

Technical Data Sheet

R718 Mouse Anti-Rat High Affinity IgE Receptor

Product Information

Material Number:	751872
Size:	50 µg
Clone:	BC4
Alternative Name:	FcεRI
Reactivity:	Tested in Development:Rat
Isotype:	Mouse BALB/c IgG1, κ
Application:	Flow cytometry(Qualified)
Concentration:	0.2 mg/ml
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.
Regulatory Status:	RUO

Description

The BC4 antibody reacts with the high-affinity IgE Fc receptor (FcεRI) expressed in rat mast cells, basophils, and non-B non-T cells. The rat FcεRI is expressed as a tetrameric molecule consisting of one α chain, one β chain, and two identical γ chains. The BC4 antibody has been reported to detect all three chains of the FcεRI by immunoprecipitation. In the rat model, the β chain (FcRβ) is required for cell-surface expression of the complete FcεRI. This differs from the human FcεRI, which can be expressed in trimer (αγ₂) or tetramer forms (βγ₂). Furthermore, the FcRβ has been characterized as a potent signaling molecule capable of substantially amplifying Fc-mediated cellular responses. The FcεRI functions to mediate cellular degranulation and the release of histamine, leukotrienes, and various cytokines and chemokines. The structure, expression, function, and signaling mechanisms of the FcεRI have been reviewed.

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
554656	Stain Buffer (FBS)	500 mL
554657	Stain Buffer (BSA)	500 mL
555899	Lysing Buffer	100 mL
566928	R718 Mouse IgG1, κ Isotype Control	50 µg
550270	Purified Mouse Anti-Rat CD32	0.1 mg

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

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Dombrowicz D, Nutten S, Desreumaux P. Role of the high affinity immunoglobulin E receptor in bacterial translocation and intestinal inflammation. *J Exp Med.* 2001; 193(1):25-34. (Biology).

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