

Anti-ITCH/AIP4 Picoband Antibody

Catalog # ABO12184

Product Information

Application	WB
Primary Accession	Q96J02
Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for E3 ubiquitin-protein ligase Itchy homolog(ITCH) detection. Tested with WB in Human.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	83737
Other Names	E3 ubiquitin-protein ligase Itchy homolog, Itch, 2.3.2.26, Atrophin-1-interacting protein 4, AIP4, HECT-type E3 ubiquitin transferase Itchy homolog, NFE2-associated polypeptide 1, NAPP1, ITCH
Calculated MW	102803
Application Details	Western blot, 0.1-0.5 µg/ml, Human
Subcellular Localization	Cell membrane. Cytoplasm . Nucleus. Associates with endocytic vesicles. May be recruited to exosomes by NDFIP1.
Tissue Specificity	Widely expressed.
Source	Eukaryota
Protein Name	E3 ubiquitin-protein ligase Itchy homolog
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.05mg NaN ₃ .
Immunogen	A synthetic peptide corresponding to a sequence in the middle region of human ITCH/AIP4 (410-437aa AMQQFNQRFIYGNQDLFATSQSKEFDPL), different from the related mouse sequence by one amino acid.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins
Storage	At -20 °C for one year. After reconstitution, at 4 °C for one month. It can also

Sequence Similarities

be aliquotted and stored frozen at -20 °C for a longer time.Avoid repeated freezing and thawing.
Contains 1 C2 domain.

Protein Information

Name

ITCH

Function

Acts as an E3 ubiquitin-protein ligase which accepts ubiquitin from an E2 ubiquitin-conjugating enzyme in the form of a thioester and then directly transfers the ubiquitin to targeted substrates (PubMed:[11046148](#), PubMed:[14602072](#), PubMed:[15051726](#), PubMed:[16387660](#), PubMed:[17028573](#), PubMed:[18718448](#), PubMed:[18718449](#), PubMed:[19116316](#), PubMed:[19592251](#), PubMed:[19881509](#), PubMed:[20068034](#), PubMed:[20392206](#), PubMed:[20491914](#), PubMed:[23146885](#), PubMed:[24790097](#), PubMed:[25631046](#)). Catalyzes 'Lys-29', 'Lys-48' and 'Lys-63'-linked ubiquitin conjugation (PubMed:[17028573](#), PubMed:[18718448](#), PubMed:[19131965](#), PubMed:[19881509](#)). Involved in the control of inflammatory signaling pathways (PubMed:[19131965](#)). Essential component of a ubiquitin-editing protein complex, comprising also TNFAIP3, TAX1BP1 and RNF11, that ensures the transient nature of inflammatory signaling pathways (PubMed:[19131965](#)). Promotes the association of the complex after TNF stimulation (PubMed:[19131965](#)). Once the complex is formed, TNFAIP3 deubiquitinates 'Lys-63' polyubiquitin chains on RIPK1 and catalyzes the formation of 'Lys-48'-polyubiquitin chains (PubMed:[19131965](#)). This leads to RIPK1 proteasomal degradation and consequently termination of the TNF- or LPS-mediated activation of NFkB1 (PubMed:[19131965](#)). Ubiquitinates RIPK2 by 'Lys-63'-linked conjugation and influences NOD2-dependent signal transduction pathways (PubMed:[19592251](#)). Regulates the transcriptional activity of several transcription factors, and probably plays an important role in the regulation of immune response (PubMed:[18718448](#), PubMed:[20491914](#)). Ubiquitinates NFE2 by 'Lys-63' linkages and is implicated in the control of the development of hematopoietic lineages (PubMed:[18718448](#)). Mediates JUN ubiquitination and degradation (By similarity). Mediates JUNB ubiquitination and degradation (PubMed:[16387660](#)). Critical regulator of type 2 helper T (Th2) cell cytokine production by inducing JUNB ubiquitination and degradation (By similarity). Involved in the negative regulation of MAVS-dependent cellular antiviral responses (PubMed:[19881509](#)). Ubiquitinates MAVS through 'Lys-48'-linked conjugation resulting in MAVS proteasomal degradation (PubMed:[19881509](#)). Following ligand stimulation, regulates sorting of Wnt receptor FZD4 to the degradative endocytic pathway probably by modulating PI42KA activity (PubMed:[23146885](#)). Ubiquitinates PI4K2A and negatively regulates its catalytic activity (PubMed:[23146885](#)). Ubiquitinates chemokine receptor CXCR4 and regulates sorting of CXCR4 to the degradative endocytic pathway following ligand stimulation by ubiquitinating endosomal sorting complex required for transport ESCRT-0 components HGS and STAM (PubMed:[14602072](#), PubMed:[23146885](#), PubMed:[34927784](#)). Targets DTX1 for lysosomal degradation and controls NOTCH1 degradation, in the absence of ligand, through 'Lys-29'-linked polyubiquitination (PubMed:[17028573](#), PubMed:[18628966](#), PubMed:[23886940](#)). Ubiquitinates SNX9 (PubMed:[20491914](#)). Ubiquitinates MAP3K7 through 'Lys-48'-linked conjugation (By similarity). Together with UBR5, involved in the regulation of apoptosis and reactive oxygen species levels through the ubiquitination and proteasomal degradation of TXNIP: catalyzes 'Lys-48'-'Lys-63'-branched ubiquitination of TXNIP (PubMed:[20068034](#), PubMed:[29378950](#)). ITCH synthesizes 'Lys-63'-linked chains, while UBR5 is branching multiple

