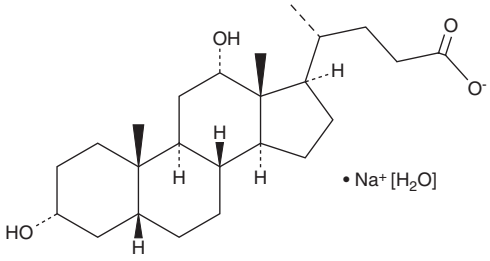
PRODUCT INFORMATION

Deoxycholic Acid (sodium salt hydrate)

Item No. 18231

CAS Registry No.: 145224-92-6
Formal Name: 5β-3α,12α-dihydroxy-cholan-24-oic acid, monosodium salt, monohydrate
Synonym: DCA, Sodium Deoxycholate
MF: $C_{24}H_{39}O_4$ • Na [H_2O]
FW: 432.6
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

Deoxycholic Acid (DCA) (sodium salt hydrate) is supplied as a crystalline solid. A stock solution may be made by dissolving the DCA (sodium salt hydrate) in the solvent of choice, which should be purged with an inert gas. DCA (sodium salt hydrate) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of DCA (sodium salt hydrate) in these solvents is approximately 15, 10, and 5 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of DCA (sodium salt hydrate) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of DCA (sodium salt hydrate) in PBS, pH 7.2, is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

DCA is a secondary bile acid that is formed *via* microbial transformation of cholic acid (Item No. 20250) in the colon.[1] It can be conjugated to glycine or taurine (Item No. 27031) to produce glycodeoxycholic acid (GDCA; Item No. 20274) or taurodeoxycholic acid (TDCA; Item No. 15935), respectively, in hepatocytes.[1-3] DCA (0.2% v/v) inhibits spore germination induced by taurocholic acid (TCA; Item No. 16215) in seven *C. difficile* strains, as well as inhibits growth and decreases the cytotoxicity of *C. difficile* culture supernatants to Vero cells when used at a concentration of 0.02% v/v.[1] It inhibits ionizing radiation-induced p53-dependent transcription in a reporter assay using HCT116 cells when used at a concentration of 200 µM.[4] Fecal and intestinal tissue levels of DCA are increased in a rat model of high-fat diet-induced obesity compared with rats fed a normal diet.[5] Increased serum DCA levels have been found in patients with colorectal cancer.[6]

References

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4. Qiao, D., Gaitonde, S.V., Qi, W., *et al. Carcinogenesis* **22(6)**, 957-964 (2001).
5. Lin, H., An, Y., Tang, H., *et al. J. Agric. Food Chem.* **67(13)**, 3624-3632 (2019).
6. Bayerdörffer, E., Mannes, G.A., Richter, W.O., *et al. Gastroenterology* **104(1)**, 145-151 (1993).

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