

ITCH Antibody

Rabbit mAb

Catalog # AP92401

Product Information

Application	WB, IHC
Primary Accession	Q96J02
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Other Names	ITCH; AIF4; AIP4; NAPP1;
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	102803

Additional Information

Dilution	WB 1:1000~1:5000 IHC 1:100~1:500
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human ITCH
Description	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. It catalyzes 'Lys-29', 'Lys-48' and 'Lys-63'-linked ubiquitin conjugation. It is involved in the control of inflammatory signaling pathways.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

Protein Information

Name	ITCH
Function	Acts as an 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 NFκB1 (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](#)).

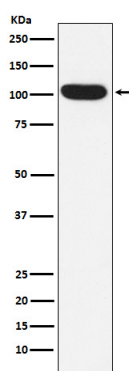
Cellular Location

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.

Images



Western blot analysis of ITCH/AIP4 expression in K562 cell lysate.

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