

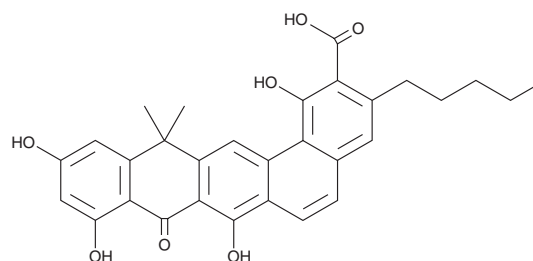
# PRODUCT INFORMATION



## Benastatin A

Item No. 32892

**CAS Registry No.:** 138968-85-1  
**Formal Name:** 8,13-dihydro-1,7,9,11-tetrahydroxy-13,13-dimethyl-8-oxo-3-pentyl-benzo[a]naphthacene-2-carboxylic acid  
**MF:** C<sub>30</sub>H<sub>28</sub>O<sub>7</sub>  
**FW:** 500.5  
**Purity:** ≥90%  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥4 years  
**Item Origin:** Bacterium/*Streptomyces* sp. MI384-DF12



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

### Laboratory Procedures

Benastatin A is supplied as a solid. A stock solution may be made by dissolving the benastatin A in the solvent of choice, which should be purged with an inert gas. Benastatin A is soluble in DMSO.

### Description

Benastatin A is a polyketide synthase-derived benastatin that has been found in *Streptomyces* and has diverse biological activities.<sup>1-3</sup> It inhibits glutathione S-transferase (GST; K<sub>i</sub> = 5 μM for the rat liver enzyme).<sup>2</sup> Benastatin A is active against several bacteria, including methicillin-resistant *S. aureus* (MRSA; MIC = 3.12 μg/ml). It induces apoptosis and cell cycle arrest at the G<sub>1</sub>/G<sub>0</sub> phase in Colon 26 mouse colon cancer cells when used at concentrations of 20 and 16 μM, respectively.<sup>3</sup>

### References

- Xu, Z., Schenk, A., and Hertweck, C. Molecular analysis of the benastatin biosynthetic pathway and genetic engineering of altered fatty acid-polyketide hybrids. *J. Am. Chem. Soc.* **129**(18), 6022-6030 (2007).
- Aoyagi, T., Aoyama, T., Kojima, F., *et al.* Benastatins A and B, new inhibitors of glutathione S-transferase, produced by *Streptomyces* sp. MI384-DF12. I. Taxonomy, production, isolation, physico-chemical properties and biological activities. *J. Antibiot. (Tokyo)* **45**(9), 1385-1390 (1992).
- Kakizaki, I., Ookawa, K., Ishikawa, T., *et al.* Induction of apoptosis and cell cycle arrest in mouse colon 26 cells by benastatin A. *Jpn. J. Cancer Res.* **91**(11), 1161-1168 (2000).

#### 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.

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