

**Anti-ITCH/AIP4 Picoband Antibody**  
**Catalog # ABO12184****Specification**

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**Anti-ITCH/AIP4 Picoband Antibody - Product Information**

|                   |                        |
|-------------------|------------------------|
| Application       | WB                     |
| Primary Accession | <a href="#">Q96J02</a> |
| 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.

**Anti-ITCH/AIP4 Picoband Antibody - 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 MW KDa

**Application Details**

Western blot, 0.1-0.5 µg/ml, Human<br>

**Subcellular Localization**

Cell membrane. Cytoplasm . Nucleus. Associates with endocytic vesicles. May be recruited to exosomes by NDFIP1.

**Tissue Specificity**

Widely expressed.

**Protein Name**

E3 ubiquitin-protein ligase Itchy homolog

**Contents**

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na<sub>2</sub>HPO<sub>4</sub>, 0.05mg Na<sub>3</sub>.

**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 r°Constitution, at 4°C for one month. It°Can also be aliquotted and stored frozen at -20°C for a longer time.Avoid repeated freezing and thawing.**

**Sequence Similarities**

Contains 1 C2 domain.

**Anti-ITCH/AIP4 Picoband Antibody - 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:<a href="http://www.uniprot.org/citations/11046148" target="\_blank">11046148</a>, PubMed:<a href="http://www.uniprot.org/citations/14602072" target="\_blank">14602072</a>, PubMed:<a href="http://www.uniprot.org/citations/15051726" target="\_blank">15051726</a>, PubMed:<a href="http://www.uniprot.org/citations/16387660" target="\_blank">16387660</a>, PubMed:<a href="http://www.uniprot.org/citations/17028573" target="\_blank">17028573</a>, PubMed:<a href="http://www.uniprot.org/citations/18718448" target="\_blank">18718448</a>, PubMed:<a href="http://www.uniprot.org/citations/18718449" target="\_blank">18718449</a>, PubMed:<a href="http://www.uniprot.org/citations/19116316" target="\_blank">19116316</a>, PubMed:<a href="http://www.uniprot.org/citations/19592251" target="\_blank">19592251</a>, PubMed:<a href="http://www.uniprot.org/citations/19881509" target="\_blank">19881509</a>, PubMed:<a href="http://www.uniprot.org/citations/20068034" target="\_blank">20068034</a>, PubMed:<a href="http://www.uniprot.org/citations/20392206" target="\_blank">20392206</a>, PubMed:<a href="http://www.uniprot.org/citations/20491914" target="\_blank">20491914</a>, PubMed:<a href="http://www.uniprot.org/citations/23146885" target="\_blank">23146885</a>, PubMed:<a href="http://www.uniprot.org/citations/24790097" target="\_blank">24790097</a>, PubMed:<a href="http://www.uniprot.org/citations/25631046" target="\_blank">25631046</a>). Catalyzes 'Lys-29'-, 'Lys-48'-' and 'Lys-63'-linked ubiquitin conjugation (PubMed:<a href="http://www.uniprot.org/citations/17028573" target="\_blank">17028573</a>, PubMed:<a href="http://www.uniprot.org/citations/18718448" target="\_blank">18718448</a>, PubMed:<a href="http://www.uniprot.org/citations/19131965" target="\_blank">19131965</a>, PubMed:<a href="http://www.uniprot.org/citations/19881509" target="\_blank">19881509</a>). Involved in the control of inflammatory signaling pathways (PubMed:<a href="http://www.uniprot.org/citations/19131965" target="\_blank">19131965</a>). Essential component of a ubiquitin-editing protein complex, comprising also TNFAIP3, TAX1BP1 and RNF11, that ensures the transient nature of inflammatory signaling pathways (PubMed:<a href="http://www.uniprot.org/citations/19131965" target="\_blank">19131965</a>). Promotes the association of the complex after TNF stimulation (PubMed:<a href="http://www.uniprot.org/citations/19131965" target="\_blank">19131965</a>). Once the complex is formed, TNFAIP3 deubiquitinates 'Lys-63' polyubiquitin chains on RIPK1 and catalyzes the formation of 'Lys-48'-polyubiquitin chains (PubMed:<a href="http://www.uniprot.org/citations/19131965" target="\_blank">19131965</a>). This leads to RIPK1 proteasomal degradation and consequently termination of the TNF- or LPS-mediated activation of NFKB1 (PubMed:<a href="http://www.uniprot.org/citations/19131965" target="\_blank">19131965</a>). Ubiquitinates RIPK2 by 'Lys-63'-linked conjugation and

