

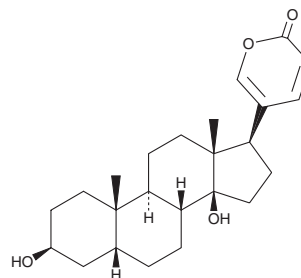
PRODUCT INFORMATION



Bufalin

Item No. 15725

CAS Registry No.: 465-21-4
Formal Name: (3 β ,5 β)-3,14-dihydroxy-bufa-20,22-dienolide
Synonym: NSC 89595
MF: C₂₄H₃₄O₄
FW: 386.5
Purity: \geq 98%
UV/Vis.: λ_{max} : 202, 299 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: \geq 4 years



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

Laboratory Procedures

Bufalin is supplied as a crystalline solid. A stock solution may be made by dissolving the bufalin in the solvent of choice, which should be purged with an inert gas. Bufalin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of bufalin in these solvents is approximately 15, 5, and 25 mg/ml, respectively.

Bufalin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, bufalin should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Bufalin has a solubility of approximately 0.3 mg/ml in a 1:2 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Bufalin is a cardiotonic steroid first isolated from toad venom and used in traditional Asian medicine.^{1,2} It inhibits the Na⁺/K⁺-ATPase transporter (K_d s = 42, 45, and 40 nM for the α_1 , α_2 , and α_3 subunits, respectively).³ Intravenously administered bufalin is cleared rapidly, with a plasma half-life of 25 minutes in dogs and rats.⁴ Bufalin inhibits steroid receptor coactivator 1 (SRC-1) and SRC-3 at doses as low as 5 nM, promotes the degradation of SRC-3 protein, and inhibits cancer cell growth both *in vitro* and *in vivo*.⁵ It can also impact the action and expression of several other proteins and kinases as well as induce apoptosis in various cancer cells.^{6,7}

References

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5. Wang, Y., Lonard, D.M., Yu, Y., et al. *Cancer Res.* **74**(5), 1506-1517 (2014).
6. Wu, S.H., Hsiao, Y.T., Kuo, C.L., et al. *Am. J. Chin. Med.* **43**(6), 1247-1264 (2015).
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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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