.232.8995	Canada 888.268.5430	Europe 32.53.720.550	Japan 0120.8555.90	Asia Pacific 65.6861.0633	Latin America/Caribbean 0800.771.7157
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