UbiQ
targeting the ubiquitin system

Ub photoLeu73 *(human sequence, synthetic)*

UbiQ code	:	UbiQ-154
Batch #	:	B01032017-001
Amount	:	100 ug, lyophilized powder
Purity	:	≥95%
Mol. Weight	:	8.58 kDa
Storage	:	upon arrival, powder at −20°C; solution at −80°C. Please avoid multiple freeze/thaw cycles and store dark.

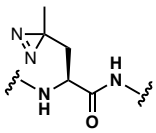
Productsheet

Background. UbiQ-154 is a crosslinking reagent based on ubiquitin in which Leu73 is replaced by the photoreactive analog photoleucine (photoLeu, ^{P}L, Figure 1B). Upon irradiation of the diazirine with UV light, a very reactive carbene species is formed (Figure 1C). Unspecific binding is minimal for carbene based crosslinking because carbenes are quenched quickly by water, meaning only residues that are very nearby (and thereby contribute to tight binding) will react covalently.

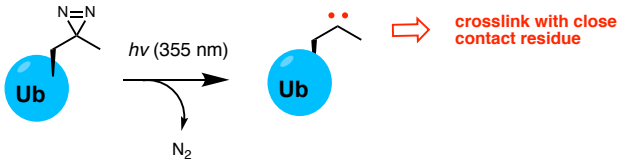
A

MQIFVKTLTGKTITLEVEPSDTIENVKAKIQDKEGIPPDQQRLIFAGKQLEDGRTLSDYNIQKESTLHLVLR^{P}LRGG

B



C



D

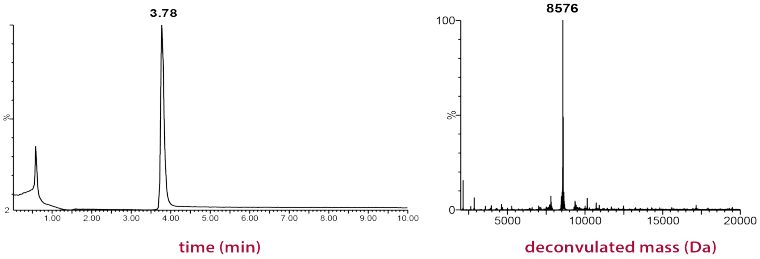


Figure 1. A: sequence. B: photoleucine. C: carbene formation. D: LC-MS analysis. Mobile phase A= 1% CH3CN, 0.1% formic acid in water and B= 1% water and 0.1% formic acid in CH3CN. XBridge BEH300 C18 5µm 4.6x100mm; flow rate= 0.8 mL/min, runtime = 10 min, column T= 40°C. Gradient: 30-80% B over 6.5 min.

important: sample preparation

- dissolve the powder in as little DMSO as possible (e.g. 20 - 40 mg/mL)
- add the DMSO stock slowly to milliQ (please note the order of addition)
- buffer the aq. solution as desired
- under normal laboratory light, UbiQ-154 is photo-stable
- for detailed experimental procedures please see reference 1.

Literature. (1) Chojnacki et al. *Cell Chem Biol* **2017**, *24*, 443. (2) Liang et al. *Angew Chem Int Ed* **2017**, *56*, 2744. (3) Zhou et al. *Nat Comm* **2016**, *7*, article 10589. (4) Dubinsky et al. *Bioorg Med Chem* **2012**, *20*, 554.

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