*Natural Products*

ChemFaces

# Plantamajoside Datasheet

4th Edition (Revised in July, 2016)

## [ Product Information ]

**Name:** Plantamajoside

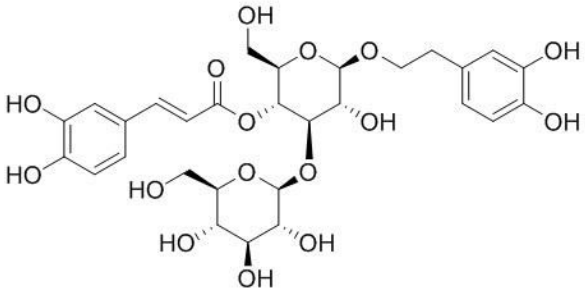
**Catalog No.:** CFN99522

**Cas No.:** 104777-68-6

**Purity:** > 98%

**M.F:** $C_{29}H_{36}O_{16}$

**M.W:** 640.20



**Physical Description:** White powder

**Synonyms:**2-(3,4-Dihydroxyphenyl)ethyl-4-O-(3,4-dihydroxycinnamoyl)-3-O-(β-D-glucopyranosyl)-β-D-glucopyranoside; Purpureaside A; Plantamoside.

## [ Intended Use ]

1. Reference standards;
2. Pharmacological research;
3. Food and cosmetic research;
4. Synthetic precursor compounds;
5. Intermediates & Fine Chemicals;
6. Others.

## [ Source ]

The herb of *Plantago depressa Willd.*

## [ Biological Activity or Inhibitors]

Plantamajoside has antibacterial activity, and has inhibition activity against cAMP phosphodiesterase and 5-lipoxygenase and antioxidant activity.[1]

Plantamajoside is a bioactive caffeic acid derivative, a dihydroxyphenethyl glucoside in the group of polyphenolic compounds, it is a protective agent against ultra-violet light in plants and acts as antioxidant agent with very low toxicity. [2]

Plantamajoside ameliorates lipopolysaccharide-induced acute lung injury via suppressing NF-κB and MAPK activation, thus, it may be a potential therapy for the treatment of pulmonary inflammation.[3]

Plantamajoside can inhibit UVB and advanced glycation end products‐induced MMP‐1 Expression by suppressing the MAPK and NF‐κB pathways in HaCaT cells, and attenuate the upregulation of receptor for AGEs (RAGE) by glycer-AGEs with UVB irradiation, suggests that it is a promising inhibitor of skin photoaging.[4]

Plantamajoside is a potential anti-tumor herbal medicine inhibits breast cancer growth and pulmonary metastasis by decreasing the activity of matrix metalloproteinase-9 and -2. [5]

## [ Solvent ]

Pyridine, DMSO, Ethanol, Methanol, Hot water.

## [ HPLC Method ][6]

Mobile phase: Acetonitrile-0.1%Formic acid H2O=17:83;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 330 nm .

## [ Storage ]

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

## [ References ]

[1] Byung-Gyu Park , Hyun-Sun Lee , Jung S H, *et al. Phytother. Res., 2007, 21(12): 1118-23.*

[2] Ravn H W, Mondolot L, Kelly M T, *et al. Phytochem. Lett., 2015, 12:42-53.*

[3] Wu H, Zhao G, Jiang K, *et al. Int. Immunopharmacol., 2016, 35:315-22.*

[4] Han, Ah‐Ram, Nam, Mi‐Hyun, Lee, *et al. Photochem. Photobiol., 2016,6.*

[5] Pei S, Yang X, Wang H, *et al. Bmc Cancer, 2015, 15(1):1-12.*

[6] Sun Q, Geng F, Cheng X, *et al. China Journal of Chinese Materia Medica, 2010, 35(16):2095-8.*

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