

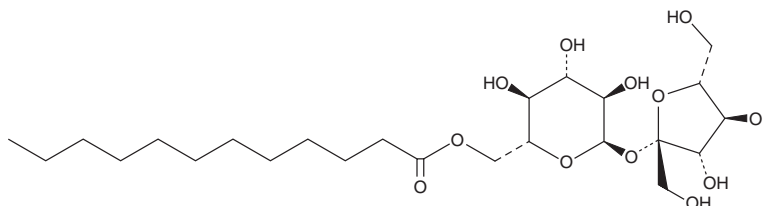
PRODUCT INFORMATION



Dodecanoyl D-Sucrose

Item No. 29982

CAS Registry No.: 25339-99-5
Formal Name: β -D-fructofuranosyl,
 α -D-glucopyranoside,
monododecanoate
Synonym: Sucrose monolaurate
MF: $C_{24}H_{44}O_{12}$
FW: 524.6
Purity: $\geq 95\%$
Supplied as: A solid
Storage: -20°C
Stability: ≥ 2 years



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

Laboratory Procedures

Dodecanoyl D-sucrose is supplied as a solid. A stock solution may be made by dissolving the dodecanoyl D-sucrose in the solvent of choice, which should be purged with an inert gas. Dodecanoyl D-sucrose is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of dodecanoyl D-sucrose in these solvents is approximately 10, 5, and 15 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 dodecanoyl D-sucrose can be prepared by directly dissolving the solid in aqueous buffers. The solubility of dodecanoyl D-sucrose in PBS, pH 7.2, is approximately 3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Dodecanoyl D-sucrose is a nonionic surfactant.¹ It is active against *B. cereus*, *B. subtilis*, *S. aureus*, *E. coli*, and *S. typhimurium* in a disc diffusion assay when used at a concentration of 255 mM. Transcutaneous immunization of mice with dodecanoyl D-sucrose-coated ovalbumin increases serum IgG levels by 5-fold compared to immunization with uncoated ovalbumin.² Topical administration of a dodecanoyl D-sucrose hydrogel (15% v/v) containing estradiol increases serum estradiol levels in rabbits compared to an ethanol-containing hydrogel.³ Dodecanoyl D-sucrose has been used to prepare stable foams in aqueous solutions, as well as oil-in-water emulsions.⁴

References

1. Zhao, L., Zhang, H., Hao, T., *et al.* *In vitro* antibacterial activities and mechanism of sugar fatty acid esters against five food-related bacteria. *Food Chem.* **187**, 370-377 (2015).
2. Kitaoka, M., Imamura, K., Hirakawa, Y., *et al.* Sucrose laurate-enhanced transcutaneous immunization with a solid-in-oil nanodispersion. *MedChemComm.* **5**(1), 20-24 (2014).
3. Vermeire, A., De Muynck, C., Vandenbossche, G., *et al.* Sucrose laurate gels as a percutaneous delivery system for oestradiol in rabbits. *J. Pharm. Pharmacol.* **48**(5), 463-467 (1996).
4. Zhang, X., Wei, W., Cao, X., *et al.* Characterization of enzymatically prepared sugar medium-chain fatty acid monoesters. *J. Sci. Food Agric.* **95**(8), 1631-1637 (2015).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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