

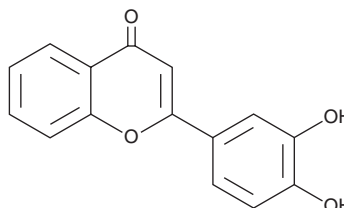
PRODUCT INFORMATION



3',4'-Dihydroxyflavone

Item No. 35226

CAS Registry No.: 4143-64-0
Formal Name: 2-(3,4-dihydroxyphenyl)-4H-1-benzopyran-4-one
Synonym: 3',4'-DHF
MF: C₁₅H₁₀O₄
FW: 254.2
Purity: ≥95%
UV/Vis.: λ_{max}: 245, 345 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

3',4'-Dihydroxyflavone is supplied as a crystalline solid. A stock solution may be made by dissolving the 3',4'-dihydroxyflavone in the solvent of choice, which should be purged with an inert gas. 3',4'-Dihydroxyflavone is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 3',4'-dihydroxyflavone in DMSO is approximately 10 mg/ml and approximately 15 mg/ml in DMF. 3',4'-Dihydroxyflavone is slightly soluble in ethanol.

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 3',4'-dihydroxyflavone can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 3',4'-dihydroxyflavone in PBS (pH 7.2) is approximately 0.16 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

3',4'-Dihydroxyflavone is a synthetic flavonoid that has diverse biological activities.¹⁻⁴ It inhibits tankyrase 1 (TNKS1) and TNKS2 (IC₅₀s = 0.23 and 0.17 μM for the human enzymes, respectively).¹ 3',4'-Dihydroxyflavone is active against *L. donovani*, *T. brucei*, and *T. cruzi* with IC₅₀ values of 2, 1.1, and 10.1 μg/ml, respectively.² It induces apoptosis in and inhibits migration of GL15 glioblastoma cells when used at a concentration of 50 μM.³ 3',4'-Dihydroxyflavone (5 mg/kg) prevents LPS-induced increases in brain levels of COX-2 and inducible nitric oxide synthase (iNOS) in a mouse model of neuroinflammation.⁴

References

1. Narwal, M., Koivunen, J., Haikarainen, T., *et al.* Discovery of tankyrase inhibiting flavones with increased potency and isoenzyme selectivity. *J. Med. Chem.* **56**(20), 7880-7889 (2013).
2. Tasdemir, D., Kaiser, M., Brun, R., *et al.* Antitrypanosomal and antileishmanial activities of flavonoids and their analogues: In vitro, in vivo, structure-activity relationship, and quantitative structure-activity relationship studies. *Antimicrob. Agents Chemother.* **50**(4), 1352-1364 (2006).
3. Santos, B.L., Oliveira, M.N., Coelho, P.L.C., *et al.* Flavonoids suppress human glioblastoma cell growth by inhibiting cell metabolism, migration, and by regulating extracellular matrix proteins and metalloproteinases expression. *Chem. Biol. Interact.* **242**, 123-138 (2015).
4. Kim, N., Yoo, H.-S., Ju, Y.-J., *et al.* Synthetic 3',4'-dihydroxyflavone exerts anti-neuroinflammatory effects in BV2 microglia and a mouse model. *Biomol. Ther. (Seoul)* **26**(2), 210-217 (2018).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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