

SUMO3-Dha (human sequence, synthetic)

UbiQ code : UbiQ-118
 Batch # : B01072015-002
 Amount : 0.5 mg, lyophilized powder
 Purity : ≥95% by RP-HPLC
 Mol. Weight : 10.5 kDa
 Storage : powder at -20°C; solution at -80°C. Please avoid multiple freeze/thaw cycles.

Productsheet

Background. UbiQ-118 (Dha= dehydroalanine) is a new and first of its kind activity based probe for the SUMO ligation pathway.¹ It is based on the SUMO3 sequence in which the C-terminal Gly has been replaced by a dehydroalanine residue. The native Cys47 has been mutated to a Ser residue. UbiQ-118 is processed in a native manner by SUMO E1, E2 and 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 E3 enzymes, thereby creating a covalent bond (Figure 1).

Sequence

MSEEKPKKEGVRTENDHINLKVAGQDGSVWFQFKIKRHTPLSKLMKAYSERQGLSMRQIRFRFDGQPINETDTPAQLEMEDEDITIDVFQQQTG-Dha

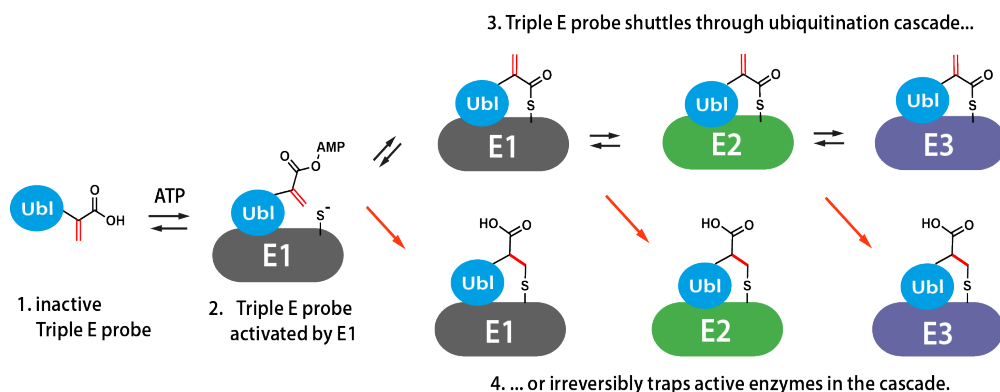


Figure 1. Mode of action of Dha activity based probes for E1-E2 and E3 enzymes.

Important: sample preparation

- dissolve the powder in as little DMSO as possible (e.g. 40 mg/mL)
- add this DMSO stock slowly to milliQ (please note the order of addition)
- buffer the aq. solution as desired
- final stocks of e.g. 0.5 mg/mL will contain 1.25 vol% DMSO.
- buffer exchange using 3 kDa spin filters or dialysis membrane allows total removal of DMSO if desired.

Literature. (1) (a) Mulder et al. *Nat. Chem. Biol.* **2016**, *12*, 523. (b) MPC Mulder, F. El Oualid and H. Ovaa. Adenylation enzyme inhibitors. Application WO/2016/032332 and NL2015/050596.