

Ubiquitin-aldehyde (Ub-glycinal)

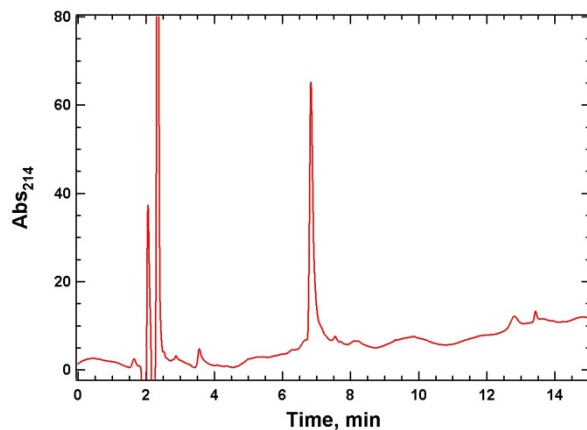
Cat. # SI250

Background: Ub-aldehyde is synthesized by substituting 2-aminoethanal for glycine76 in native ubiquitin. Binding of ubiquitin-aldehyde in the active site of deubiquitylases (DUBs), for instance UCH's and most USPs, positions the reactive aldehyde next to the sulfhydryl-group of the activated cysteine. Nucleophilic attack by the sulfhydryl on the aldehyde produces a stable adduct between Ubiquitin and the deubiquitylase. Thus Ub-aldehyde is a potent suicide inhibitor of DUBs [1-5].

Application: This inhibitor is useful for labeling DUBs *in situ* as well as preserving the integrity of polyubiquitin chains on modified proteins for analysis or purification.

Product Information

Purity:	≥ 95% by RP-HPLC
Molecular Weight:	8,548.9 Da
Physical State:	Liquid, 0.05% HOAc
Quantity:	50 µg
Storage:	-80° C. Avoid repeated freeze/thaw cycles



RP-HPLC

References

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2. Strayhorn, W.D. and Wadzinski, B.E., A novel in vitro assay for deubiquitination of IκBα. *Arch Biochem Biophys.* **400**:76-84 (2002).
3. Wilkinson, K.D., Cox, M.J., Mayer, A.N., and Frey, T., Synthesis and characterization of ubiquitin ethyl ester, a new substrate for ubiquitin carboxyl-terminal hydrolase. *Biochemistry.* **25**(21):6644-9 (1986).
4. Wilkinson, K.D., Smith, S.E., O'Connor, L., Sternberg, E., Taggart, J.J., Berges, D.A., and Butt, T., A specific inhibitor of the ubiquitin activating enzyme: synthesis and characterization of adenosyl-phospho-ubiquitinol, a nonhydrolyzable ubiquitin adenylate analogue. *Biochemistry.* **29**(32):7373-80 (1990).
5. Mayer, A.N. and Wilkinson, K.D., Detection, resolution, and nomenclature of multiple ubiquitin carboxy-terminal esterases from bovine calf thymus. *Biochemistry.* **28**:166-172 (1989).

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