

UbiQ

targeting the ubiquitin system

Biotin-ANP-Ub-PA (human sequence, synthetic, alternative name = Biotin-ANP-Ub-Prg)

UbiQ code : UbiQ-077
Batch # : B01082017-001
Amount : 50 ug, lyophilized powder
Purity : ≥95% by RP-HPLC and SDS-PAGE
Mol. Weight : 9 kDa
Storage : upon arrival, powder at -20°C and solution at -80°C. Avoid exposure to light and multiple freeze/thaw cycles.

Productsheet

Background. UbiQ-077 is an activity-based probe for deubiquitinating enzymes (DUBs). It is labeled on the *N*-terminus with biotin and a propargyl amide (PA) on the *C*-terminus. An UV cleavable 3-amino-3-(2-nitrophenyl)propanoic acid (ANP) linker allows for UV mediated cleavage of the biotin tag (Figure 2). UbiQ-077 can be used for activity profiling experiments and determining DUB inhibitor specificity. The PA group has two unique capabilities: first, it forms a covalent linkage with (the active site Cys residue of) a DUB that can be cleaved by acid treatment (5% aq. TFA), allowing for proteomic analyses; secondly, it targets all three major DUB families: UCH, USP and OUT. Although Ub-PA based probes mainly target DUBs, the active-site Cys residue of certain HECT E3 ligases (HUWE1 and NEDD4) has been found to react with Ub-PA; as such Ub-PA based probes can also be used and evaluated for the study of HECT E3 ligases. For more details, please see reference 5.

sequence

Biotin-ANP-MQIFVKTLTGKTTITLEVEPSDTIENVKAKIQDKEGIPPDQQRLIFAGKQLEDGRTLSDYNIQKESTLHLVLRIRG-PA

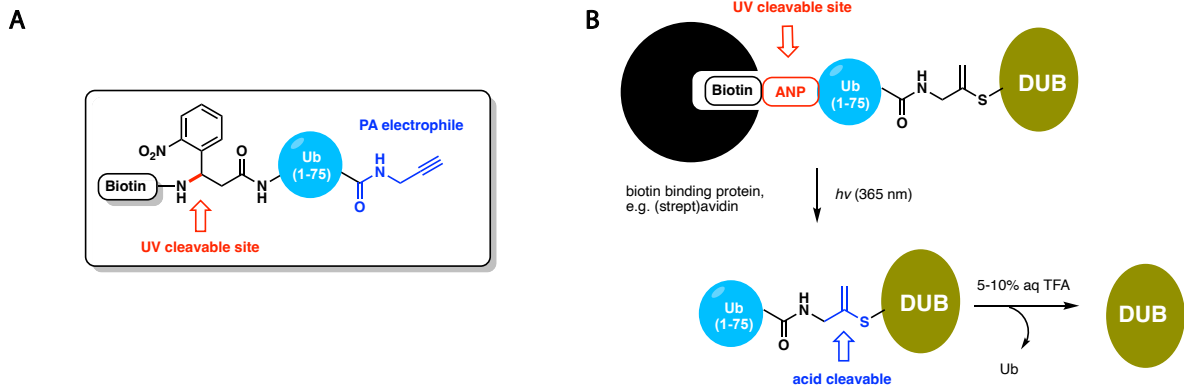


Figure 2. A: UbiQ-077. B: UV cleavable 3-amino-3-(2-nitrophenyl)propanoic acid (ANP) linker and acid mediated cleavage of covalent thioether conjugate.

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.

Literature. (1) Rodenko et al. *Nat Prot* **2006**, *1*, 1120. (2) Aoki et al *Bioorg Med Chem.* **2009**, *17*, 3405. (3) Ekkebus et al. *J Am Chem Soc* **2013**, *135*, 2867. (4) Sommer et al. *Bioorg Med Chem.* **2013**, *21*, 2511. (5) Nair et al. *ACS Chem Biol* **2021**, *16*, 1615.