UbiQ
targeting the ubiquitin system

K63 diUb-PA *(human sequence, synthetic)*

UbiQ code	:	UbiQ-114
Batch #	:	B01082015-001
Amount	:	25 ug, lyophilized powder
Purity	:	≥95%
Mol. Weight	:	17.1 kDa
Storage	:	upon arrival, powder at –20°C; solution at –80°C. Please avoid multiple freeze/thaw cycles.

Productsheet

Background. K63 diUb-PA (UbiQ-114, Figure 1A) is an activity-based probe for deubiquitinating enzymes (DUBs). It is based on K63-linked that is modified on the C-terminus with a propargylamide (PA) electrophile. The isopeptide bond between the two Ub proteins is replaced by a DUB resistant triazole mimic. UbiQ-114 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 (Nair et al.).

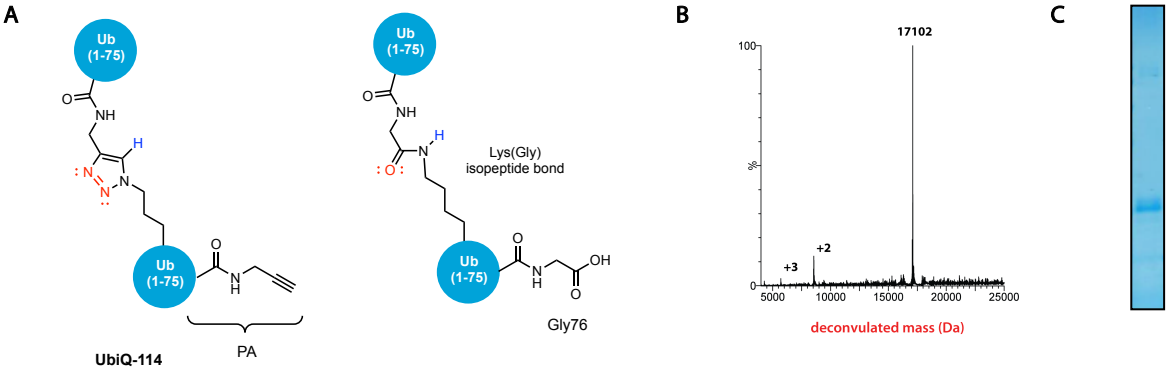

Figure 1. A: structure UbiQ-114 and native isopeptide diUb. B: MS analysis UbiQ-114. C: SDS-PAGE analysis. 12% Bolt Bis-Tris Plus gel (Life technologies) and MES running buffer. CBB staining.

important: sample preparation

- dissolve the powder in as little DMSO as possible (e.g., 20 - 40 mg/mL)
- add this DMSO stock slowly to milliQ (please note the order of addition)
- buffer as desired.

Literature. (1) Flierman et al. *Cell Chem Biol* **2016**, *23*, 472. (2) Ekkebus et al. *J Am Chem Soc* **2013**, *135*, 2867. (3) Sommer et al. *Bioorg Med Chem* **2013**, *21*, 2511. (4) de Jong et al. *ChemBioChem* **2012**, *13*, 2251. (5) Nair et al. *ACS Chem Biol* **2021**, *16*, 1615.

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