

DESCRIPTION

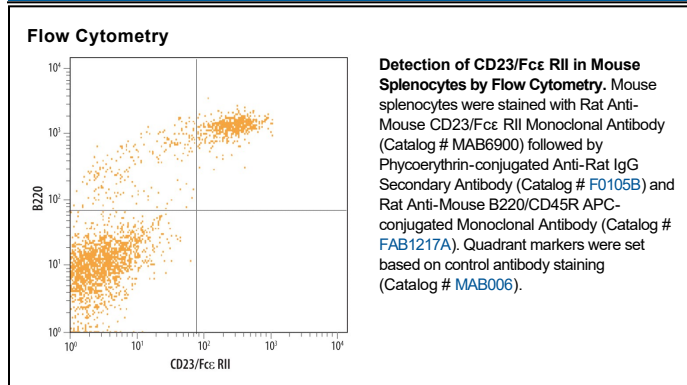
| | |
|---------------------------|---|
| Species Reactivity | Mouse |
| Specificity | Detects mouse CD23/Fcε RII in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant human (rh) Fcε RIA or rhFcε RIG is observed. |
| Source | Monoclonal Rat IgG _{2A} Clone # 691632 |
| Purification | Protein A or G purified from hybridoma culture supernatant |
| Immunogen | Mouse myeloma cell line NS0-derived recombinant mouse CD23/Fcε RII Glu50-Pro331 Accession # P20693 |
| Formulation | Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS. |

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

| | Recommended Concentration | Sample |
|-----------------------|--|---------------|
| Flow Cytometry | 2.5 μg/10 ⁶ cells | See Below |
| CyTOF-ready | Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation. | |

DATA



PREPARATION AND STORAGE

| | |
|--------------------------------|--|
| Reconstitution | Sterile PBS to a final concentration of 0.5 mg/mL. |
| Shipping | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C |
| Stability & Storage | Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution. |

BACKGROUND

The low affinity receptor for IgE, Fcε RII (designated CD23) is a member of subgroup II of the C-type (Ca²⁺-dependent) lectin superfamily (1-4). Mouse CD23 is a 45-49 kDa type II transmembrane glycoprotein that binds mouse, but not human, IgE (1-4). The longest isoform is 331 amino acids (aa) in length and contains a 23 aa cytoplasmic domain, a 26 aa transmembrane segment, and a 282 aa extracellular domain (ECD). The ECD C-type lectin domain binds both protein and carbohydrate, with separate sites for binding IgE, CD21, and β2 and αv integrins (2). Coiled-coil topography within a connecting stalk contributes to oligomerization, which increases IgE affinity (1, 2). Mouse CD23 shares 88% aa identity with rat CD23 and up to 57% aa identity with isoforms of human, equine, porcine and bovine CD23. Isoforms which vary in the cytoplasmic sequence include the "a" isoform, which begins with the sequence MEENEYS and is constitutively expressed by B cells, and the "b" isoform, which begins with MDTHHT and is induced by IL-4 on a variety of inflammatory cells, B cells and epithelia (2, 5-7). The isoforms differentially participate in IgE-mediated endocytosis and phagocytosis (2, 8-10). CD23b and two 309 aa mouse CD23b isoforms, lacking either exon 5 or 6, also display distinct endocytic properties on intestinal epithelia (6, 11). Several soluble forms of CD23 are mainly generated by metalloprotease (especially ADAM10) and cysteine protease digestion, although potentially soluble mouse isoforms have also been sequenced (12-14). Both soluble and membrane-bound forms of CD23 include the lectin domain and show bioactivity. CD23 binding to monocyte integrins results in oxidative product generation and proinflammatory cytokine release (15). On human, but not mouse, B cells, sCD23 induces IgE secretion by binding CD21 (2, 9). In both, secreted IgE will bind B cell membrane CD23, rendering it unavailable for cleavage, and thus shutting down IgE production (2).

References:

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