

## DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects human IL-11 R $\alpha$ in direct ELISAs.                                                                                                                                                                                                                            |
| <b>Source</b>             | Monoclonal Mouse IgG <sub>2B</sub> Clone # 1020854                                                                                                                                                                                                                          |
| <b>Purification</b>       | Protein A or G purified from hybridoma culture supernatant                                                                                                                                                                                                                  |
| <b>Immunogen</b>          | Chinese Hamster Ovary cell line, CHO-derived human IL-11 R $\alpha$ Ser24-Val363<br>Accession # Q14626                                                                                                                                                                      |
| <b>Conjugate</b>          | Alexa Fluor 647<br>Excitation Wavelength: 650 nm<br>Emission Wavelength: 668 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

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <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> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

## BACKGROUND

Interleukin-11 receptor alpha (IL-11 R $\alpha$ ) is a 49 kDa type I transmembrane member of the gp130 subfamily of the hematopoietic cytokine receptor family (1-3). Mature human IL-11 R $\alpha$  consists of a 347 amino acid (aa) extracellular domain (ECD) that contains a C2 type Ig-like domain, two fibronectin type III domains, two potential glycosylation sites, and a WSxWS motif, followed by a 21 aa transmembrane region and a 31 aa cytoplasmic domain (4). Within the ECD, human IL-11 R $\alpha$  shares 84%, 82%, 90%, and 86% aa sequence identity with mouse, rat, equine, and bovine IL-11 R $\alpha$ , respectively. Alternative splicing generates an additional isoform that lacks the cytoplasmic domain (4). Upon low affinity binding to IL-11, IL-11 R $\alpha$  associates with gp130 to form a high affinity receptor complex (1, 3). gp130 also functions as a subunit in the receptors for Cardiotrophin-1, CNTF, IL-6, IL-27, IL-31, LIF, and Oncostatin M (5). IL-11 R $\alpha$  is widely expressed in adults, embryos, and embryonic stem cells (4, 6, 7). Deletion of IL-11 R $\alpha$  in female mice causes faulty decidualization, lack of decidual NK cells, and infertility (8-10). IL-11 is anti-apoptotic for oligodendrocytes, and lack of IL-11 R $\alpha$  increases the severity of experimental autoimmune encephalitis (11, 12). IL-11 R $\alpha$  is also anti-apoptotic for colonic epithelia, and increased IL-11 signaling may be a factor in inflammation-associated gastrointestinal cancer development (3, 13). IL-11 R $\alpha$  enhances osteoclast differentiation and bone remodeling but inhibits adipocyte differentiation (1, 2). Recombinant soluble IL-11 R $\alpha$  confers IL-11 responsiveness to cells expressing gp130, while in cells expressing transmembrane IL-11 R $\alpha$  and gp130, soluble IL-11 R $\alpha$  acts as an IL-11 antagonist (14-16).

## PRODUCT SPECIFIC NOTICES

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