

## DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Rat                                                                                                                                                                                                                                                                         |
| <b>Specificity</b>        | Detects rat IL-9 R in direct ELISAs and Western blots. In direct ELISAs and Western blots, approximately 40% cross-reactivity with recombinant mouse IL-9 R is observed and approximately 10% cross-reactivity with recombinant human IL-9&                                 |
| <b>Source</b>             | Polyclonal Goat IgG                                                                                                                                                                                                                                                         |
| <b>Purification</b>       | Antigen Affinity-purified                                                                                                                                                                                                                                                   |
| <b>Immunogen</b>          | Mouse myeloma cell line NS0-derived recombinant rat IL-9 R<br>Val38-Ala270<br>Accession # EDM04022                                                                                                                                                                          |
| <b>Conjugate</b>          | Alexa Fluor 350<br>Excitation Wavelength: 346 nm<br>Emission Wavelength: 442 nm                                                                                                                                                                                             |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*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.

**Western Blot** Optimal dilution of this antibody should be experimentally determined.

## 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 IL-9 receptor alpha protein is a member of the type I cytokine receptor family. It is a 62 kDa IL-9 receptor subunit (previously Gfi-2, designated CD129) that binds IL-9 and pairs with the 64 kDa cytokine receptor common γ-chain to allow cell signaling (1-3). The 467 amino acid (aa) rat IL-9 Rα precursor is predicted to contain a 37 aa signal sequence, a 232 aa extracellular domain (ECD) with four conserved cysteine residues in its N-terminal region, a fibronectin type III domain and a WSXWS motif, a 21 aa transmembrane (TM) domain, and a 177 aa cytoplasmic domain with a Box 1 JAK-binding motif (1, 2, 4). A potential isoform contains a 36 aa sequence that is substituted for the TM and cytoplasmic domains (5). The ECD of rat IL-9 Rα shares 86%, 63%, 66%, 63% and 59% aa identity with the ECD of mouse, human, equine, canine and bovine IL-9 Rα, respectively. Mast cells, germinal center and B-1b B cells, T cell blasts, and myeloid progenitors express IL-9 R (1, 6-8). The primary functions of IL-9 have been difficult to determine due to the cross-functionality and cross-induction of cytokines. IL-9 production by regulatory T cells (T-regs), however, is crucial for mast cell recruitment and differentiation, which in turn is crucial for tolerance of allografts (7). Genetic deletion and transgenic expression of IL-9 and other cytokines has also demonstrated the role of IL-9 in mastocytosis, eosinophilia and B cell infiltration of the lung in a mouse asthma-like model, while IL-9 induction of IL-13 is responsible for eosinophil recruitment and mucous upregulation (8-10).

## PRODUCT SPECIFIC NOTICES

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