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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

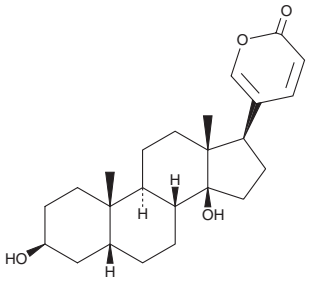
linkedin.com/company/szaboscandic

PRODUCT INFORMATION

Bufalin

Item No. 15725

CAS Registry No.:	465-21-4
Formal Name:	(3β,5β)-3,14-dihydroxy-bufa-20,22-dienolide
Synonym:	NSC 89595
MF:	$C_{24}H_{34}O_4$
FW:	386.5
Purity:	≥98%
Stability:	≥2 years at -20°C
Supplied as:	A crystalline solid
UV/Vis.:	λ_{max}: 202, 299 nm



Laboratory Procedures

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

Bufalin is supplied as a crystalline solid. A stock solution may be made by dissolving the bufalin in the solvent of choice. Bufalin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. 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_ds = 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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CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM