Mouse IL-27 Rα/WSX-1/TCCR Antibody

Monoclonal Rat IgG_{2B} Clone # 263503

Catalog Number: MAB21091

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse IL-27 Rα/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 Rα is observed.
Source	Monoclonal Rat IgG_{2B} Clone # 263503
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse IL-27 Rα/WSX-1/TCCR Gly29-Lys510 Accession # O70394
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

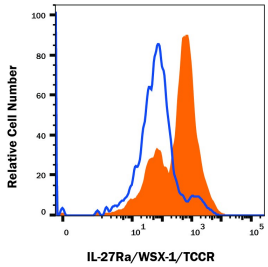
APPLICATIONS

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
Western Blot	1 µg/mL	Recombinant Mouse IL-27 Rα/WSX-1/TCCR Fc Chimera (Catalog # 2109-TC)
Flow Cytometry	2.5 µg/10^6 cells	Mouse splenocytes
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

DATA

Flow Cytometry



Detection of IL-27 Rα/WSX-1/TCCR in Mouse splenocytes by Flow Cytometry Mouse splenocytes were stained with Rat Anti-Mouse IL-27 Rα/WSX-1/TCCR Monoclonal Antibody (Catalog # MAB21091, filled histogram) or isotype control antibody (Catalog # MAB0061, open histogram) followed by Allophycocyanin-conjugated Anti-Rat IgG Secondary Antibody (Catalog # F0113). View our protocol for Staining Membrane-associated Proteins.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS. For liquid material, refer to CoA for concentration.
Shipping	Lyophilized product is shipped at ambient temperature. Liquid small pack size (-SP) is shipped with polar packs. Upon receipt, store immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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Global | bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL: 1.612.379.2956
USA | TEL: 800.343.7475 Canada | TEL: 855.668.8722 Europe | Middle East | Africa TEL: +44.0.1235.529449
China | info.cn@bio-techne.com TEL: 400.821.3475

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BACKGROUND

IL-27 Rα (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 Rα 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 Rα extracellular region shares 63% amino acid identity with the human IL-27 Rα extracellular domain (2, 3). IL-27 Rα 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 Rα molecule is known to heterodimerize with a signal-transducing subunit (gp130) to form a functional IL-27 receptor (9, 10). In addition, IL-27 Rα is reported to complex with CNTFRα 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 Rα/WSX-$1^{-/-}$ 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-γ plus IL-10 secreting phenotype that both promotes and suppresses the inflammatory response (16).

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