

# Mouse IL-27 R $\alpha$ /WSX-1/TCCR Alexa Fluor® 750-conjugated Antibody

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

Catalog Number: FAB21091S

100 µg

## 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<br>Gly29-Lys510<br>Accession # O70394                                                                                                                                                                                                         |
| <b>Conjugate</b>          | Alexa Fluor 750<br>Excitation Wavelength: 749 nm<br>Emission Wavelength: 775 nm                                                                                                                                                                                                                                                  |
| <b>Formulation</b>        | Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.<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.

|                       | <b>Recommended Concentration</b> | <b>Sample</b>     |
|-----------------------|----------------------------------|-------------------|
| <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><br>● 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<sup>+</sup> and CD8<sup>+</sup>, and which express the IL-27 receptor, can be induced by IL-27 to form a double-positive CD25<sup>+</sup> FoxP3<sup>+</sup> IFN- $\gamma$  plus IL-10 secreting phenotype that both promotes and suppresses the inflammatory response (16).

## References:

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