Specification

Digitonin (Reagent USP) *BioChemica* A1905

Physical Description:	Solid
Product Code:	A1905
Product Name:	Digitonin (Reagent USP) *BioChemica*
Specifications:	Residue on ignition: max. 0.3 % Loss on drying (105°C): max. 6 % α20°C/D; 10 %; 75 % AcOH: -47° - -49° Solubility (2.5 %, warm EtOH): clear, colorless
Hazard pictograms	
UN:	3462
Class/PG:	6.1/III
ADR:	6.1/III
IMDG:	6.1/III
IATA:	6.1/III
WGK:	3
Storage:	RT
Signal Word:	Danger
GHS Symbols:	GHS06
H Phrases:	H301+H311+H331
P Phrases:	P261 P301+P310 P321

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Specification

Digitonin (Reagent USP) *BioChemica* A1905

	P330 P361+P364 P405 P501
Molecular Formula:	$C_{56}H_{92}O_{29}$
M:	1229.34 g/mol
CAS:	11024-24-1
EINECS:	234-255-6
CS:	29389010

Comment

Digitonin is a steroid glycoside from *Digitalis purpurea*. It may permeabilize plasma membranes and may form complexes with cholesterol (1, 3). It belongs to the class of non-ionic detergents and is frequently used to dissolve membrane-bound proteins. At concentrations between 10 - 100 µg/ml, cholesterol-rich plasma membranes are permeabilized only, but not those of organelles (3). Digitonin is suitable to e.g. isolate the opioid receptors from membranes of rat brains, maintaining the capability to bind different agonisten/antagonists (2). Digitonin is hardly soluble in either water, chloroform or ether. You may dissolve 1 g/57 ml in absolute ethanol and 1 g/220 ml in 95% ethanol, respectively. Stock solutions of Digitonin (e.g. 10 % w/v or 1 mg/ml) in water or buffer (e.g. pH 7.2 - 7.5) may be prepared by heating (95 - 100°C) or vortexing, until a clear solution is obtained. Digitonin that may precipitate after cooling (+4°C) is removed by filtration (1, 2, 4). DMSO may be used as well (stock solution 20 mg/ml). Stability of stock solutions: solutions of Digitonin may be stored up to one week at +4°C. The capability of Digitonin to permeabilize membranes may differ from batch to batch from all suppliers (3).

Bibliography

(1)Scallen T.J. & Dietert, S.E. (1969) *J. Cell Biol.* **40**, 802-813The Quantitative Retention of Cholesterol in Mouse Liver prepared for Electron Microscopy by Fixation in a Digitonin-containing Aldehyde Solution. (2)Demoliou-Mason, C.D. & Barnard, E.A. (1984) *FEBS Lett.* **170**, 378-382Solubilization in high yield of opioid receptors retaining high-affinity delta, mu and kappa binding sites. (3)Mooney, R.A. (1988) *Methods Enzymol.* **159**, 193-202Use of Digitonin-permeabilized Adipocytes for cAMP Studies. (4)Kiefer, H. *et al*. (1996) *Biochemistry* **35**, 16077-16084Expression of an Olfactory Receptor in *E. coli*: Purification, Reconstitution and Ligand Binding.

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