

Recombinant Human ITCH / AIP4 Protein (aa 526-903)**Cat.NO.: TP06778**

3th Edition

Synonyms:ADMFD;AIF4;AIP4;dJ468O1.1;NAPP1

Description:E3 ubiquitin-protein ligase Itchy homolog, also known as Atrophin-1-interacting protein 4, NFE2-associated polypeptide 1, NAPP1 and ITCH, is a cell membrane protein which contains one C2 domain, one HECT (E6AP-type E3 ubiquitin-protein ligase) domain and contains four WW domains. ITCH 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. ITCH is involved in the control of inflammatory signaling pathways. It is an essential component of a ubiquitin-editing protein complex, comprising also TNFAIP3, TAX1BP1 and RNF11, that ensures the transient nature of inflammatory signaling pathways. ITCH promotes the association of the complex after TNF stimulation. Once the complex is formed, TNFAIP3 deubiquitinates 'Lys-63' polyubiquitin chains on RIPK1 and catalyzes the formation of 'Lys-48'-polyubiquitin chains. This leads to RIPK1 proteosomal degradation and consequently termination of the TNF- or LPS-mediated activation of NFKB1. Defects in ITCH are the cause of syndromic multisystem autoimmune disease (SMAD) which is characterized by organomegaly, failure to thrive, developmental delay, dysmorphic features and autoimmune inflammatory cell infiltration of the lungs, liver and gut.

Form:PBS**Molecular Weight:**40 kDa**Sequences:**Arg 526-Glu 903**Purity:**> 95% by HPLC**Concentration:****Endotoxin Level:**<1.0 EU per 1 ug of protein (determined by LAL method)**Storage:**Can be stored at +4°C short term (1-2 weeks). For long term storage, aliquot and store at -20°C or -70°C. Avoid repeated freezing and thawing cycles.