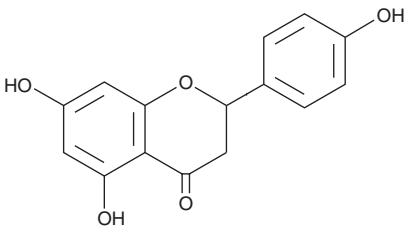
PRODUCT INFORMATION

Naringenin

Item No. 14173

CAS Registry No.: 67604-48-2
Formal Name: 2,3-dihydro-5,7-dihydroxy-2-(4-hydroxyphenyl)-4H-1-benzopyran-4-one
Synonyms: S-Dihydrogenistein, NSC 11855, NSC 34875, Salipurol
MF: $C_{15}H_{12}O_5$
FW: 272.3
Purity: ≥98%
UV/Vis.: λ_{max}: 213, 225, 289 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

Naringenin is supplied as a crystalline solid. A stock solution may be made by dissolving the naringenin in the solvent of choice, which should be purged with an inert gas. Naringenin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of naringenin in these solvents is approximately 2.5, 5, and 10 mg/ml, respectively.

Naringenin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, naringenin should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Naringenin has a solubility of approximately 0.50 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Naringenin is a citrus-derived flavonoid that inhibits CYP3A4 activity in human liver microsomes (IC_{50}s = 139-188 µM).[1,2] At 100 mg/kg/day, naringenin selectively inhibits the transcription of Smad3 and directly down-regulates TGF-β1, significantly reducing lung metastasis in mice with bleomycin-induced pulmonary fibrosis.[3] Naringenin demonstrates both lipid lowering and insulin-like properties in low-density lipoprotein (LDL) receptor-deficient mice fed a Western diet containing 1-3% naringenin by correcting VLDL overproduction, ameliorating hepatic steatosis, and attenuating dyslipidemia without affecting caloric intake or fat absorption.[4]

References

1. Fuhr, U., Klittich, K., and Staib, A.H. Inhibitory effect of grapefruit juice and its bitter principal, naringenin, on CYP1A2 dependent metabolism of caffeine in man. *Br. J. Clin. Pharmacol.* **35(4)**, 431-436 (1993).
2. Ho, P.-C. and Saville, D.J. Inhibition of human CYP3A4 activity by grapefruit flavonoids, furanocoumarins and related compounds. *J. Pharm. Pharm. Sci.* **4(3)**, 217-227 (2001).
3. Du, G., Jin, L., Han, X., *et al.* Naringenin: A potential immunomodulator for inhibiting lung fibrosis and metastasis. *Cancer Res.* **69(7)**, 3205-3212 (2009).
4. Mulvihill, E.E., Allister, E.M., Sutherland, B.G., *et al.* Naringenin prevents dyslipidemia, apolipoprotein B overproduction, and hyperinsulinemia in LDL receptor-null mice with diet-induced insulin resistance *Diabetes* **58(10)**, 2198-2210 (2009).

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