Mouse CD23/Fcε RII
Alexa Fluor® 647-conjugated Antibody

Monoclonal Rat IgG_{2A} Clone # 691632

Catalog Number: FAB6900R

100 µg

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
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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	0.25-1 µg/10^6 cells	Mouse splenocytes

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Protect from light. Do not freeze.** ● 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

The low affinity receptor for IgE, Fcε RII (designated CD23) is a member of subgroup II of the C-type (Ca^{2+}-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).

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