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# ITCH Antibody (Center)
**Affinity Purified Rabbit Polyclonal Antibody (Pab)**
**Catalog # AP13626C**

## Specification

### ITCH Antibody (Center) - Product Information

| | |
|---|---|
| Application | **WB,E** |
| Primary Accession | Q96J02 |
| Other Accession | Q8C863, NP_113671.3 |
| Reactivity | **Mouse** |
| Host | **Rabbit** |
| Clonality | **Polyclonal** |
| Isotype | **Rabbit IgG** |
| Calculated MW | **102803** |
| Antigen Region | **509-536** |

### ITCH Antibody (Center) - Additional Information

**Gene ID** 83737

**Other Names**
E3 ubiquitin-protein ligase Itchy homolog, Itch, 632-, Atrophin-1-interacting protein 4, AIP4, NFE2-associated polypeptide 1, NAPP1, ITCH

**Target/Specificity**
This ITCH antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 509-536 amino acids from the Central region of human ITCH.

**Dilution**
WB~~1:1000
E~~Use at an assay dependent concentration.

**Format**
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

**Storage**
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**
ITCH Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

### ITCH Antibody (Center) - 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 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.

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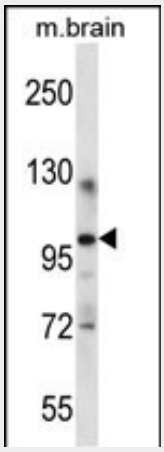
## ITCH Antibody (Center) - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

## ITCH Antibody (Center) - Images




ITCH Antibody (Center) (Cat. #AP13626c) western blot analysis in mouse brain tissue lysates (35ug/lane).This demonstrates the ITCH antibody detected the ITCH protein (arrow).

## ITCH Antibody (Center) - Background

Atrophin-1 contains a polyglutamine repeat, expansion of which is responsible for dentatorubral and pallidoluysian atrophy. The protein encoded by this gene interacts with atrophin-1. This encoded protein is a closely related member of the NEDD4-like protein family. This family of proteins are E3 ubiquitin-ligase molecules and regulate key trafficking decisions, including targeting of proteins to proteosomes or lysosomes. This encoded protein contains four tandem WW domains and a HECT (homologous to the E6-associated protein carboxyl terminus) domain. It can act as a transcriptional corepressor of p45/NFE2 and may participate in the regulation of immune responses by modifying Notch-mediated signaling. It is highly similar to the mouse Itch protein, which has been implicated in the regulation and differentiation of erythroid and lymphoid cells.

## ITCH Antibody (Center) - References

Yang, F., et al. Cell Death Differ. 17(8):1354-1367(2010)
Baumann, C., et al. FEBS J. 277(13):2803-2814(2010)
Venuprasad, K. Cancer Res. 70(8):3009-3012(2010)

Lohr, N.J., et al. Am. J. Hum. Genet. 86(3):447-453(2010)
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