

Morroniside Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Morroniside

Catalog No.: CFN98161

Cas No.: 25406-64-8

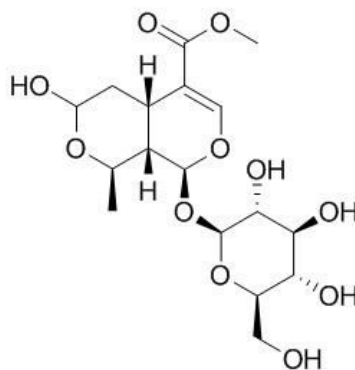
Purity: > 98%

M.F: C₁₇H₂₆O₁₁

M.W: 406.38

Physical Description: White powder

Synonyms: (1S,3R,4aS,8S,8aS)-3-hydroxy-1-methyl-8-[[[(2S,3R,4S,5S,6R)-3,4,5-trihydroxy-6-(hydroxymethyl)-2-oxanyl]oxy]-1,3,4,4a,8,8a-hexahydropyrano[3,4-c]pyran-5-carboxylic acid 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 herbs of *Lonicera morrowii*.

[Biological Activity or Inhibitors]

Morroniside, an iridoid glycoside isolated from *Cornus officinalis* Sieb. Et Zucc., has shown potent antioxidant properties, it can protect human neuroblastoma SH-SY5Y cells against hydrogen peroxide-induced cytotoxicity, suggests that morroniside has protective effects against oxidative stress-induced neurotoxic processes.^[1]

Morroniside exhibits protective effects against diabetic renal damage by inhibiting hyperglycemia and oxidative stress, indicates that morroniside is one component partly responsible for the protective effects of Corni Fructus and Hachimi-jio-gan against diabetic renal damage.^[2]

Administration of morroniside significantly increases hepatic peroxisome proliferator activated receptor alpha expression, morroniside would act as a regulator of hepatic inflammatory reactions and lipid metabolism in db/db mice; it may inhibit abnormal lipid metabolism and inflammation due to reactive oxygen species in the kidneys in type 2 diabetes.^[3,4]

Morroniside and loganin have protective effects on rat mesangial cell proliferation exposed to advanced glycation end products by preventing oxidative stress.^[5]

Morroniside can improve microvascular functional integrity of the neurovascular unit after cerebral ischemia, it may offer a novel therapeutic approach for promoting microvascular integrity recovery and provide a thoroughly new direction for stroke therapy.^[6]

Morroniside can promote bone marrow mesenchymal stem cell proliferation in rats.^[7]

Morroniside can decrease the level of cyclooxygenase(Cox) and it may be the mechanism of morroniside on inhibiting the platelet aggregation induced by ADP in rabbits.^[8]

[Solvent]

Pyridine, Methanol, Ethanol, etc.

[HPLC Method]^[9]

Mobile phase: Acetonitrile–Methanol–0.1% Formic acid =10:10:80 ;

Flow rate: 1.0 ml/min;

Column temperature: 25 °C;

The wave length of determination: 239 nm.

[Storage]

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

[References]

- [1] Wen W, Sun F, Yi A, *et al. Eur. J. Pharmacol.*, 2009, 613(1–3):19-23.
- [2] Yokozawa T, Yamabe N, Kim H Y, *et al. Biol. Pharmaceut. Bull.*, 2008, 31(7):1422-8.
- [3] Park C H, Yamabe N, Noh J S, *et al. Biol. Pharmaceut. Bull.*, 2009, 32(10):1734-40.
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- [5] Xu H, Shen J, Liu H, *et al. Can. J. Physiol. Pharm.*, 2006, 84(12):3042–51.
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- [7] Hu N, Ren S, Li W, *et al. Mol. Med. Rep.*, 2013, 7(5):1565-70.
- [8] Sun P L, Wei S R, Wang X F. *Chinese Journal of Rehabilitation Theory & Practice*, 2012, 18(4):331-2.
- [9] Li X, Wang Q, Zhang X, *et al. J. Pharmaceut. Biomed.*, 2007, 45(2):349-55.

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