

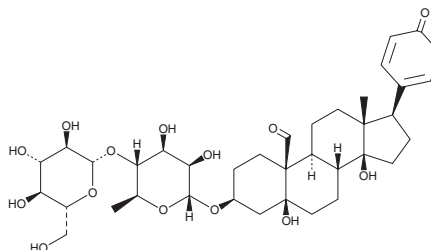
PRODUCT INFORMATION



Hellebrin

Item No. 21442

CAS Registry No.: 13289-18-4
Formal Name: 3β-[[6-deoxy-4-O-β-D-glucopyranosyl-α-L-mannopyranosyl]oxy]-5β,14-dihydroxy-19-oxo-bufa-20,22-dienolide
Synonym: NSC 93134
MF: C₃₆H₅₂O₁₅
FW: 724.8
Purity: ≥99%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years
Special Conditions: Light sensitive



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

Laboratory Procedures

Hellebrin is supplied as a solid. A stock solution may be made by dissolving the hellebrin in water. The solubility of hellebrin in water is approximately 4 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Hellebrin is a cardiac glycoside that potently inhibits the Na⁺/K⁺-ATPase by binding to it and blocking its non-canonical function as a receptor for cardiac glycosides.^{1,2} Hellebrin has a higher affinity for the α₁β₁ subunit of the Na⁺/K⁺-ATPase than the α₂β₁ or α₃β₁ complexes, in contrast to other cardiac glycosides.¹ This affinity for the α₁β₁ complex correlates with its cancer cell growth inhibition (GI₅₀ = 6-58 nM in various human cancer cell lines). Hellebrin also induces caspase-dependent apoptosis in Jurkat T cells.³

References

1. Moreno, Y.B.L., Katz, A., Miklos, W., *et al.* Hellebrin and its aglycone form hellebrigenin display similar *in vitro* growth inhibitory effects in cancer cells and binding profiles to the alpha subunits of the Na⁺/K⁺-ATPase. *Mol. Cancer* **12**, 1-14 (2013).
2. Ogawa, H., Shinoda, T., Cornelius, F., *et al.* Crystal structure of the sodium-potassium pump (Na⁺,K⁺-ATPase) with bound potassium and ouabain. *Proc. Natl. Acad. Sci. USA* **106**(33), 13742-13747 (2009).
3. Daniel, D., Süsal, C., Kopp, B., *et al.* Apoptosis-mediated selective killing of malignant cells by cardiac steroids: Maintenance of cytotoxicity and loss of cardiac activity of chemically modified derivatives. *Int. Immunopharmacol.* **3**, 1791-1801 (2003).

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.

WARRANTY AND LIMITATION OF REMEDY

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