

## DESCRIPTION

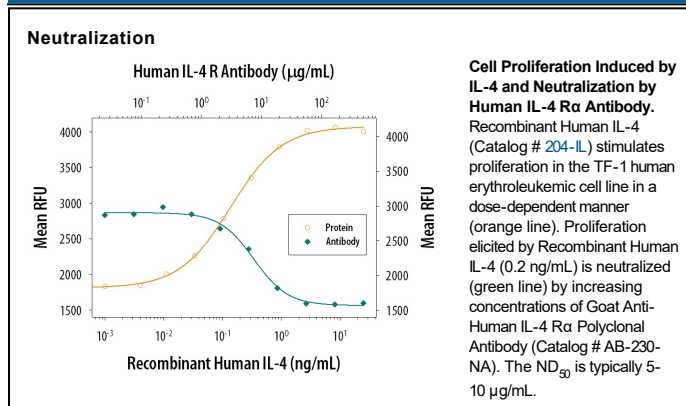
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human IL-4 R $\alpha$ in direct ELISAs and Western blots. In direct ELISAs, less than 1% cross-reactivity with recombinant human (rh) IL-5 R $\alpha$ , rhIL-5 R $\beta$ , rhIL-9 R, rhIL-13 R $\alpha$ 1, rhIL-13 R $\alpha$ 2 and recombinant mouse IL-4 R is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Protein A or G purified
<b>Immunogen</b>	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant human IL-4 R $\alpha$ Gly24-His232 Accession # P24394
<b>Endotoxin Level</b>	<0.10 EU per 1 $\mu$ g of the antibody by the LAL method.
<b>Formulation</b>	Lyophilized from a 0.2 $\mu$ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

## 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>Western Blot</b>	1 $\mu$ g/mL	Recombinant Human IL-4 R $\alpha$ (Catalog # 230-4R)
<b>Neutralization</b>		Measured by its ability to neutralize IL-4-induced proliferation in the TF-1 human erythroleukemic cell line. Kitamura, T. <i>et al.</i> (1989) <i>J. Cell Physiol.</i> <b>140</b> :323. The Neutralization Dose (ND <sub>50</sub> ) is typically 5-10 $\mu$ g/mL in the presence of 0.2 ng/mL Recombinant Human IL-4.

## DATA



## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 1 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

Interleukin 4 (IL-4) is a pleiotropic cytokine produced by activated T cells, mast cells, and basophils. The biological functions of IL-4 are mediated by the binding of IL-4 to high-affinity cell surface receptor complexes. Two types of IL-4 receptor complexes have been described. The type I IL-4 receptor complex is composed of a high-affinity IL-4-binding subunit (referred to as IL-4 R $\alpha$ ) and the common  $\gamma$  chain that does not bind IL-4 by itself. The type II IL-4 receptor complex is composed of IL-4 R $\alpha$  and IL-13 R $\alpha$ 1. Besides IL-4 signals, the type II IL-4 receptor complex can also transduce IL-13 signals. In the type II complex, the IL-4 R $\alpha$  subunit binds only IL-4 and not IL-13. Similarly, the IL-13 R $\alpha$ 1 subunit binds only IL-13 and not IL-4. The cDNA clones for both the human and mouse IL-4 R $\alpha$  have been isolated and shown to encode an approximately 140 kDa type I transmembrane protein with a large cytoplasmic domain that is essential for signal transduction. In mouse cells, an alternatively spliced variant encoding a soluble secreted IL-4 R $\alpha$  isoform has also been identified. Naturally occurring soluble IL-4 R $\alpha$  that binds IL-4 with high-affinity has been found in mouse and human biological fluids.

## References:

1. Keegan, A.D. (2001) in *Cytokine Reference*, Academic Press, Vol. 1:127.