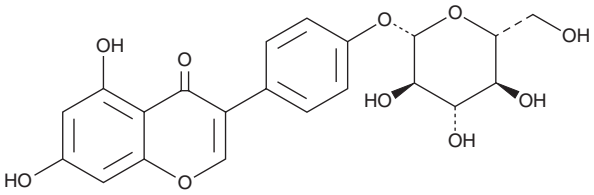
PRODUCT INFORMATION

Sophoricoside

Item No. 31203

CAS Registry No.: 152-95-4
Formal Name: 3-[4-(β-D-glucopyranosyloxy)phenyl]-5,7-dihydroxy-4H-1-benzopyran-4-one
Synonym: Genistein 4′-O-glucoside
MF: $C_{21}H_{20}O_{10}$
FW: 432.4
Purity: ≥98%
UV/Vis.: λ_{max}: 263 nm
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years
Item origin: Plant/*Sophora japonica* L.



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

Laboratory Procedures

Sophoricoside is supplied as a solid. A stock solution may be made by dissolving the sophoricoside in the solvent of choice, which should be purged with an inert gas. Sophoricoside is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of sophoricoside in these solvents is approximately 25 mg/ml.

Sophoricoside is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, sophoricoside should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Sophoricoside has a solubility of approximately 0.3 mg/ml in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Sophoricoside is a polyketide synthase-derived isoflavone glycoside that has been found in *S. japonica* and has diverse biological activities.[5] It inhibits lipid accumulation induced by oleic acid (Item Nos. 90260 | 24659) in HepG2 cells and stimulates glucose uptake in C2C12 mouse skeletal muscle myoblasts when used at a concentration of 10 µM.[2] Sophoricoside (2 mg/kg) reduces scratching behavior induced by compound 48/80 (Item No. 22173) or histamine (Item No. 33828) in mice, as well as reduces serum levels of IgE in a mouse model of atopic dermatitis.[3] It increases serum levels of osteocalcin and alkaline phosphatase (ALP) and restores mechanical bone hardness in an ovariectomized rat model of osteoporosis.[4] Sophoricoside (80 and 160 mg/kg) decreases hepatic cholesterol and triglyceride levels, serum LDL and apolipoprotein B levels, and hepatic injury in a mouse model of fructose-induced liver injury.[5]

References

1. Trantas, E.A., Koffas, M.A.G., Xu, P., *et al.* When plants produce not enough or at all: Metabolic engineering of flavonoids in microbial hosts. *Front. Plant Sci.* **6(7)**, (2015).
2. Wu, C., Luan, H., Wang, S., *et al.* Modulation of lipogenesis and glucose consumption in HepG2 cells and C2C12 myotubes by sophoricoside. *Molecules* **18(12)**, 15624-15635 (2013).
3. Kim, S.-J., Lee, G.-Y., Jung, J.-W., *et al.* The ameliorative effect of sophoricoside on mast cell-mediated allergic inflammation *in vivo* and *in vitro*. *Molecules* **18(5)**, 6113-6127 (2013).
4. Abdallah, H.M., Al-Abd, A.M., Asaad, G.F., *et al.* Isolation of antiosteoporotic compounds from seeds of *Sophora japonica*. *PLoS One* **9(6)**, e98559 (2014).
5. Li, W. and Lu, Y. Hepatoprotective effects of sophoricoside against fructose-induced liver injury *via* regulating lipid metabolism, oxidation, and inflammation in mice. *J. Food Sci.* **83(2)**, 552-558 (2018).

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