

MATERIAL DATA SHEET

Recombinant Human His6 FAT10

Cat. # UL-910

Human Leukocyte Antigen-F Associated Transcript 10 (FAT10), also known as Ubiquitin D (UBD), is a 165 amino acid (aa) member of the Ubiquitin-like family of proteins. Human FAT10 has a predicted molecular weight of 18.5 kDa and shares 69% aa sequence identity with mouse FAT10 (1). Human FAT10 mRNA is expressed as a single transcript in lymphoblastoid lines and dendritic cells, but more than one mRNA transcript has been identified for murine FAT10 (1,2). FAT10 can also be induced by IFN- γ and TNF- α in some cell lines (1). Structurally, FAT10 consists of two Ubiquitin-like domains that are connected by a short linker. Like Ubiquitin, FAT10 has a C-terminal glycine residue that can be used to form isopeptide bonds with target proteins. FAT10-conjugated proteins are targeted to the proteasome where the 26S Proteasome subunit S5a/Angiocrin binds to FAT10 and enables subsequent degradation of the conjugated protein (3). In addition to S5a/Angiocrin, FAT10 has been shown to interact with Huntingtin, Ataxin-1, MAD2, and NUB1L (4,5). FAT10 has been implicated in a number of biological processes such as cell cycle control, antigen presentation, and cytokine response (1,6-8). This protein has an N-terminal His₆-tag.

Product Information

Quantity:	250 μ g
Source:	<i>E. coli</i> -derived human FAT10 protein Contains a 6-His tag Accession # O15205/Q96EC7 (NP_006389)
Stock:	X mg/ml (X μ M) in 50 mM HEPES pH 8.0, 200 mM NaCl, 1 mM DTT
Purity:	>75%, by SDS-PAGE under reducing conditions and visualized by Colloidal Coomassie® Blue stain.

Use & Storage

Use: FAT10 can be conjugated to substrate proteins via the subsequent actions of a FAT10-activating (E1) enzyme, a FAT10-conjugating (E2) enzyme, and a FAT10 ligase (E3). Reaction conditions will need to be optimized for each specific application. We recommend an initial FAT10 concentration of 5-20 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. Liu, Y.-C. *et al.* (1999) *Proc. Natl. Acad. Sci. USA* **96**:4313.
2. Canaan, A. *et al.* (2006) *Mol. Cell. Biol.* **26**:5180.
3. Rani, N. *et al.* (2012) *Nat. Commun.* **3**:749.
4. Hipp, M.S. *et al.* (2004) *J. Biol. Chem.* **279**:16503.
5. Nagashima, Y. *et al.* (2011) *J. Biol. Chem.* **286**:29594.
6. Ebstein, F. *et al.* (2012) *Cell. Mol. Life Sci.* **69**:2443.
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8. Ren, J. *et al.* (2011) *J. Cell Sci.* **124**:3665.

For research use only. Not for use in humans.