

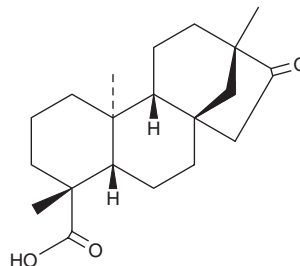
PRODUCT INFORMATION



Isosteviol

Item No. 36916

CAS Registry No.: 27975-19-5
Formal Name: (4 α ,8 β ,13 β)-13-methyl-16-oxo-17-norkauran-18-oic acid
Synonyms: (-)-Isosteviol, Ketoisostevic acid, NSC 231875, iso-Steviol
MF: C₂₀H₃₀O₃
FW: 318.5
Purity: \geq 98%
Supplied as: A solid
Storage: -20°C
Stability: \geq 4 years
Item Origin: Plant/*Stevia rebaudiana*



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

Laboratory Procedures

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

Description

Isosteviol is a diterpenoid that has been found in *P. tetraspermum* and has diverse biological activities.¹⁻⁴ It is also a hydrolysis product of the natural non-caloric sweetener stevioside (Item No. 11902).² Isosteviol scavenges hydroxyl and superoxide radicals in cell-free assays (IC₅₀s = 76.92 and 91.7 μ g/ml, respectively) and inhibits DNA polymerase α , β , and λ , as well as topoisomerase II (IC₅₀s = 64, 177, 103, and 190 μ M, respectively).^{1,2} It is active against various Gram-positive and Gram-negative bacteria, including several strains of methicillin-resistant *S. aureus* (MRSA; MICs = 8-250 μ g/ml), and fungi, including *C. albicans* and *T. mentagrophytes* (MICs = 62.5-500 μ g/ml).¹ Isosteviol inhibits the proliferation of MOLT-4 leukemia cells in a concentration-dependent manner.² It induces relaxation of isolated rat aortic strips precontracted with vasopressin, an effect that can be reversed by the potassium channel inhibitors glibenclamide (glyburide; Item No. 15009) or apamin (Item No. 17082) but not charybdotoxin (Item No. 24115).³ Isosteviol (5 and 10 mg/kg) reduces plasma glucose levels in the intravenous glucose tolerance test in Zucker diabetic rats.⁴ It has been used in the synthesis of isosteviol glycosides with anticancer activity.⁵

References

1. Abdullah Al-Dhabi, N., Valan Arasu, M., and Rejiniemon, T.S. *In vitro* antibacterial, antifungal, antibiofilm, antioxidant, and anticancer properties of isosteviol isolated from endangered medicinal plant *Pittosporum tetraspermum*. *Evid. Based Complement. Alternat. Med.* 164261 (2015).
2. Mizushina, Y., Akihisa, T., Ukiya, M., et al. Structural analysis of isosteviol and related compounds as DNA polymerase and DNA topoisomerase inhibitors. *Life Sci.* **77**(17), 2127-2140 (2005).
3. Wong, K.-L., Chan, P., Yang, H.-Y., et al. Isosteviol acts on potassium channels to relax isolated aortic strips of Wistar rat. *Life Sci.* **74**(19), 2379-2387 (2004).
4. Ma, J., Ma, Z., Wang, J., et al. Isosteviol reduces plasma glucose levels in the intravenous glucose tolerance test in Zucker diabetic fatty rats. *Diabetes Obes. Metab.* **9**(4), (2007).
5. Sharipova, R.R., Belenok, M.G., Garifullin, B.F., et al. Synthesis and anti-cancer activities of glycosides and glycoconjugates of diterpenoid isosteviol. *MedChemComm* **10**(8), 1488-1498 (2019).

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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