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Zuschläge

- Mindermengenzuschlag
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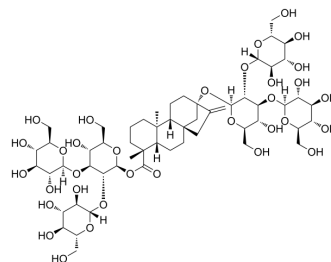
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Rebaudioside M

Cat. No.:	HY-N6833
CAS No.:	1220616-44-3
Molecular Formula:	C ₅₆ H ₉₀ O ₃₃
Molecular Weight:	1291.29
Target:	Others
Pathway:	Others
Storage:	-20°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro	DMSO : 100 mg/mL (77.44 mM; Need ultrasonic)				
	Preparing Stock Solutions	Solvent Concentration Mass	1 mg	5 mg	10 mg
		1 mM	0.7744 mL	3.8721 mL	7.7442 mL
		5 mM	0.1549 mL	0.7744 mL	1.5488 mL
		10 mM	0.0774 mL	0.3872 mL	0.7744 mL
Please refer to the solubility information to select the appropriate solvent.					
In Vivo	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (1.94 mM); Clear solution				
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (1.94 mM); Clear solution				
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (1.94 mM); Clear solution				

BIOLOGICAL ACTIVITY

Description	Rebaudioside M, a glycoside of the ent-kaurene diterpenoid aglycone, is a non-calorie sweetener isolated from <i>Stevia rebaudiana</i> . Rebaudioside M has antidiabetics, antihypertension, anti-inflammatory, antioxidant, anticaries and anticancer benefits. Rebaudioside M is more than 350 times sweeter than sucrose. Rebaudioside M can be used in food and beverage ^[1] ^[2] ^[3] ^[4] ^[5] ^[6] .
In Vitro	Rebaudioside M demonstrates to protect β-cell activity and enhance insulin secretion via increasing calcium influx into β-cells ^[3]. Rebaudioside M inhibits the PI3K/Akt signaling pathway resulting in lower cell proliferation and enhanced apoptosis and downregulates the Wnt/catenin signaling pathway in colon cancer cells, which is linked to reduced cell migration and

	invasion^[6]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Rebaudioside M lowers fasting blood glucose levels and enhanced glucose tolerance in diabetic rats^[3]. Rebaudioside M decreases oxidative stress and the production of pro-inflammatory cytokines in diabetic rats, protecting against pancreatic beta-cell damage^[4]. Rebaudioside M reduces blood pressure via the suppression of angiotensin-converting enzyme, increases endothelial function and causes vasodilation in hypertensive rats^[5]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Xiaoqiang W, et al. Fusion glycosyltransferase design for enhanced conversion of rebaudioside A into rebaudioside M in cascade. *Molecular Catalysis*. 2023 Aug, 547: 113317.
- [2]. Jeppesen PB, et al. Stevioside acts directly on pancreatic beta cells to secrete insulin: actions independent of cyclic adenosine monophosphate and adenosine triphosphate-sensitive K⁺-channel activity. *Metabolism*. 2000 Feb;49(2):208-14.
- [3]. Jan S A, et al. The anti-diabetic activities of natural sweetener plant Stevia: an updated review[J]. *SN Applied Sciences*, 2021, 3: 1-6.
- [4]. Chakraborty R, et al. Angiotensin-converting enzyme inhibitors from plants: A review of their diversity, modes of action, prospects, and concerns in the management of diabetes-centric complications[J]. *Journal of Integrative Medicine*, 2021, 19(6): 478-492.
- [5]. Iatridis N, et al. Anti-Cancer Properties of Stevia rebaudiana; More than a Sweetener. *Molecules*. 2022 Feb 17;27(4):1362.
- [6]. Prakash I, et al. Development of Next Generation Stevia Sweetener: Rebaudioside M. *Foods*. 2014 Feb 27;3(1):162-175.

Caution: Product has not been fully validated for medical applications. For research use only.

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