Human IL-27 Rα/WSX-1/TCCR Alexa Fluor® 405-conjugated Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1479V
100 µg

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
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *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.
Immunohistochemistry	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

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).

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