UbiQ
targeting the ubiquitin system

cRh110-Ub *(human sequence, Met1Nle, synthetic)*

UbiQ code : UbiQ-167
Batch # : B01092016-001
Amount : 100 ug, 1 mg/mL (112 uM) in milliQ (5 vol% DMSO)
Purity : ≥95% HPLC
MW : 8.90 kDa
Storage : upon arrival, powder at −20°C; solution at −80°C. Please store dark and avoid multiple freeze/thaw cycles.

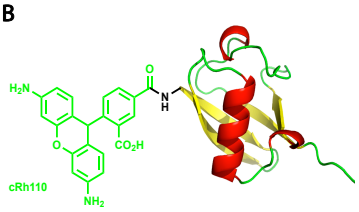
Productsheet

Background. UbiQ-167 is based on ubiquitin (Ub) labeled on the N-terminus with the green 5-carboxyrhodamine110 (cRh110) dye (λ_{ex}= 480 nm; λ_{em}= 520 nm). UbiQ-167 can be used to generate fluorescent ubiquitinated proteins/polyubiquitin chains or serve as green fluorescent TR-FRET acceptor.

A

cRh110-Nle`QIFVKTLTGKTITLEVEPSDTIENVKAKIQDKEGIPPDQQRLIFAGKQLEDGRTLSDYNIQKESTLHLVLRLRGG`

B



C

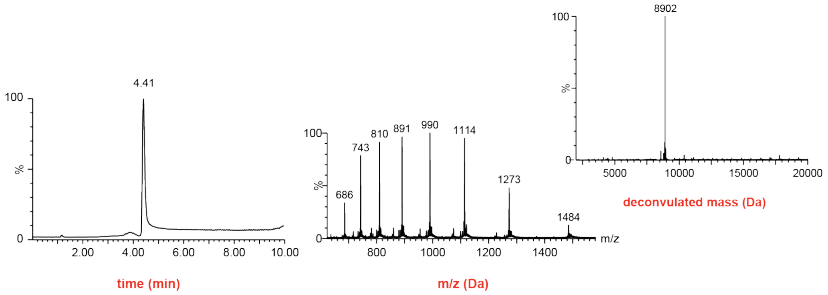


Figure 1. UbiQ-167 sequence (A) and structure (B). C: LC-MS analysis. Mobile phase A= 1% CH_3CN, 0.1% formic acid in water and B= 1% water and 0.1% formic acid in CH_3CN. XBridge BEH300 C18 5µm 4.6x100mm; column T= 40°C, flow= 0.8 mL/min. Gradient: 20–50%B over 6.5 min.

- to avoid oxidation, Met1 has been replaced by its isostere norleucine (Nle).
- during SDS-PAGE analysis of (fluorescent) Ub proteins, the appearance of higher mol. weight bands ("smearing") can be observed. This can be caused by (heat-induced) aggregation (Morimoto et al. Sci Rep **2018**, 8, article 2711). If possible, avoid heating the samples in Laemmli sample buffer and/or add 4M urea to the SDS-PAGE samples.

important: sample preparation

- buffer as desired
- for experimental details please see references 1 – 3
- for background on FRET applications please see reference 4

Literature. (1) El Oualid et al. *Angew Chem Int Ed* **2010**, *49*, 10149. (2) de Jong et al. *ChemBioChem* **2012**, *13*, 2251. (3) Juenemann et al. *Sci Rep* **2018**, *8*, article number 1405. (4) https://www.bmglabtech.com/en/tr-fret/

UbiQ Bio BV
Chamber of Commerce 50023438
VAT NL822502136B01

Science Park 301
1098 XH Amsterdam
The Netherlands

t +31 20 303 1970
e info@ubiqbio.com
i www.ubiqbio.com

Rabobank
IBAN: NL86 RABO 0150658907
BIC/SWIFT: RABONL2U