Mouse Rae-1 Pan Specific Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1136

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Rae-1γ as well as mouse Rae-1α, 1β, 1δ and 1ε in direct ELISAs and Western blots.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse Rae-1γ Leu29-Ser231 Accession # O08604
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 as a 0.2 µm filtered solution in PBS.

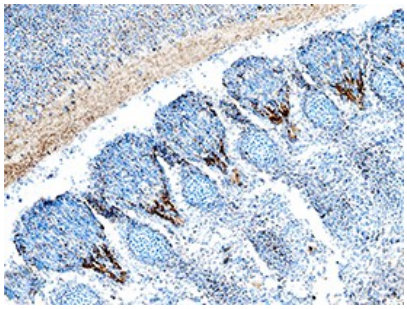
APPLICATIONS

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
Western Blot	0.1 µg/mL	Recombinant Mouse Rae-1γ Fc Chimera (Catalog # 1136-RA)
Immunohistochemistry	5-15 µg/mL	See Below
Blockade of Receptor-ligand Interaction	In a functional ELISA, 0.2-0.6 µg/mL of this antibody will block 50% of the binding of 125 ng/mL of Recombinant Biotinylated Mouse NKG2D Fc Chimera to immobilized Recombinant Mouse Rae-1γ Fc Chimera (Catalog # 1136-RA) coated at 1 µg/mL (100 µL/well). At 4 µg/mL, this antibody will block >90% of the binding.	

DATA

Immunohistochemistry



Rae-1 in Mouse Embryo. Rae-1 was detected in immersion fixed frozen sections of mouse embryo (13 d.p.c.) using Goat Anti-Mouse Rae-1 Pan Specific Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1136) at 5 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Specific staining was localized to axons of primary sensory neurons. View our protocol for Chromogenic IHC Staining of Frozen Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 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-1γ 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, δ and ε. 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 (1-6).

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. NKG2D and its Ligands, www.RnDSystems.com.

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