'Lys-48'-linked chains of substrate initially modified (PubMed:[29378950](#)). Mediates the antiapoptotic activity of epidermal growth factor through the ubiquitination and proteasomal degradation of p15 BID (PubMed:[20392206](#)). Ubiquitinates BRAT1 and this ubiquitination is enhanced in the presence of NDFIP1 (PubMed:[25631046](#)). Inhibits the replication of influenza A virus (IAV) via ubiquitination of IAV matrix protein 1 (M1) through 'Lys-48'-linked conjugation resulting in M1 proteasomal degradation (PubMed:[30328013](#)). Ubiquitinates NEDD9/HEF1, resulting in proteasomal degradation of NEDD9/HEF1 (PubMed:[15051726](#)).

Cellular Location

Cell membrane; Peripheral membrane protein; Cytoplasmic side. Cytoplasm. Nucleus Early endosome membrane; Peripheral membrane protein; Cytoplasmic side. Endosome membrane; Peripheral membrane protein; Cytoplasmic side. Note=May be recruited to exosomes by NDFIP1 (PubMed:18819914). Localizes to plasma membrane upon CXCL12 stimulation where it co-localizes with CXCL4 (PubMed:14602072) Localization to early endosomes is increased upon CXCL12 stimulation where it co-localizes with DTX3L and CXCL4 (PubMed:24790097)

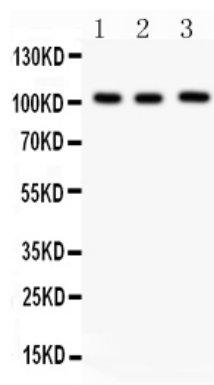
Tissue Location

Widely expressed.

Background

ITCH is an ubiquitin-conjugating enzyme. This gene encodes a member of the Nedd4 family of HECT domain E3 ubiquitin ligases. HECT domain E3 ubiquitin ligases transfer ubiquitin from E2 ubiquitin-conjugating enzymes to protein substrates, thus targeting specific proteins for lysosomal degradation. The encoded protein plays a role in multiple cellular processes including erythroid and lymphoid cell differentiation and the regulation of immune responses. Mutations in this gene are a cause of syndromic multisystem autoimmune disease. Alternatively spliced transcript variants encoding multiple isoforms have been observed for this gene.

Images



Anti- ITCH Picoband antibody, ABO12184, Western blottingAll lanes: Anti ITCH (ABO12184) at 0.5ug/mlLane 1: HELA Whole Cell Lysate at 40ugLane 2: RAJI Whole Cell Lysate at 40ugLane 3: U937 Whole Cell Lysate at 40ugPredicted bind size: 103KDObserved bind size: 103KD

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.