Human IL-27 Rα/WSX-1/TCCR Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1479

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IL-27 Rα/WSX-1/TCCR in direct ELISAs and Western blots. In direct ELISAs, approximately 20% cross-reactivity with recombinant mouse TCCR is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human IL-27 Rα/WSX-1/TCCR Gly34-Lys516 Accession # Q6UWB1
Formulation	Lyophilized from a 0.2 μm 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
Western Blot	0.1 µg/mL	Recombinant Human IL-27 Rα/WSX-1/TCCR Fc Chimera (Catalog # 1479-TC)
Immunohistochemistry	5-15 µg/mL	Immersion fixed paraffin-embedded sections of human lymph node

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it 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.

BACKGROUND

IL-27 Rα (also known as WSX-1 and TCCR) is a 96-100 kDa member of the type I, group 2 cytokine receptor family (1, 2, 3, 4, 5, 6). Mature IL-27 Rα is a type I transmembrane glycoprotein that contains a 484 amino acid (aa) extracellular region, a 21 aa transmembrane segment and a 99 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). One potential alternate splice form has been hypothesized that involves a 58 aa addition to the cytoplasmic domain and, based on mouse, a soluble 33 kDa splice form that shows a 20 aa substitution for aa 257-636 may also occur in human (3, 7). The human IL-27 Rα extracellular region shares 63% amino acid identity with the mouse 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).

References:

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