
MATERIAL DATA SHEET

Recombinant Human FAT10 Rhodamine

Cat. # UL-914

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 is modified with rhodamine red via primary amine coupling resulting in modification of lysine residues as well as the N-terminus. This labeled FAT10 allows for direct detection spectrophotometrically with higher efficiency and sensitivity than with antibodies.

Product Information	
Quantity:	50 μ g
Source:	<i>E. coli</i> -derived Accession # O15205/Q96EC7 (NP_006389)
Stock:	Supplied as a solution in HEPES, NaCl, DTT and Glycerol.
Purity:	>95%, by PAGE.

Use & Storage

- Use:** Recombinant Human FAT10 Rhodamine is ideal for use in assays requiring fluorescent detection. Optimal fluorescence at pH 8.0 is monitored with an excitation wavelength of 570 nM and an emission wavelength of 590 nM. Reaction conditions will need to be optimized for each specific application. We recommend an initial Recombinant Human FAT10 Rhodamine concentration of 0.1-1 μ M.
- Storage:** **Protect from light. 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.
7. Lukasiak, S. *et al.* (2008) Oncogene **27**:6068.
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For research use only. Not for use in humans.