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# Product Information

**Anti-ITCH**
produced in rabbit, affinity isolated antibody

Product Number **SAB4200036**

## Product Description

Anti-ITCH is produced in rabbit using as the immunogen a synthetic peptide corresponding to a fragment of human ITCH (GeneID 83737), conjugated to KLH. The corresponding sequence is highly conserved in mouse (83% identity) and in rat (77% identity) ITCH. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-ITCH specifically recognizes human and monkey ITCH. The antibody can be used in several immunochemical techniques including immunoblotting (~112 kDa). Detection of the ITCH band by immunoblotting is specifically inhibited by the ITCH immunizing peptide.

ITCH (also known as AIP4, AIF4, and NAPP1), a related member of the NEDD4-like protein family, belongs to the family of HECT E3 ubiquitin-ligases that regulate key trafficking decisions, including targeting of proteins to the proteasome or lysosomes. ITCH is disrupted in the non-agouti lethal mice or Itchy mice, leading to abnormal immune response and constant itching in the skin.[1]

ITCH/AIP4 protein contains an N-terminal C2 domain, four tandem WW domains, and a HECT (homologous to the E6-associated protein carboxyl terminus) domain. The WW domains are responsible for the recognition of substrate proteins. ITCH mediates ubiquitination and targets several proteins for degradation, including the transcription factors, p63, p73, c-Jun, JunB, and the receptors CXCR4, EGF, ErbB-4, and Notch.[1-6]

ITCH can act as a transcriptional corepressor of p45/NFE2 and may participate in the regulation of immune responses by modifying Notch-mediated signaling.[4,7] ITCH activity is regulated by diverse mechanisms including phosphorylation. JNK phosphorylates and activates ITCH-E3 ligase activity, which in turn controls the turnover of Jun proteins and T cell differentiation. In contrast, Fyn-mediated tyrosine phosphorylation of ITCH at $Tyr^{371}$ has been shown to negatively regulate ITCH ubiquitin ligase activity.[8]

## Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody concentration: ~1.5 mg/mL

## Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

## Storage/Stability

Store at –20 °C. For continuous use, the product may be stored at 2–8 °C for up to one month. For extended storage, freeze in working aliquots at –20 °C. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

## Product Profile

Immunoblotting: a working antibody concentration of 1.5-3.0 μg/mL is recommended using Jurkat and COS7 cell extracts.

Note: In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions by titration.

## References

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