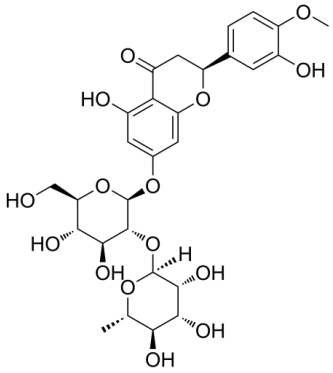
Data Sheet

Product Name:	Neohesperidin
Cat. No.:	CS-6413
CAS No.:	13241-33-3
Molecular Formula:	$C_{28}H_{34}O_{15}$
Molecular Weight:	610.56
Target:	Others
Pathway:	Others
Solubility:	DMSO : 100 mg/mL (163.78 mM; Need ultrasonic)



BIOLOGICAL ACTIVITY:

Neohesperidin is a flavonoid compound found in high amounts in citrus fruits with anti-oxidant and anti-inflammatory effects. ***In Vitro:*** Neohesperidin induces cell apoptosis in human breast adenocarcinoma MDA-MB-231 cells. The IC_{50} values of neohesperidin at 24 and 48 h are 47.4±2.6 μM and 32.5±1.8 μM, respectively. The expressions of P53 and Bax in the neohesperidin-treated cells are significantly up-regulated, while that of Bcl-2 is down-regulated[1]. Neohesperidin exhibits antioxidant activity (IC_{50}=22.31 μg/mL) in the DPPH radical-scavenging assay[2]. ***In Vivo:*** Neohesperidin (50 mg/kg) significantly inhibits 55.0% of HCl/ethanol-induced gastric lesions. In pylorus ligated rats, neohesperidin (50 mg/kg) significantly decreases the volume of gastric secretion and gastric acid output, and increases the pH[1]. Treatment of neohesperidin significantly decreases fasting glucose, serum glucose, and glycosylated serum protein (GSP) in mice. It significantly elevates oral glucose tolerance and insulin sensitivity and decreases insulin resistance in the diabetic mice. Neohesperidin significantly decreases serum triglycerides, total cholesterol, leptin level, and liver index in the mice [3].

PROTOCOL (Extracted from published papers and Only for reference)

Animal Administration: [3]Mice: All the mice are fasted 6 h before the test and then fed with water or neohesperidin by gavage. The mice are intraperitoneally injected with either 2 g/kg BW glucose or 1 IU/kg BW insulin for OGTT and ITT, respectively. Blood samples are collected from the tail vein for the measurement of basal blood glucose levels (0 min) before the injection of glucose or insulin. Additional blood glucose levels are measured at 30, 60, 90 and 120 min[3].

References:

[1]. Lee JH, et al. Protective effects of neohesperidin and poncirin isolated from the fruits of Poncirus trifoliata on potential gastric disease. Phytother Res. 2009 Dec;23(12):1748-53.

[2]. Xu F, et al. Neohesperidin induces cellular apoptosis in human breast adenocarcinoma MDA-MB-231 cells via activating the Bcl-2/Bax-mediated signaling pathway. Nat Prod Commun. 2012 Nov;7(11):1475-8.

[3]. Jia S, et al. Hypoglycemic and hypolipidemic effects of neohesperidin derived from Citrus aurantium L. in diabetic KK-A(y) mice. Food Funct. 2015 Mar;6(3):878-86.

CAIndexNames:

4H-1-Benzopyran-4-one, 7-[[2-O-(6-deoxy-α-L-mannopyranosyl)-β-D-glucopyranosyl]oxy]-2,3-dihydro-5-hydroxy-2-(3-hydroxy-4-methoxyphenyl)-,(2S)-

SMILES:

O=C1C[C@@H](C2=CC=C(OC)C(O)=C2)OC3=CC(O[C@H]4[C@@H]([C@H]([C@@H]([C@@H](CO)O4)O)O)O[C@@]5([H])[C@@H]([C@@H]([C@H]([C@H](C)O5)O)O)O)=CC(O)=C13

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

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