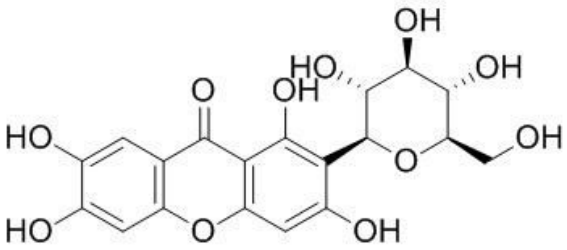
Natural Products

ChemFaces

Mangiferin Datasheet

4th Edition (Revised in July, 2016)

[Product Information]



Name: Mangiferin

Catalog No.: CFN98719

Cas No.: 4773-96-0

Purity: > 98%

M.F: $C_{19}H_{18}O_{11}$

M.W: 422.3

Physical Description: Yellow powder

Synonyms:1,3,6,7-Tetrahydroxyxanthone-C2-β-D-glucoside;1,3,6,7-Tetrahydroxy-2-[(3r,4r,5s,6r)-3,4,5-trihydroxy-6-(hydroxymethyl)oxan-2-yl]xanthen-9-one;2-Beta-d-glucopyranosyl-1,3,6,7-tetrahydroxy-9h-xanthen-9-on.

[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. Dairy products;
9. Others.

[Source]

The peel of *Mangifera indica L.*.

[Biological Activity or Inhibitors]

Mangiferin (MF) and its glucosides (mangiferin-7-O-beta-glucoside) (MG) isolated from Anemarrhena asphodeloides Bunge rhizome, have antidiabetic activity in KK-Ay mice,MF and MG lower the blood glucose level of KK-Ay mice after oral administration, MF or MG improves hyperinsulinemia in KK-Ay mice; it seems likely that MF and MG exert their its antidiabetic activity by increasing insulin sensitivity.[1]

Mangiferin and pueraria glycoside (PG)-1 have an antioxidant activity, probably due to their ability to scavenge free radicals involved in initiation of lipid peroxidation; it can protect the streptozotocin-induced oxidative damage to cardiac and renal tissues in rats; it can protect against 1-methyl-4-phenylpyridinium toxicity mediated by oxidative stress in N2A cells.[2-4]

Mangiferin can reduce initial DNA damage and enhance DNA repair in the HPBLs exposed to 1 to 4 Gy γ-radiation and could serve as a protector against the radiation-induced DNA damage during planned and unplanned radiation exposures.[5]

Mangiferin has anti-inflammatory properties, can decrease inflammation and oxidative damage in rat brain after stress, it could be a new therapeutic strategy in neurological/neuropsychiatric pathologies in which hypothalamic/pituitary/adrenal (HPA) stress axis dysregulation, neuroinflammation, and oxidative damage take place in their pathophysiology.[6]

Mangiferin decreases plasma free fatty acids (FFA) levels through promoting FFA uptake and oxidation, inhibiting FFA and TG accumulations by regulating the key enzymes expression in liver through AMPK pathway, therefore, it is a possible beneficial natural compound for metabolic syndrome by improving FFA metabolism.[7]

Mangiferin has protective effects on iron-induced oxidative damage to rat serum and liver.[8]

Mangiferin attenuates osteoclastogenesis, bone resorption, and RANKL-induced activation of NF-κB and ERK.[9]

Mangiferin and vimang have anthelminthic and antiallergic activities.[10]

[Solvent]

Pyridine, DMSO, Hot ethanol, Hot methanol.

[HPLC Method][11]

Mobile phase: Methanol-0.1% Aqueous phosphoric acid H2O=31:69;

Column temperature: Room Temperature;

Flow rate: 1.0 ml/min;

The wave length of determination: 258 nm.

[Storage]

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

[References]

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[5] Jagetia G C, Venkatesha V A. *Nutrition Res., 2006, 26(6):303-11*.

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