influences NOD2-dependent signal transduction pathways (PubMed:<a href="http://www.uniprot.org/citations/19592251" target="\_blank">19592251</a>). Regulates the transcriptional activity of several transcription factors, and probably plays an important role in the regulation of immune response (PubMed:<a href="http://www.uniprot.org/citations/18718448" target="\_blank">18718448</a>, PubMed:<a href="http://www.uniprot.org/citations/20491914" target="\_blank">20491914</a>). Ubiquitinates NFE2 by 'Lys-63' linkages and is implicated in the control of the development of hematopoietic lineages (PubMed:<a href="http://www.uniprot.org/citations/18718448" target="\_blank">18718448</a>). Mediates JUN ubiquitination and degradation (By similarity). Mediates JUNB ubiquitination and degradation (PubMed:<a href="http://www.uniprot.org/citations/16387660" target="\_blank">16387660</a>). 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:<a href="http://www.uniprot.org/citations/19881509" target="\_blank">19881509</a>). Ubiquitinates MAVS through 'Lys-48'-linked conjugation resulting in MAVS proteasomal degradation (PubMed:<a href="http://www.uniprot.org/citations/19881509" target="\_blank">19881509</a>). Following ligand stimulation, regulates sorting of Wnt receptor FZD4 to the degradative endocytic pathway probably by modulating PI42KA activity (PubMed:<a href="http://www.uniprot.org/citations/23146885" target="\_blank">23146885</a>). Ubiquitinates PI4K2A and negatively regulates its catalytic activity (PubMed:<a href="http://www.uniprot.org/citations/23146885" target="\_blank">23146885</a>). 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:<a href="http://www.uniprot.org/citations/14602072" target="\_blank">14602072</a>, PubMed:<a href="http://www.uniprot.org/citations/23146885" target="\_blank">23146885</a>, PubMed:<a href="http://www.uniprot.org/citations/34927784" target="\_blank">34927784</a>). Targets DTX1 for lysosomal degradation and controls NOTCH1 degradation, in the absence of ligand, through 'Lys-29'-linked polyubiquitination (PubMed:<a href="http://www.uniprot.org/citations/17028573" target="\_blank">17028573</a>, PubMed:<a href="http://www.uniprot.org/citations/18628966" target="\_blank">18628966</a>, PubMed:<a href="http://www.uniprot.org/citations/23886940" target="\_blank">23886940</a>). Ubiquitinates SNX9 (PubMed:<a href="http://www.uniprot.org/citations/20491914" target="\_blank">20491914</a>). 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:<a href="http://www.uniprot.org/citations/20068034" target="\_blank">20068034</a>, PubMed:<a href="http://www.uniprot.org/citations/29378950" target="\_blank">29378950</a>). ITCH synthesizes 'Lys-63'-linked chains, while UBR5 is branching multiple 'Lys-48'-linked chains of substrate initially modified (PubMed:<a href="http://www.uniprot.org/citations/29378950" target="\_blank">29378950</a>). Mediates the antiapoptotic activity of epidermal growth factor through the ubiquitination and proteasomal degradation of p15 BID (PubMed:<a href="http://www.uniprot.org/citations/20392206" target="\_blank">20392206</a>). Ubiquitinates BRAT1 and this ubiquitination is enhanced in the presence of NDFIP1 (PubMed:<a href="http://www.uniprot.org/citations/25631046" target="\_blank">25631046</a>). 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:<a href="http://www.uniprot.org/citations/30328013" target="\_blank">30328013</a>). Ubiquitinates NEDD9/HEF1, resulting in proteasomal degradation of NEDD9/HEF1 (PubMed:<a href="http://www.uniprot.org/citations/15051726" target="\_blank">15051726</a>).

### 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**

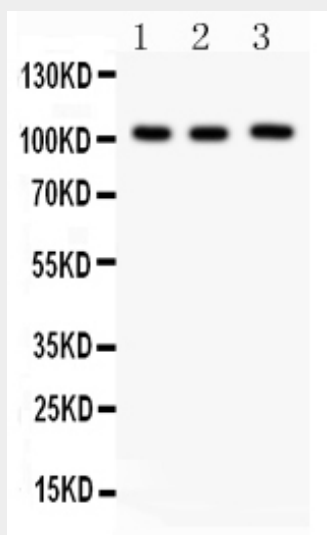
Widely expressed.

#### **Anti-ITCH/AIP4 Picoband Antibody - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### **Anti-ITCH/AIP4 Picoband Antibody - Images**



Anti- ITCH Picoband antibody, ABO12184, Western blotting All lanes: Anti ITCH (ABO12184) at 0.5ug/ml Lane 1: HELA Whole Cell Lysate at 40ug Lane 2: RAJI Whole Cell Lysate at 40ug Lane 3: U937 Whole Cell Lysate at 40ug Predicted bind size: 103KD Observed bind size: 103KD

#### **Anti-ITCH/AIP4 Picoband Antibody - 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.