

DESCRIPTION

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| Species Reactivity | Mouse |
| Specificity | Detects mouse Rae-1 ϵ in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant mouse Rae-1 α , β , γ , or δ is observed. By flow cytometry, no cross-reactivity with mouse Rae-1 α or mouse Rae-1 γ . |
| 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-1 ϵ |
| Conjugate | Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 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 μ g/10 ⁶ cells | BaF3 mouse pro-B cell line transfected with mouse Rae-1 ϵ |

PREPARATION AND STORAGE

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| 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. <ul style="list-style-type: none"> 12 months from date of receipt, 2 to 8 °C as supplied. |

BACKGROUND

Rae-1 ϵ is a member of a family of cell-surface proteins that function as ligands for mouse NKG2D. Other family members are designated Rae-1 α , 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 α 1 and α 2 Ig-like domains, and they have no capacity to bind peptide or interact with β 2-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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