

IL-37 Antibody

Catalog # ASC11707

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q9NZH6
Other Accession	NP_055254 , 20127524
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	24126
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	IL-37 antibody can be used for detection of IL-37 by Western blot at 1 - 2 μ g/ml.

Additional Information

Gene ID	27178
Other Names	Interleukin-37, FIL1 zeta, IL-1X, Interleukin-1 family member 7, IL-1F7, Interleukin-1 homolog 4, IL-1H, IL-1H4, Interleukin-1 zeta, IL-1 zeta, Interleukin-1-related protein, IL-1RP1, Interleukin-23, IL-37, IL37, FIL1Z, IL1F7, IL1H4, IL1RP1
Target/Specificity	IL37; IL-37 antibody is human specific. Multiple isoforms of IL-37 are known to exist; this antibody will only detect the largest isoform. IL-37 antibody is predicted to not cross-react with IL-36.
Reconstitution & Storage	IL-37 antibody can be stored at 4°C for three months and -20°C, stable for up to one year.
Precautions	IL-37 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	IL37 (HGNC:15563)
Function	Immune regulatory cytokine that acts as a suppressor of innate inflammatory and immune responses involved in curbing excessive inflammation. Signaling can occur via two mechanisms, intracellularly through nuclear translocation with SMAD3 and extracellularly after secretion and binding to its receptor composed of IL18R1 and IL18RAP. Suppresses, or reduces, pro-inflammatory cytokine production, including IL1A and IL6, as well as CCL12, CSF1, CSF2, CXCL13, IL1B, IL23A and IL1RN, but spares anti-inflammatory cytokines. Inhibits dendritic cell activation.

Cellular Location

Cytoplasm, cytosol. Nucleus. Secreted Note=Stimulation with IL1B leads to colocalization with SMAD3 mostly in perinuclear regions (PubMed:20935647, PubMed:33674380). Only the CASP1- cleaved mature form translocates into the nucleus upon LPS stimulation (PubMed:18390730). The secretion is dependent on protein unfolding and facilitated by the cargo receptor TMED10; it results in protein translocation from the cytoplasm into the ERGIC (endoplasmic reticulum- Golgi intermediate compartment) followed by vesicle entry and secretion (PubMed:32272059, PubMed:33674380).

Tissue Location

In general, low constitutive expression, if any, in healthy tissues; high expression in inflammatory counterparts, including in synovial tissues from individuals with active rheumatoid arthritis. Isoform A, isoform B and isoform C are expressed in testis, colon, placenta, lung and lymph node. Isoform D and isoform E were found only in testis and bone marrow. Whereas only isoform A is found in brain, only isoform B in kidney and only isoform C in heart

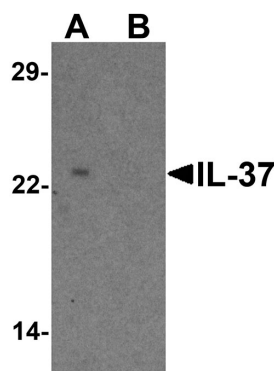
Background

Interleukin 37 (IL-37) is a member of the interleukin 1 cytokine family (reviewed in 1). It can bind to, and may be a ligand for interleukin 18 receptor (IL18R1/IL-1Rrp). IL-37 also binds to interleukin 18 binding protein (IL18BP), an inhibitory binding protein of interleukin 18 (IL18), and subsequently forms a complex with IL18 receptor beta subunit, and through which it inhibits the activity of IL18 (1). IL-37 can also interact with Smad3 and expression of IL-37 in macrophages or epithelial cells resulted in near complete suppression of pro-inflammatory cytokines, suggesting that IL-37 may act as a natural suppressor of the innate inflammatory and immune responses (2,3).

References

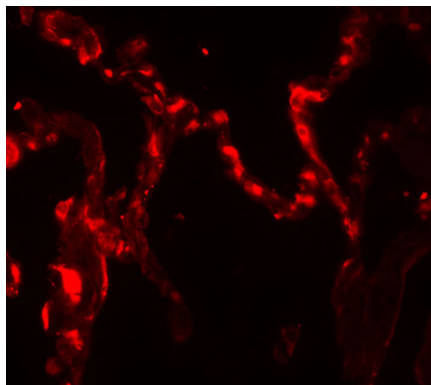
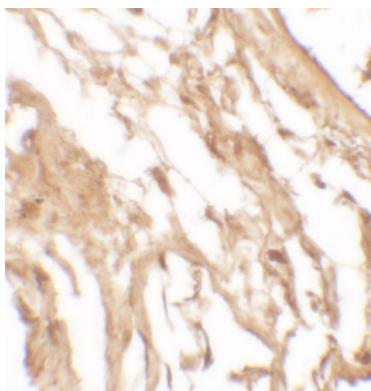
Boraschi D, Lucchesi D, Hainzl S, et al. IL-37: a new anti-inflammatory cytokine of the IL-1 family. *Eur. Cytokine Netw.* 2011; 22:127-47.
Nold MF, Nold-Petry CA, Zepp JA, et al. Interleukin 37 is a fundamental inhibitor of innate immunity. *Nat. Immunol.* 2010; 11:1014-22.
Sakai N, Van Sweringen HL, Belizaire RM, et al. Interleukin-37 reduces liver inflammatory injury via effects on hepatocytes and non-parenchymal cells. *J. Gastroenterol. Hepatol.* 2012; 27:1609-16.

Images



Western blot analysis of IL-37 in human lung tissue lysate with IL-37 antibody at 1 µg/ml in (A) the presence and (B) the absence of blocking peptide.

Immunohistochemistry of IL-12A in human kidney tissue with IL-12A antibody at 5 µg/mL.



Immunofluorescence of IL-12A in human kidney tissue with IL-12A antibody at 20 µg/mL.

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