UbiQ
targeting the ubiquitin system

Biotin-Ahx-Ub-MTC *(human sequence, MTC= methyl hydrazinecarboxylate, synthetic)*

UbiQ code	:	UbiQ-378
Batch #	:	B01085025-001
Amount	:	50 ug, lyophilized powder
Purity	:	>90%
Mol. Weight	:	8.92 kDa
Storage	:	upon arrival, powder at −20°C; buffered solution at −80°C. Please avoid multiple freeze/thaw cycles.

Productsheet

Background. UbiQ-378 (Biotin-Ahx-Ub-MTC) is an activity-based probe for deubiquitinating enzymes (DUBs). It contains a C-terminal azaglycine ester (MTC= methyl hydrazinecarboxylate, Figure 2A) and N-terminal biotin. As shown in Figure 1A, the MTC group has the unique property that it will react with a DUB active site cysteine similarly as a ubiquitinated protein substrate, forming a tetrahedral transition state in which the oxygen anion is stabilized by the anion hole. A 6-aminohexanoic acid (Ahx) linker is used to create extra space between the biotin and Ub protein for efficient access of biotin binding entities. UbiQ-378 can be used for activity profiling experiments and determining DUB inhibitor specificity.

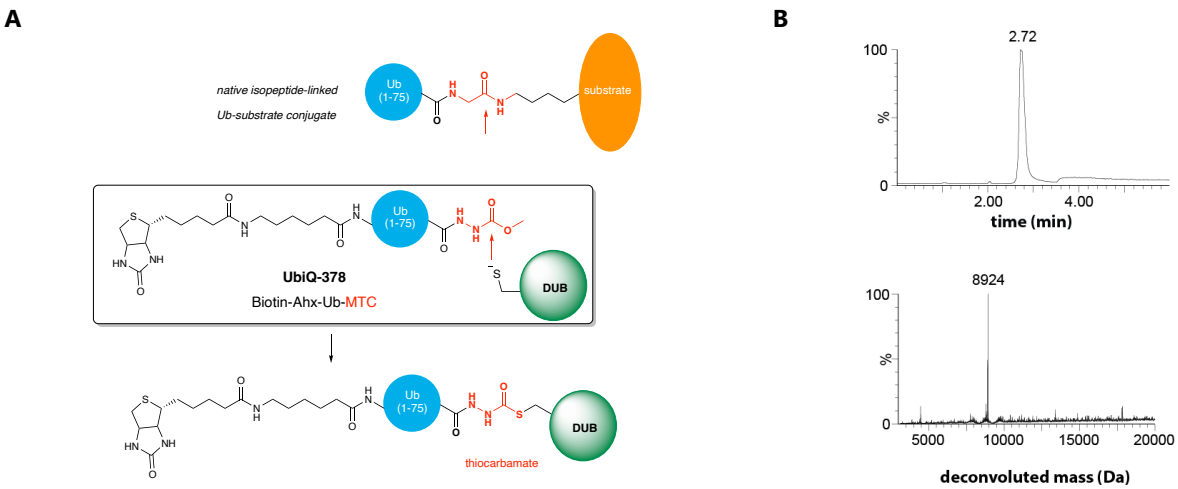

Figure 1. A: mode of action UbiQ-378. B: LC-MS analysis. Mobile phase A= 1% CH_3CN, 0.1% formic acid in water, B= 1% water and 0.1% formic acid in CH_3CN. XBridge BEH300 C18 5µm 4.6x100mm; column T= 40°C, flow= 0.8 mL/min. Gradient: 30−80% over 3.5 min.

important: sample preparation

- dissolve the powder in as little DMSO as possible (e.g., 20 mg/mL)
- add this DMSO stock slowly to milliQ (please note the order of addition).
- next, buffer as desired.
- for detailed experimental conditions, please see open-access ref. 1: https://pubmed.ncbi.nlm.nih.gov/40266882/

Literature. (1) Chanda et al. *J Am Chem Soc* **2025**, *147*, 17817.

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