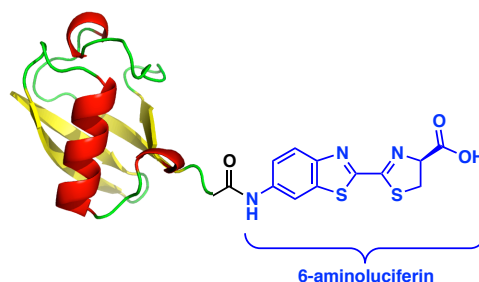


UbiQ

targeting the ubiquitin system



Ubiquitin-aminoluciferin (human sequence, synthetic)

UbiQ code : UbiQ-036

Batch # : B01092013-001

Amount : 100 ug, lyophilized powder

Purity : $\geq 95\%$ by RP-HPLC and SDS-PAGE

Mol. Weight : 8824 Da by MS (calc Mw 8826 Da)

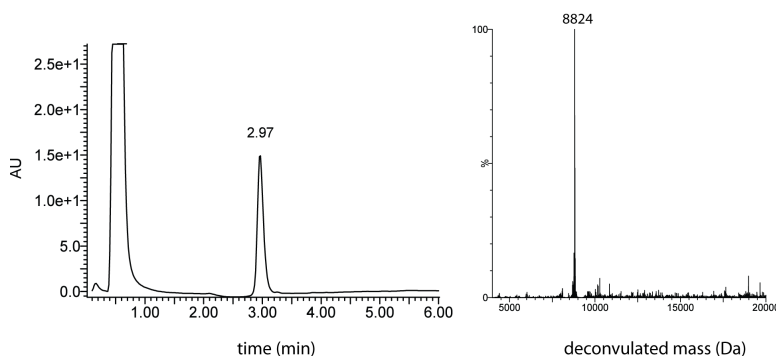
Storage : powder at -20°C ; solution at -80°C . Protect from light. Please avoid multiple freeze/thaw cycles.

Productsheet

Background. UbiQ-036 is based on ubiquitin that is C-terminally functionalized with aminoluciferin.¹ Upon cleavage by a DUB, the released aminoluciferin functions as a substrate for luciferase, allowing detection of luminescence as a read-out for DUB-activity.² UbiQ-036 is prepared by chemical synthesis.³

Sequence

MQIFVKLTG KTITLVEPS DTIENVKAKI QDKEGIPPDQ QRLIFAGKQL EDGRTLSDYN IQKESTLHLV LRLRGG-(6-aminoluciferin)



LC-MS analysis. Mobile phase A = 1% CH_3CN , 0.1% formic acid in water (milliQ) and B = 1% water (milliQ) and 0.1% formic acid in CH_3CN . Phenomenex Kinetex C18, (2.1 \times 50 mm), 2.6 μM); flow rate= 0.5 mL/min, runtime= 6 min, column T= 40°C . Gradient: 5% \Rightarrow 95% B over 3 $\frac{1}{2}$ min.

Important: sample preparation

- dissolve the powder in as little DMSO as possible (e.g. 20 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 2.5 vol% DMSO.
- buffer exchange using 3 kDa spin filters or dialysis membrane allows total removal of DMSO if desired.
- In general, DMSO conc up to 5 vol% are well tolerated by most DUBs

Literature. (1) (a) White et al. *J Am Chem Soc* **1966**, *88*, 2015. (b) Reddy et al. *J Am Chem Soc* **2010**, *132*, 13586. (2) Orcutt et al. *Biochim Biophys Acta* **2012**, *1823*, 2079. (3) El Oualid et al. *Angew Chem Int Ed* **2010**, *49*, 10149.