Natural Products

ChemFaces

3,6'-Disinapoyl sucrose Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: 3,6'-Disinapoyl sucrose

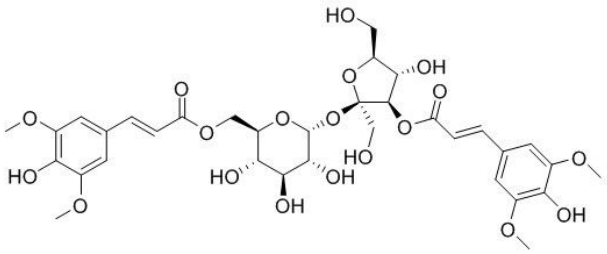
Catalog No.: CFN90578

Cas No.: 139891-98-8

Purity: > 98%

M.F: $C_{34}H_{42}O_{19}$

M.W: 754.68



Physical Description: Powder

Synonyms: (E)-3-(4-hydroxy-3,5-dimethoxyphenyl)-2-propenoic acid [(2R,3S,4S,5R,6R)-3,4,5-trihydroxy-6-[[(2R,3S,4R,5R)-4-hydroxy-3-[(E)-3-(4-hydroxy-3,5-dimethoxyphenyl)-1-oxoprop-2-enoxy]-2,5-bis(hydroxymethyl)-2-oxolanyl]oxy]-2-oxanyl]methyl ester.

[Intended Use]

1. Reference standards;
2. Pharmacological research;
3. Food research;
4. Cosmetic research;
5. Synthetic precursor compounds;
6. Intermediates & Fine Chemicals;
7. Ingredient in supplements, beverages;
8. Others.

[Source]

The roots of *Polygala tenuifolia*.

[Biological Activity or Inhibitors]

3,6'-Disinapoyl sucrose(DISS), an oligosaccharide ester natural product originating from the root of wild Polygala tenuifolia, has neuroprotective effects against glutamate toxicity by the downregulation of proapoptotic gene Bax and the upregulation of antiapoptotic gene Bcl-2, it has neuroprotective effects through increased brain-derived neurotrophic factor (BDNF) levels and cyclic AMP response element (CRE)-binding protein (CREB) phosphorylation via the CaMKII and ERK1/2 pathway, which might be of importance and contribute to its clinical efficacy for the treatment of neurodegenerative diseases.[1,2]

3,6'-Disinapoyl sucrose has antidepressant effects on hippocampal neuronal plasticity and neurotrophic signal pathway in chronically mild stressed rats, which are mediated via measuring monoamine oxidase (MAO) , the hypothalamic-pituitary-adrenal (HPA) axis and oxidative systems. [3]

3,6'-Disinapoyl sucrose has the protective effect on increasing proliferation of hippocampus neural progenitor cells, the antidepressant-like effects of DISS and its mechanisms might be involved by up-regulation of the progenitor cell proliferation of hippocampus.[4,5]

3,6'-Disinapoyl sucrose has antioxidant activity.[6]

[Solvent]

Chloroform, Dichloromethane, Ethyl Acetate, DMSO, Acetone, etc.

[HPLC Method][7]

Mobile phase: Acetonitrile-0.05%Phosphoric acid H2O=18:82 ;

Flow rate: 1.0 ml/min;

Column temperature: 30 ℃;

The wave length of determination: 320 nm.

[Storage]

2-8℃, Protected from air and light, refrigerate or freeze.

[References]

[1] Hu Y, Li J, Liu P, *et al. Biomed. Res. Int., 2012(18):1-5.*

[2] Hu Y, Liu M Y, Liu P, *et al. J. Mol. Neuroscience Mn., 2014, 53(4):600-7.*

[3] Hu Y, Liao H B, Dai H G, *et al. Neurochem. Int., 2010, 56(3):461-5.*

[4] Yuan Hu †, Ming Liu †, Liu P, *et al. J. Pharm. Pharmacol., 2011, 63(6):869-74.*

[5] Shi Z, Yin H, Hu Y. *China Pharmaceuticals, 2009, 69(5):AB337.*

[6] Liu P, Hu Y, Guo D H, *et al. Pharm. Biol., 2010, 48(7):828-33.*

[7] Liu Y F, Yang X J, Tian X, *et al. Chinese Journal of Pharmaceutical Analysis, 2010(5):806-9.*

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