

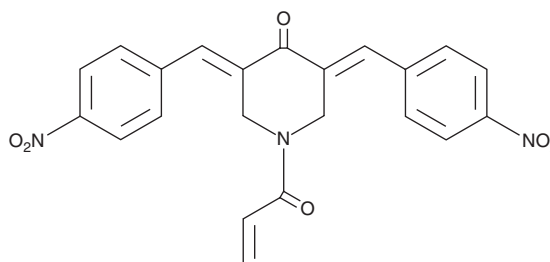
# PRODUCT INFORMATION



## 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<sub>22</sub>H<sub>17</sub>N<sub>3</sub>O<sub>6</sub>  
**FW:** 419.4  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 334 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

b-AP15 is supplied as a crystalline solid. A stock solution may be made by dissolving the b-AP15 in the solvent of choice, which should be purged with an inert gas. b-AP15 is soluble in the organic solvent DMSO at a concentration of approximately 20 mg/ml.

### Description

Proteasome-associated deubiquitinases (DUBs) release ubiquitin from proteasome-targeted ubiquitinated proteins, regenerating free ubiquitin.<sup>1</sup> b-AP15 is an inhibitor of ubiquitin-specific-processing protease 14 (USP14) and ubiquitin carboxyl-terminal hydrolase isozyme L5 (UCHL5), two proteasome-associated DUBs.<sup>2</sup> It inhibits DUB activity in purified 19S proteasomes with an IC<sub>50</sub> value of 2.1 μM.<sup>2</sup> It exhibits little or no activity against several other DUBs.<sup>2</sup> 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.<sup>2,3</sup> b-AP15 also renders tumor cells sensitive to TNF-mediated apoptosis by natural killer and T cells.<sup>4</sup>

### 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).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

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