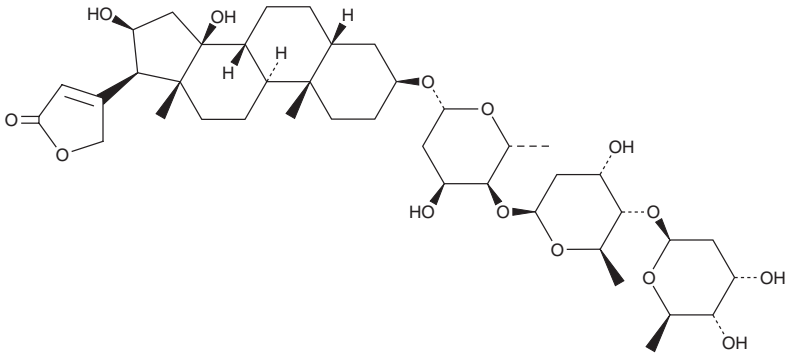
PRODUCT INFORMATION

Gitoxin

Item No. 38888

CAS Registry No.:	4562-36-1
Formal Name:	(3β,5β,16β)-3-[(O-2,6-dideoxy-β-D-ribo-hexopyranosyl-(1→4)-O-2,6-dideoxy-β-D-ribo-hexopyranosyl-(1→4)-2,6-dideoxy-β-D-ribo-hexopyranosyl)oxy]-14,16-dihydroxy-card-20(22)-enolide
Synonyms:	NSC 95099
MF:	$C_{41}H_{64}O_{14}$
FW:	780.9
Purity:	≥98%
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Synthetic



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

Laboratory Procedures

Gitoxin is supplied as a solid. A stock solution may be made by dissolving the gitoxin in the solvent of choice, which should be purged with an inert gas. Gitoxin is slightly soluble in chloroform and methanol.

Description

Gitoxin is a cardiac glycoside originally found in *Digitalis* that has cardiotonic and antiarrhythmic activities.[1-3] It inhibits Na^+/K^+-ATPase in an isoform-specific biphasic manner with IC_{50} values of 0.298 and 410 µM for the high- and low affinity human erythrocyte isoenzymes, respectively, and 1.18 and 28.5 µM for the high- and low affinity porcine cerebral cortex isoenzymes, respectively.[2] Gitoxin increases contractility and rhythmicity in isolated guinea pig heart in a concentration-dependent manner.[3] It is also a degradation product of the cardiac glycoside digoxin (Item No. 22266).[4]

References

1. Windaus, A. and Schwarte, G. A chloroform-insoluble glucoside from digitalis leaves, gitoxin. *Berichte der Deutschen Chemischen Gesellschaft [Abteilung] B: Abhandlungen* **58B,** 1515-1519 (1925).
2. Krstić, D., Krinulović, K., Spasojević-Tisma, V., *et al.* Effects of digoxin and gitoxin on the enzymatic activity and kinetic parameters of Na^+/K^+-ATPase. *J. Enzyme Inhib. Med. Chem.* **19(5),** 409-415 (2004).
3. Haustein, K.O. and Hauptmann, J. Studies on cardioactive steroids. II. Structure-activity relationships in the isolated guinea-pig heart. *Pharmacology* **11(3),** 129-138 (1974).
4. Desta, B., Kwong, E., and McErlane, K.M. Separation of digoxin, digitoxin and their potential metabolites, impurities or degradation products by high-performance liquid chromatography. *J. Chromatogr.* **240(1),** 137-143 (1982).

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