

#### DESCRIPTION

<b>Species Reactivity</b>	Mouse
<b>Specificity</b>	Detects mouse IL-27 R $\alpha$ /WSX-1/TCCR in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant mouse gp130 or recombinant human IL-27 R $\alpha$ is observed.
<b>Source</b>	Monoclonal Rat IgG <sub>2B</sub> Clone # 263503
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant mouse IL-27 R $\alpha$ /WSX-1/TCCR Gly29-Lys510 Accession # O70394
<b>Conjugate</b>	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 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 µg/10 <sup>6</sup> cells	Mouse splenocytes

#### 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> ● 12 months from date of receipt, 2 to 8 °C as supplied.

#### BACKGROUND

IL-27 R $\alpha$  (also known as WSX-1 and TCCR) is a 85-95 kDa member of the type I, group 2 cytokine receptor family (1-6). Mature IL-27 R $\alpha$  is a type I transmembrane glycoprotein that contains a 486 amino acid (aa) extracellular region, a 21 aa transmembrane segment and a 92 aa cytoplasmic domain. Consistent with type I cytokine receptors, the extracellular region contains four positionally conserved cysteine residues, a WSxWS motif (for receptor folding and ligand binding), and three fibronectin type III repeats. The intracellular domain contains a "box-1" motif that may be involved with Janus kinases (3). In mouse, a soluble 33 kDa splice form that shows a 20 aa substitution for aa 251-623 has been identified (7). The mouse IL-27 R $\alpha$  extracellular region shares 63% amino acid identity with the human IL-27 R $\alpha$  extracellular domain (2, 3). IL-27 R $\alpha$  is expressed in mast cells, endothelial cells, NK cells, macrophages, monocytes, B cells, dendritic cells, and naïve T cells (1, 2, 4, 8). Typical of other class I cytokine receptor chains, the ligand binding IL-27 R $\alpha$  molecule is known to heterodimerize with a signal-transducing subunit (gp130) to form a functional IL-27 receptor (9, 10). In addition, IL-27 R $\alpha$  is reported to complex with CNTFR $\alpha$  and gp130 form a humanin receptor on neurons (7, 11), and to complex with gp130 and IL-6 R to form a receptor for a p28:CLF heterodimeric cytokine on lymphocytes (12). Studies using IL-27 R $\alpha$ /WSX-1<sup>-/-</sup> mice reveal that IL-27 has the ability to suppress T cell activity during infection, and to mediate an inhibition of both type 1 and type 2 T cell immunity (4, 13, 14). In particular, IL-27 is known to act on naïve T cells, blocking their differentiation into a Th17 phenotype. Notably, cells committed to a Th17 phenotype, although they express a functional IL-27 receptor, are unresponsive to the effects of IL-27 (15). Activated T cells that are CD4+ and CD8+, and which express the IL-27 receptor, can be induced by IL-27 to form a double-positive CD25+ FoxP3+ IFN- $\gamma$  plus IL-10 secreting phenotype that both promotes and suppresses the inflammatory response (16).

#### References:

- Villarino, A.V. *et al.* (2004) *J. Immunol.* **173**:715.
- Chen, Q. *et al.* (2000) *Nature* **407**:916.
- Sprecher, C.A. *et al.* (1998) *Biochem. Biophys. Res. Commun.* **246**:82.
- Artis, D. *et al.* (2004) *J. Immunol.* **173**:5626.
- Yoshida, H. and Y. Miyazaki (2008) *Int. J. Biochem. Cell Biol.* **40**:2379.
- Yoshida, H. and M. Yoshiyuki (2008) *Immunol. Rev.* **226**:234.
- Hashimoto, Y. *et al.* (2009) *Biochem. Biophys. Res. Commun.* **389**:95.
- Holscher, C. *et al.* (2005) *J. Immunol.* **174**:3534.
- Pflanz, S. *et al.* (2004) *J. Immunol.* **172**:2225.
- Scheller, J. *et al.* (2005) *Biochem. Biophys. Res. Commun.* **326**:724.
- Hashimoto, Y. *et al.* (2009) *Mol. Biol. Cell* **20**:2864.
- Crabe, S. *et al.* (2009) *J. Immunol.* **183**:7692.
- Villarino, A. *et al.* (2003) *J. Immunol.* **170**:645.
- Hamano, S. *et al.* (2003) *Immunity* **19**:657.
- El-behi, M. *et al.* (2009) *J. Immunol.* **183**:4957.
- Fitzgerald, D.C. *et al.* (2007) *Nat. Immunol.* **8**:1372.

# Mouse IL-27 R $\alpha$ /WSX-1/TCCR Alexa Fluor® 405-conjugated Antibody

Monoclonal Rat IgG<sub>2B</sub> Clone # 263503

Catalog Number: FAB21091V  
100  $\mu$ g

## PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.