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Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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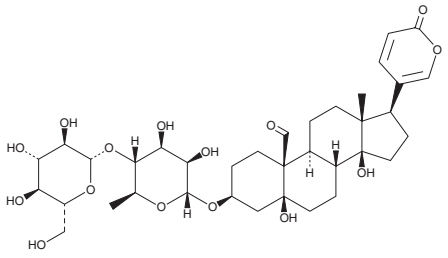
PRODUCT INFORMATION

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: $C_{36}H_{52}O_{15}$
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 $\alpha_1\beta_1$ subunit of the Na^+/K^+-ATPase than the $\alpha_2\beta_1$ or $\alpha_3\beta_1$ complexes, in contrast to other cardiac glycosides.[1] This affinity for the $\alpha_1\beta_1$ complex correlates with its cancer cell growth inhibition (GI_{50} = 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).

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