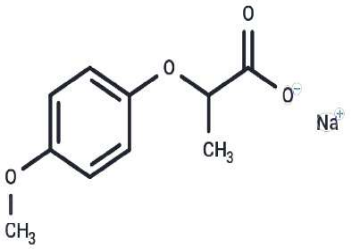
Lactisole [150436-68-3]

#Cat: NB-64-23469-1mL Size: 1mL
#Cat: NB-64-23469-500mg Size: 500mg

Chemical Properties

Cas No: 150436-68-3
Formula: $C_{10}H_{11}NaO_4$
Molecular weight: 218.18
Appearance: Solid
Storage: Powder: -20° C for 3 years | In solvent: -80° C for 1 year



Biological Description

Description	Lactisole (na-PMP) is an inhibitor of the glucose-sensing receptor.
Targets(IC50)	Taste receptor
In vitro	In MIN6 cells, in a dose-dependent manner, lactisole inhibited insulin secretion induced by sweeteners, acesulfame-K, sucralose and glycyrrhizin. The IC50 was ～4 mmol/l. Lactisole attenuated the elevation of cytoplasmic Ca2+ concentration ([Ca2+]c) evoked by sucralose and acesulfame-K but did not affect the elevation of intracellular cAMP concentration ([cAMP]c) induced by these sweeteners. Lactisole also inhibited the action of glucose in MIN6 cells. Thus, lactisole significantly reduced elevations of intracellular [NADH] and intracellular [ATP] induced by glucose, and also inhibited glucose-induced insulin secretion[1].

Solubility Information

Solubility	Ethanol: 1 mg/mL (4.58 mM),Sonication is recommended. DMSO: 45 mg/mL (206.25 mM),Sonication is recommended. DMF: 20 mg/mL (91.67 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.5834 mL	22.9169 mL	45.8337 mL
5 mM	0.9167 mL	4.5834 mL	9.1667 mL
10 mM	0.4583 mL	2.2917 mL	4.5834 mL
50 mM	0.0917 mL	0.4583 mL	0.9167 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible

Neo Biotech
74 rue des Suisses – 92000 Nanterre

Reference

Johnson, C., Birch, G.G., and MacDougall, D.B. The effect of the sweetness inhibitor 2(-4-methoxyphenoxy) propanoic acid (sodium salt) (Na-PMP) on the taste of bitter-sweet stimuli. Chem.Senses 19(4), 348-358 (1994).
Schiffman, S.S., Booth, B.J., Sattely-Miller, E.A., et al. Selective inhibition of sweetness by the sodium salt of ±2-(4-methoxyphenoxy)propanoic acid. Chem.Senses 24(4), 439-447 (1999).
Hamano, K., Nakagawa, Y., Ohtsu, Y., et al. Lactisole inhibits the glucose-sensing receptor T1R3 expressed in mouse pancreatic β-cells. Journal of Endocrinology 226(1), 57-66 (2015).
Shim, J., Son, H.J., Kim, Y., et al. Modulation of sweet taste by umami compounds via sweet taste receptor subunit hT1R2. PLoS One 10(4), (2015).
Ohtsu, Y., Nakagawa, Y., Nagasawa, M., et al. Diverse signaling systems activated by the sweet taste receptor in human GLP-1-secreting cells. Molecular and Cellular Endocrinology 394(1-2), 70-79 (2014).
Sato, S., Hokari, R., Kurihara, C., et al. Dietary lipids and sweeteners regulate glucagon-like peptide-2 secretion. Am. J. Physiol Gastrointest. Liver Physiol. 304(8), 304-308 (2013).