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# Produktinformation

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- Diagnostik & molekulare Diagnostik
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## Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

## Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand


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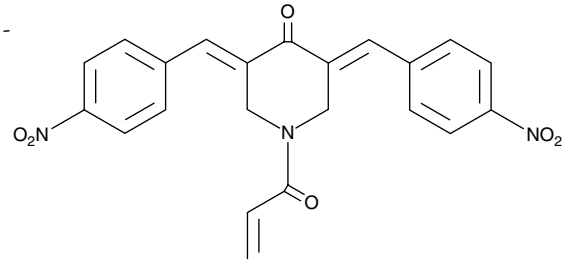
# Product Information

## b-AP15

*Item No. 11324*

**CAS Registry No.:** 1009817-63-3
**Formal Name:** 3E,5E-*bis*[(4-nitrophenyl)methylene]-1-(1-oxo-2-propen-1-yl)-4-piperidinone
**MF:** $C_{22}H_{17}N_3O_6$
**FW:** 419.4
**Purity:** ≥98%
**Stability:** ≥2 years at -20°C
**Supplied as:** A crystalline solid
**UV/Vis.:** $\lambda_{max}$: 334 nm




### Laboratory Procedures

For long term storage, we suggest that b-AP15 be stored as supplied at -20°C. It should be stable for at least two years.

b-AP15 is supplied as a crystalline solid. A stock solution may be made by dissolving the b-AP15 in the solvent of choice. b-AP15 is soluble in DMSO at a concentration of approximately 20 mg/ml.

b-AP15 is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Proteasome-associated deubiquitinases (DUBs) release ubiquitin from proteasome-targeted ubiquitinated proteins, regenerating free ubiquitin.[1] b-AP15 is an inhibitor of ubiquitin-specific-processing protease 14 (USP14) and ubiquitin carboxyl-terminal hydrolase isozyme L5 (UCHL5), two proteasome-associated DUBs.[2] It inhibits DUB activity in purified 19S proteasomes with an $IC_{50}$ value of 2.1 µM.[2] It exhibits little or no activity against several other DUBs.[2] Through its effects on USP14 and UCHL5, b-AP15 blocks tumor progression *in vivo* in mice and prevents organ infiltration in mouse models of myeloid leukemia.[2,3] b-AP15 also renders tumor cells sensitive to TNF-mediated apoptosis by natural killer and T cells.[4]

### References


1. Zhang, W. and Sidhu, S.S. Development of inhibitors in the ubiquitination cascade. *FEBS Lett.* **588(2)**, 356-367 (2014).
2. D'Arcy, P., Brnjic, S., Olofsson, M.H., *et al.* Inhibition of proteasome deubiquitinating activity as a new cancer therapy. *Nat. Med.* **17(12)**, 1636-1640 (2011).
3. Tian, Z., D'Arcy, P., Wang, X., *et al.* A novel small molecule inhibitor of deubiquitylating enzyme USP14 and UCHL5 induces apoptosis in multiple myeloma and overcomes bortezomib resistance. *Blood* **123(5)**, 706-716 (2014).
4. Sarhan, D., Wennerberg, E., D'Arcy, P., *et al.* A novel inhibitor of proteasome deubiquitinating activity renders tumor cells sensitive to TRAIL-mediated apoptosis by natural killer cells and T cells. *Cancer Immunol. Immunother.* **62(8)**, 1359-1368 (2013).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