Mouse Rae-1ε Antibody

Monoclonal Rat IgG_{2A} Clone # 205001

Catalog Number: MAB1135

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Rae-1ε in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant mouse Rae-1α, β, γ, or δ is observed. By flow cytometry, no cross-reactivity with mouse Rae-1α or mouse Rae-1γ.
Source	Monoclonal Rat IgG_{2A} Clone # 205001
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	BaF3 mouse pro-B cell line transfected with mouse Rae-1ε
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
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.

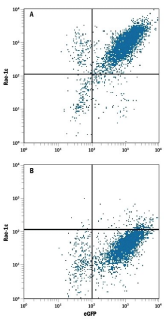
APPLICATIONS

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.	
Blockade of Receptor-ligand Interaction	In a functional ELISA, 0.3-0.9 µg/mL of this antibody will block 50% of the binding of 125 ng/mL of Recombinant Mouse NKG2D Fc Chimera (Catalog # 139-NK) to immobilized Recombinant Mouse Rae-1ε Fc Chimera (Catalog # 1135-RA) coated at 1 µg/mL (100 µL/well). At 10 µg/mL, this antibody will block >90% of the binding.	

DATA

Flow Cytometry



Detection of Rae-1ε in BaF3 Mouse Cell Line Transfected with Mouse Rae-1ε and eGFP by Flow Cytometry. BaF3 mouse pro-B cell line transfected with (A) mouse Rae-1ε or (B) mouse Rae-1α and eGFP was stained with Rat Anti-Mouse Rae-1ε Monoclonal Antibody (Catalog # MAB1135) followed by Allophycocyanin-conjugated Anti-Rat IgG Secondary Antibody (Catalog # F0113). Quadrant markers were set based on control antibody staining (Catalog # MAB006).

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
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.** ● 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.

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BACKGROUND

Rae-1ε is a member of a family of cell-surface proteins that function as ligands for mouse NKG2D. Other family members are designated Rae-1α, β, γ, and δ. Amino acid sequence identity within this family ranges from 88-95%. The Rae-1 proteins are distantly related to MHC class I proteins, but they possess only the α1 and α2 Ig-like domains, and they have no capacity to bind peptide or interact with β2-microglobulin. The genes encoding these proteins are not found within the Major Histocompatibility Complex on mouse chromosome 17, but rather map to mouse chromosome 10. The Rae-1 proteins are anchored to the membrane via a GPI-linkage. The name of this family derives from the original identification of these proteins as the product of retinoic acid early inducible transcripts. Rae-1 expression is developmentally controlled. Transcripts were observed in the brain/head region of day 10-14 embryos but disappeared by day 18. Rae-1 transcripts were detected in several transformed cell lines but are absent from most normal adult tissues. All Rae-1 family members bind to mouse NKG2D, an activating receptor expressed on NK cells and some T cell subsets, resulting in the activation of cytolytic activity and/or cytokine production by these effector cells. Ectopic expression of Rae-1 on mouse tumor cell lines resulted in the *in vivo* rejection of the tumors (1-7).

References:

1. Zou, Z. *et al.* (1996) J. Biochem (Tokyo) **119**:319.
2. Diefenbach, A. *et al.* (2000) Nature Immunol. **1**:119.
3. Cerwenka, A. *et al.* (2000) Immunity **12**:721.
4. Cerwenka, A. *et al.* (2001) Proc. Natl. Acad. Sci. USA **98**:11521.
5. Diefenbach, A. *et al.* (2001) Nature **413**:165.
6. Champsaur, M. *et al.* (2010) J. Immunol. **185**:157.
7. Markiewicz M. *et al.* (2012) Immunity **36**:132.

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