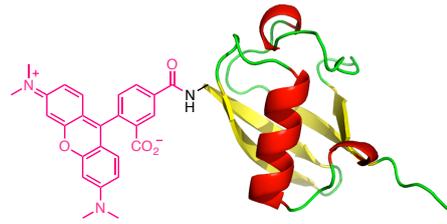


# UbiQ

targeting the ubiquitin system



## TAMRA-Ub (human sequence, synthetic)

UbiQ code : UbiQ-003

Batch # : B01072014-001

Amount : 100 ug, lyophilized powder

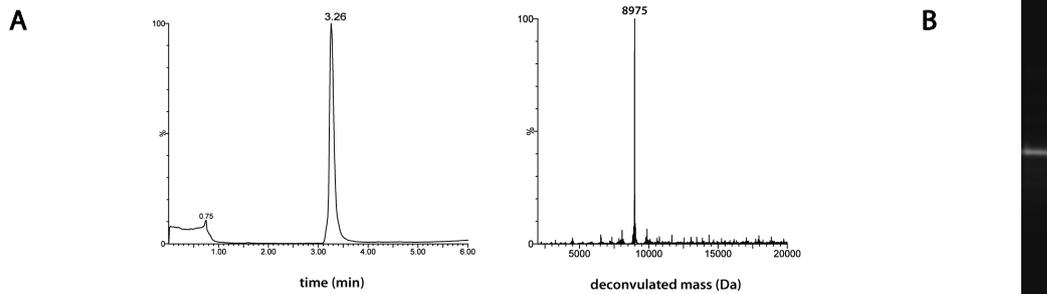
Purity : ≥95% HPLC

MW : 8.98 kDa

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

## Productsheet

**Background.** UbiQ-003 is a Ub protein labeled on the N-terminus with the fluorescent dye TAMRA (5-tetramethylrhodamine, exc 550 nm, emi 590 nm). It has been prepared by total chemical synthesis<sup>1</sup> and allows detection of ubiquitylation by in-gel fluorescence.<sup>2,3</sup> This direct and more sensitive read-out gives more distinct labeling patterns than immunoblotting and does not suffer from background labeling due to cross-reactivity (as seen sometimes with antibody based detection).



**A: LC-MS analysis.** Mobile phase A = 1% CH<sub>3</sub>CN, 0.1% formic acid in water (milliQ) and B = 1% water (milliQ) and 0.1% formic acid in CH<sub>3</sub>CN. XBridge BEH300 C18 5μm 4.6x100mm; column T = 40°C, flow= 0.8 mL/min. Gradient: 30–95% over 3.5 min. **B: Fluorescent scan (550/590 nM) SDS-PAGE analysis UbiQ-003.** 12% Bis-Tris, MES buffer. please note that during fluorescence scanning of SDS-PAGE gels with (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 for SDS-PAGE analysis.

### important: sample preparation

- dissolve the powder in as little DMSO as possible (e.g. 20 mg/mL) and add this DMSO stock slowly to milliQ (please note the order of addition).
- to ensure proper folding (and avoid precipitation), we advise to first buffer the aq. stock to 50 mM NaOAc pH 4.5
- next, buffer as desired.
- a final buffered stock of for example 0.5 mg/mL contains 2.5 vol% DMSO.
- for examples of UbiQ-003 applications, please see ref. 4: <https://www.nature.com/articles/s41598-018-19538-0>

**Literature.** (1) El Oualid et al. *Angew Chem Int Ed* **2010**, *49*, 10149. (2) de Jong et al. *ChemBioChem* **2012**, *13*, 2251. (3) Smit et al. *J Biol Chem* **2013**, *288*, 31728. (4) Juenemann et al. *Sci Rep* **2018**, *8*, article number 1405.