

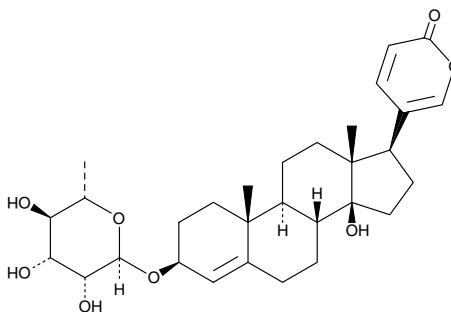
Product Information



Proscillaridin A

Item No. 15042

CAS Registry No.: 466-06-8
Formal Name: (3 β)-3-[(6-deoxy- α -L-mannopyranosyl)oxy]-14-hydroxy-bufa-4,20,22-trienolide
Synonyms: A-32686, NSC 7521, PSC-801
MF: C₃₀H₄₂O₈
FW: 530.7
Purity: $\geq$ 98%
Stability: $\geq$ 2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max} : 301 nm



Laboratory Procedures

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

Proscillaridin A is supplied as a crystalline solid. A stock solution may be made by dissolving the proscillaridin A in the solvent of choice. Proscillaridin A is soluble in organic solvents such as methanol and DMSO, which should be purged with an inert gas. The solubility of proscillaridin A in these solvents is approximately 10 and 5 mg/ml, respectively.

Proscillaridin A is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations.

Proscillaridin A is a cardiac glycoside first isolated from plants in the genus *Scilla*. It potently blocks Na⁺/K⁺ ATPases, preventing rubidium uptake in human red blood cells with an IC₅₀ value of 0.17 nM.^{1,2} Proscillaridin A also inhibits topoisomerases I and II at 100 and 30 nM, respectively, producing cytotoxicity in MCF-7 (human breast cancer) cells (IC₅₀ = 99 nM).³ Proscillaridin A, at 50 nM, also down-regulates the expression of hypoxia-inducible factors (HIF) HIF-1 α and HIF-2 α , blocking the expression of HIF target genes, which prevents the growth of tumor xenografts in mice.⁴

References

1. Balzan, S., D'Urso, G., Ghione, S., *et al.* Selective inhibition of human erythrocyte Na⁺/K⁺ ATPase by cardiac glycosides and by a mammalian digitalis like factor. *Life Sci.* **67**(16), 1921-1928 (2000).
2. Contreras, R.G., Flores-Maldonado, C., Lizaro, A., *et al.* Ouabain binding to Na⁺, K⁺-ATPase relaxes cell attachment and sends a specific signal (NACos) to the nucleus. *J. Membr. Biol.* **198**(3), 147-158 (2004).
3. Bielawski, K., Winnicka, K., and Bielawska, A. Inhibition of DNA topoisomerases I and II, and growth inhibition of breast cancer MCF-7 cells by ouabain, digoxin and proscillaridin A. *Biol. Pharm. Bull.* **29**(7), 1493-1497 (2006).
4. Zhang, H., Qian, D.Z., Tan, Y.S., *et al.* Digoxin and other cardiac glycosides inhibit HIF-1 α synthesis and block tumor growth. *Proc. Natl. Acad. Sci. USA* **105**(50), 19579-19586 (2008).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/15042

Cayman Chemical

Mailing address
1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA

Phone
(800) 364-9897
(734) 971-3335

Fax
(734) 971-3640

E-Mail
custserv@caymanchem.com

Web
www.caymanchem.com

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. 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

Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman warrants only to the original customer that the material will meet our specifications at the time of delivery.

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have any obligation or liability, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees.

Buyer's exclusive remedy and Cayman's sole liability hereunder shall be limited to a refund of the purchase price, or at Cayman's option, the replacement, at no cost to Buyer, of all material that does not meet our specifications.

Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

For further details, please refer to our Warranty and Limitation of Remedy located on our website and in our catalog.

Copyright Cayman Chemical Company, 10/01/2013