

Product Data Sheet

Product Name: Proanthocyanidins

Cat. No.: GC38218

Chemical Properties

Cas. No. 20347-71-1

SMILES OC1C(OC2C(C3=CC=C(O)C(O)=C3)OC4=CC(O)=CC(O)=C4C2)(C5=CC=C(O)C(O)=C5)OC6=CC(O)=CC(O)=C6C1O

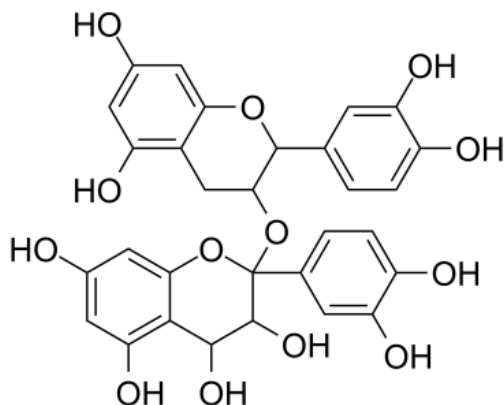
Formula $C_{30}H_{26}O_{13}$ M.Wt 594.52

Solubility Water: 5 mg/mL (8.41 mM; ultrasonic Storage Store at -20°C and adjust pH to 11 with Na_2CO_3)

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Background

Proanthocyanidins are a class of polyphenolic that are widely distributed in higher plants, consisted of

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an electrophilic flavanyl unit. Proanthocyanidins can be used as antioxidant and anti-cancers agent. Proanthocyanidins also exhibit anti-inflammatory, cardioprotective, antibacterial and antifungal properties, which can be used in the treatment of chronic venous insufficiency, capillary fragility, sunburn and retinopathy.[1].

Proanthocyanidins are present in plants as complex mixtures of polymers. Predominant food sources are red wine, tea, chocolate and fruits like grapes, apples, pears, and cranberries[1]. The most interesting antibacterial activity of Proanthocyanidins is related to their presence in cranberries (*Vaccinium macrocarpon* Ait.). A number of clinical trials have demonstrated the effectiveness of cranberry consumption in preventing urinary tract infections (UTIs). Although UTIs can be caused by many microorganisms, more than 85% are caused by *Escherichia coli*. The presence of P-fimbriae on *E. coli*, which are proteinaceous fibers on the bacterial cell wall, has been clearly established as a virulence factor, since they are responsible by producing adhesions for adherence to uroepithelial cells. Recently, it is demonstrated that cranberry Proanthocyanidins might inhibit P-fimbriated *E. coli* from adhering to uroepithelial cells. The antiadhesion activity of cranberry juice appears to be related to the presence of Proanthocyanidins with at least one A-type linkage[1].

The effects of cacao liquor Proanthocyanidins on 2- amino-1-methyl-6-phenylimidazo [4,5-b] pyridine-induced mutagenesis in vivo carcinogenesis in female Sprague-Dawley rats are investigated. In the Ames assay, Proanthocyanidins shows strong antimutagenic effects when assayed in the presence of S-9 mixture. They also inhibit significantly rat pancreatic carcinogenesis in the initiation stage, but not mammary carcinogenesis[1].

[1]. Kruger, Maria J, et al. Proanthocyanidins, anthocyanins and cardiovascular diseases. Food research international 2014 v.59 pp. 41-52 [2]. Cos P, et al. Proanthocyanidins in health care: current and new trends. Curr Med Chem. 2004 May;11(10):1345-59.

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