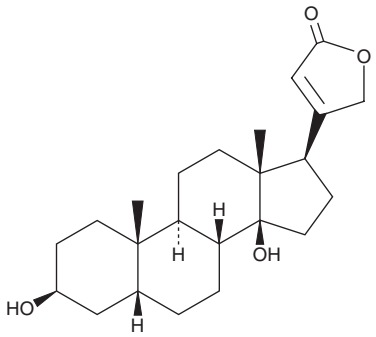
PRODUCT INFORMATION

Digitoxigenin

Item No. 18229

CAS Registry No.:	143-62-4
Formal Name:	(3β,5β)-3,14-dihydroxy-card-20(22)-enolide
Synonyms:	Cerberigenin, (+)-Digitoxigenin, Echujetin, Evonogenin, NSC 407806, Thevetigenin, $\Delta^{20:22}$-3,14,21-Trihydroxynorcholenic acid lactone
MF:	$C_{23}H_{34}O_4$
FW:	374.5
Purity:	≥95%
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



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

Laboratory Procedures

Digitoxigenin is supplied as a crystalline solid. A stock solution may be made by dissolving the digitoxigenin in the solvent of choice. Digitoxigenin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of digitoxigenin in these solvents is approximately 5, 20, and 25 mg/ml, respectively.

Digitoxigenin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, digitoxigenin should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Digitoxigenin has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Digitoxigenin is a cardenolide and aglycone constituent of digitoxin, an extract from the foxglove plant, *D. purpurea*. It elicits cardiac contraction and cardiotonic effects by inhibiting the Na^+/K^+ ATPase *via* binding at the digitalis receptor site with nanomolar potency.[1,2] Digitoxigenin is highly cytotoxic, inhibiting Na^+/K^+ ATPase-dependent protein synthesis, and has been examined for use as an antitumor compound.[3]

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. Katz, A., Lifshitz, Y., Bab-Dinitz, E., *et al.* Selectivity of digitalis glycosides for isoforms of human Na,K-ATPase. *J. Biol. Chem.* **285(25)**, 19582-19592 (2010).
3. Perne, A., Muellner, M.K., Steinrueck, M., *et al.* Cardiac glycosides induce cell death in human cells by inhibiting general protein synthesis. *PLoS One* **4(12)**, 1-9 (2009).

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