

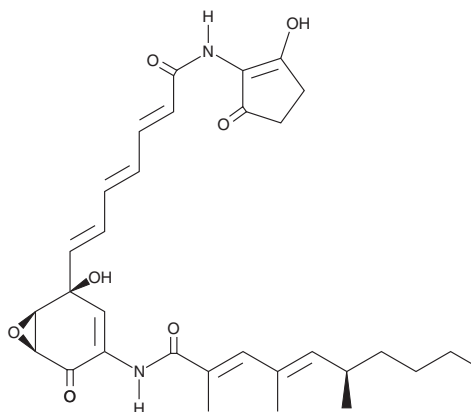
# PRODUCT INFORMATION



## Manumycin A

Item No. 10010497

**CAS Registry No.:** 52665-74-4  
**Formal Name:** N-[(1S,5S,6R)-5-hydroxy-5-[[[(1E,3E,5E)-7-[(2-hydroxy-5-oxo-1-cyclopenten-1-yl)amino]-7-oxo-1,3,5-heptatrien-1-yl]-2-oxo-7-oxabicyclo[4.1.0]hept-3-en-3-yl]-2E,4E,6R-trimethyl,2,4-decadienamide  
**Synonyms:** NSC 622141, UCF 1C  
**MF:** C<sub>31</sub>H<sub>38</sub>N<sub>2</sub>O<sub>7</sub>  
**FW:** 550.7  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 279, 318 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

Manumycin A is supplied as a crystalline solid. A stock solution may be made by dissolving the manumycin A in an organic solvent purged with an inert gas. Manumycin A is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of manumycin A in these solvents is approximately 5, 10, and 20 mg/ml, respectively.

Manumycin A is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, manumycin A should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Manumycin A has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Manumycin A is an antibiotic that acts as a potent and selective farnesyltransferase (FTase) inhibitor with anti-tumor activity.<sup>1,2</sup> It inhibits rat brain FTase with a K<sub>i</sub> value of 1.2 μM, thereby preventing Ras activation which requires farnesylation at the C-terminus for membrane attachment.<sup>1</sup> It exhibits significant antitumor activity against K<sub>i</sub>-ras-activated solid tumors in mice at a dose of 6.3 mg/kg.<sup>1</sup> Manumycin A inhibits IκB kinase (IKK), independent of FTase inhibition, in a number of cells types with effective concentrations of 2-10 μM.<sup>3</sup> In ApoE-deficient mice, Manumycin A treatment for 22 weeks at 5 mg/kg reduced aortic fatty streak lesion size to 43% of vehicle-treated animals, indicating FTase inhibition as a potential target for prevention or treatment of atherosclerosis.<sup>4</sup>

### References

1. Hara, M., Akasaka, K., Akinaga, S., *et al. Proc. Natl. Acad. Sci. USA* **90**, 2281-2285 (1993).
2. Hara, M. and Han, M. *Proc. Natl. Acad. Sci. USA* **92**, 3333-3337 (1995).
3. Bernier, M., Kwon, Y.-K., Pandey, S.K., *et al. J. Biol. Chem.* **281(5)**, 2551-2561 (2006).
4. Sugita, M., Sugita, H., and Kaneki, M. *Arterioscler. Thromb. Vasc. Biol.* **27**, 1390-1395 (2007).

#### 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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