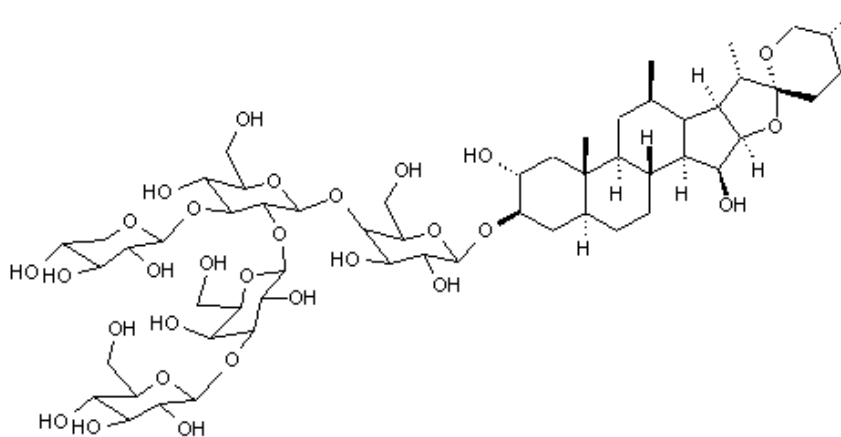


Digitonin

Product Description

Name :	Digitonin Syn.: Digitin, digitonoside Chem.: (25R)-2- α ,15- β -Dihydroxy-5- α -spirostan-3- β -yl β -D-glucopyranosyl-(1 \rightarrow 3)- β -D-galactopyranosyl-(1 \rightarrow 2)-[β -D-xylopyranosyl-(1 \rightarrow 3)]- β -D-glucopyranosyl-(1 \rightarrow 4)- β -D-galactopyranoside
Catalog Number :	119660, 100mg
Structure :	CAS: [11024-24-1]
Molecular Weight :	MW: 1229.34
Properties:	Solubility: in water to 25 mM and in ethanol to 10 mM



Critical micelle concentration < 0.5 mM
Average micellar weight = 70000
Aggregation number = 60
Appearance = White to off-white powder
Boiling Point/Melting Point = 230 to 240 °C

Storage : -20°C (M)

Store at -20°C for long terme. Store under Desiccating conditions. The product can be stored for up to 12 months.

Introduction

Digitonin is a steroidal saponin (saraponin) obtained from the plant *Digitalis purpurea* (foxglove). It is not related to the cardiac drug digoxin (sometimes also called digitalis or digitoxin). Digitonin is a glucoside, formed by a pentaholoside (2 glucoses, 2 galactoses, 1 xylose) and an aglucone, the digitogenine

Digitonin is used as a detergent, as it effectively water-solubilizes lipids. It is a non-ionic detergent. This mild detergent can be used to solubilize receptors and permeabilize cellular and nuclear membranes.

Applications include biochemistry ; e.g.
solubilizing membrane proteins,
permeabilizing cell membranes

precipitating cholesterol,
solubilizing receptors and cellular membranes

FT-119660

Digitonin has been used for isolating mitochondria from ascites tumor cells. It has also been used to investigate its effect on the cytotoxicity of plant secondary metabolites in cancer cells.

It can also be used for creating a cytotoxicity chemistry positive control.

Handling and Storage

Digoxitonin can be solubilized in water at ~5 % (w/v) by heating to 95 °C - 98 °C and then cooling to room temperature

Specifications

Appearance:	White to pale yellow powder
Specific optical rotation:	-46 to -49° [α]D.20 (c=10, acetic acid 75%)
Loss on drying:	max 6% (105 °C, vacuum)
Identity (IR):	Conforms to structure
Solubility:	Clear, colourless (100mg in 4ml warm ethanol)

References

1. Z. Physiolog. Chem., 1922, 121, p62
2. Pitha, Josef; Szente, Lajos (February 1984). "Digitonin derivatives of low toxicity: Potential solubilizers for lipophilic compounds". *Journal of Pharmaceutical Sciences* 73 (2): 240–243. doi:10.1002/jps.2600730224.
3. Geelen, Math J.H. (December 2005). "The use of digitonin-permeabilized mammalian cells for measuring enzyme activities in the course of studies on lipid metabolism". *Analytical Biochemistry* 347 (1): 1–9. doi:10.1016/j.ab.2005.03.032.
4. Fiskum, Gary (April 1985). "Intracellular levels and distribution of Ca²⁺ in digitonin-permeabilized cells". *Cell Calcium* 6 (1-2): 25–37. doi:10.1016/0143-4160(85)90032-6.

Regulatory information



Symbol :	
Hazard Codes :	(SGH06)
Signal word	Toxic <i>Danger Toxique</i>
Hazard Statements :	H301-H311-H330
Precautionary Statements :	P260-P280-P284-P310
Personal Protective Equipment :	Eyeshields, Faceshields, Gloves, type P2 (EN 143) respirator cartridges
RID:	ADR
UN:	3462 6.1 / PGIII
WGK Germany :	3
RTECS :	IH2050050
Toxicity data:	LD50 : 4 mg/kg body weight (Rat, IVN), 51 mg/kg body weight (Rat, Oral) LD50 (median dose): 23 mg/kg (rat, intravenous), 4 mg/kg (mouse, intravenous)

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