

UbiQ

targeting the ubiquitin system

5-carboxyRh110-Ub-Dha (human sequence, synthetic)

UbiQ code : UbiQ-131

Batch # : B01042017-001

Amount : 50 ug, lyophilized powder

Purity : ≥95%

Mol. Weight : 8.85 kDa

Storage : upon arrival, powder at -20°C; solution at -80°C. Store dark and avoid multiple freeze/thaw cycles.

Productsheet

Background. UbiQ-131 is a fluorescent activity-based probe for Ub E1, E2 and (HECT/RBR) E3 ligases. It is based on ubiquitin (Ub) in which the C-terminal Gly76 has been replaced by a dehydroalanine (Dha) residue. The N-terminus is labeled with a 5-carboxyRh110 dye ($\lambda_{ex} = 490$ nm; $\lambda_{em} = 520$ nm). It is processed in a native manner by Ub E1, E2 and (HECT/RBR) E3 ligases and during this process it forms an electrophilic intermediate that can react with the active site Cys residue of the E1, E2 and (HECT/RBR) E3 enzyme, thereby creating a covalent bond (Figure 1C).

A

cRh110-MQIFVKTLTGKTTITLEVEPSDTIENVKAKIQDKEGIPPDQQRLLIFAGKQLEDGRTLSDYNIQKESTLHLVLRRLRG-Dha

B

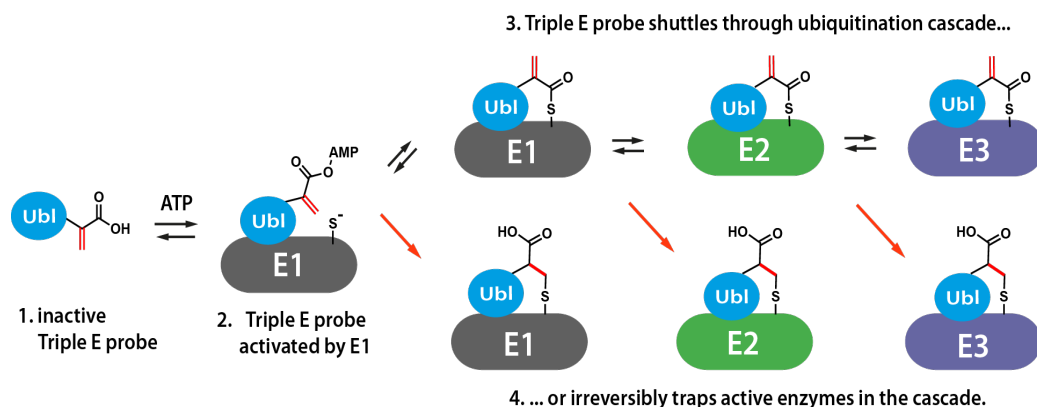


Figure 1. A: sequence. B: Mode of action Ub-Dha activity-based probes.

important: sample preparation

- dissolve the powder in as little DMSO as possible (20 - 40 mg/mL)
- add the DMSO stock to milliQ (please note the order of addition) and mix
- buffer the aq. solution as desired
- For full details please see open-access reference 1: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5108872/>

Literature. (1) Mulder et al. *Nat Chem Biol* 2016, 12, 523.