

## DESCRIPTION

<b>Species Reactivity</b>	Mouse
<b>Specificity</b>	Detects mouse Rae-1 $\epsilon$ in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant mouse Rae-1 $\alpha$ , $\beta$ , $\gamma$ , or $\delta$ is observed. By flow cytometry, no cross-reactivity with mouse Rae-1 $\alpha$ or mouse Rae-1 $\gamma$ .
<b>Source</b>	Monoclonal Rat IgG <sub>2A</sub> Clone # 205001
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	BaF3 mouse pro-B cell line transfected with mouse Rae-1 $\epsilon$
<b>Conjugate</b>	Alexa Fluor 700 Excitation Wavelength: 675-700 nm Emission Wavelength: 723 nm
<b>Formulation</b>	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
<b>Flow Cytometry</b>	0.25-1 $\mu$ g/10 <sup>6</sup> cells	BaF3 mouse pro-B cell line transfected with mouse Rae-1 $\epsilon$

## PREPARATION AND STORAGE

<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<b>Protect from light. Do not freeze.</b> <ul style="list-style-type: none"> <li>12 months from date of receipt, 2 to 8 °C as supplied.</li> </ul>

## BACKGROUND

Rae-1 $\epsilon$  is a member of a family of cell-surface proteins that function as ligands for mouse NKG2D. Other family members are designated Rae-1 $\alpha$ ,  $\beta$ ,  $\gamma$ , and  $\delta$ . 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  $\alpha$ 1 and  $\alpha$ 2 Ig-like domains, and they have no capacity to bind peptide or interact with  $\beta$ 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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