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# MATERIAL DATA SHEET

## Recombinant Human ITCH/AIP4 Isoform 2
## Cat. # E3-260

The mammalian Itchy homolog, or ITCH, (also known as Atrophin-1-interacting protein 4 or AIP4) is a HECT domain class ubiquitin E3 ligase. ITCH/AIP4 ubiquitinates the phosphorylated form of Dishevelled protein and promotes its degradation via the Ubiquitin Proteasome System, thereby inhibiting canonical Wnt signaling. The absence of ITCH/AIP4 has been shown to cause severe autoimmune disease in mice. Recent studies have identified multisystem autoimmune disease and morphologic and developmental abnormalities in human patients with ITCH/AIP4 deficiency, thus underscoring the importance of ITCH/AIP4 in many cellular processes. This ligase may catalyze K29-, K48-, and/or K63-linked polyubiquitin chain formation on a variety of reported targets. This untagged, ITCH/AIP4 isoform 2 recombinant protein demonstrates strong autoubiquitination activity *in vitro*.

| Product Information | |
|---|---|
| **Quantity:** | 100 µg |
| **MW:** | 99 kDa |
| **Source:** | *E. coli*-derived<br>Accession # Q96J02-2 |
| **Stock:** | X mg/ml (X µM) in 50 mM HEPES pH 7.5, 150 mM NaCl, 10% Glycerol, 2 mM TCEP |
| **Purity:** | >90%, by SDS-PAGE under reducing conditions and visualized by Colloidal Coomassie® Blue stain. |

## Use & Storage

**Use:** Recombinant Human ITCH/AIP4 is a HECT domain Ubiquitin ligase (E3) that functions downstream of a Ubiquitin-activating (E1) enzyme and a Ubiquitin-conjugating (E2) enzyme to conjugate Ubiquitin to substrate proteins. Reaction conditions will need to be optimized for each specific application. We recommend an initial Recombinant Human ITCH/AIP4 concentration of 0.1-0.5 µM.

**Storage:** **Use a manual defrost freezer and avoid repeated freeze-thaw cycles.**

- 12 months from date of receipt, -70 °C as supplied.
- 3 months, -70 °C under sterile conditions after opening.

## Literature

**References:**

1. Wei W., *et al.* (2012) Mol. Cell Biol. **32**: 3903-12
2. Lohr N.J., *et al.* (2010) Am. J. Hum. Genet. **86**: 447-453
3. Yang C., *et al.* (2006) Mol. Cell **21**: 135-141

***For research use only. Not for use in humans.***