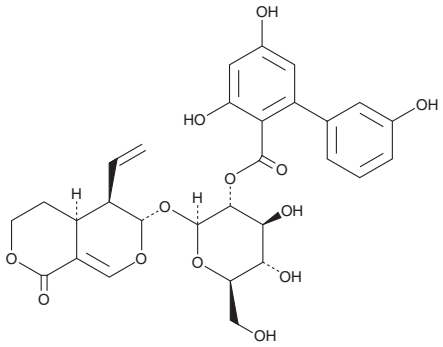
PRODUCT INFORMATION

Amarogentin

Item No. 24914

CAS Registry No.:	21018-84-8
Formal Name:	5-ethenyl-4,4aS,5R,6S-tetrahydro-6-[[2-O-[(3,3',5-trihydroxy[1,1'-biphenyl]-2-yl) carbonyl]-β-D-glucopyranosyl]oxy]-1H,3H-pyrano[3,4-c]pyran-1-one
MF:	$C_{29}H_{30}O_{13}$
FW:	586.5
Purity:	≥98%
UV/Vis.:	λ_{max}: 218, 228, 264, 302 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Amarogentin is supplied as a crystalline solid. A stock solution may be made by dissolving the amarogentin in the solvent of choice, which should be purged with an inert gas. Amarogentin is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of amarogentin in these solvents is approximately 2 and 1 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of amarogentin can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of amarogentin in PBS, pH 7.2, is approximately 0.1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Amarogentin is a secoiridoid glycoside that has been found in *Swertia* and has diverse biological activities, including anticancer, antidiabetic, and anti-leishmanial properties.[1-3] It inhibits the growth of SNU-16 human gastric cancer cells (IC_{50} = 12.4 µM after 48 hours) and increases apoptosis when used at a concentration of 50 µM.[2] Amarogentin (10-50 mg/kg, s.c.) dose-dependently reduces tumor growth in a SNU-16 nude mouse xenograft model. It reduces plasma glucose levels in a rat model of diabetes induced by streptozotocin (STZ; Item No. 13104) in a dose-dependent manner and reverses the STZ-induced increase in soleus muscle levels of glucose transporter 4 (Glut4) when administered at a dose of 0.5 mg/kg.[3] Amarogentin reduces parasite burden in the spleen of hamsters infected with *L. donovani* in a dose-dependent manner.[1]

References

1. Medda, S., Mukhopadhyay, S., and Basu, M.K. Evaluation of the in-vivo activity and toxicity of amarogentin, an antileishmanial agent, in both liposomal and niosomal forms. *J. Antimicrob. Chemother.* **44(6)**, 791-794 (1999).
2. Zhao, J.G., Zhang, L., Xiang, X.-j., *et al.* Amarogentin secoiridoid inhibits *in vivo* cancer cell growth in xenograft mice model and induces apoptosis in human gastric cancer cells (SNU-16) through G2/M cell cycle arrest and PI3K/Akt signalling pathway. *J. BUON.* **21(3)**, 609-617 (2016).
3. Niu, H.S., Chao, P.-C., Ku, P.-M., *et al.* Amarogentin ameliorates diabetic disorders in animal models. *Naunyn Schmiedebergs Arch. Pharmacol.* **389(11)**, 1215-1223 (2016).

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