

Certificate of Analysis

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Product Name: Luteolin

Catalog No.: 2874

Batch No.: 1

CAS Number: 491-70-3

EC Number: 207-741-0

IUPAC Name: 2-(3,4-Dihydroxyphenyl)-5,7-dihydroxy-4*H*-1-benzopyran-4-one

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₅H₁₀O₆·1¼H₂O

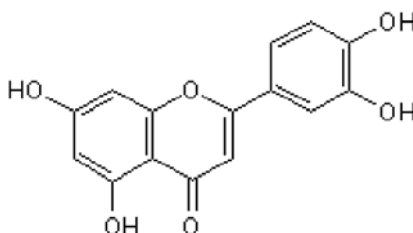
Batch Molecular Weight: 308.76

Physical Appearance: Yellow solid

Solubility: 1eq. NaOH to 5 mM
DMSO to 50 mM
ethanol to 25 mM

Storage: Store at +4°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows >98.7% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

Carbon Hydrogen Nitrogen

Theoretical 58.35 4.08

Found 57.98 3.79

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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IUPAC Name: 2-(3,4-Dihydroxyphenyl)-5,7-dihydroxy-4H-1-benzopyran-4-one

Description:

Anti-inflammatory, antioxidant and free radical scavenger. Inhibits LPS-induced TNF- α , IL-6 and inducible nitric oxide production and blocks NF- κ B and AP-1 activation. Also inhibits TNF- α -induced COX-2 expression. Antiproliferative and chemopreventative; inhibits proliferation of Lewis lung carcinoma cells *in vivo*. Inhibits influenza virus replication *in vitro* by preventing viral entry. Molecular docking studies also indicate binding to SARS-CoV-2 main protease (M^{pro} or 3CL^{pro}).

Physical and Chemical Properties:

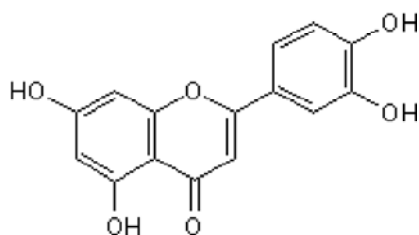
Batch Molecular Formula: C₁₅H₁₀O₆.1¼H₂O

Batch Molecular Weight: 308.76

Physical Appearance: Yellow solid

Minimum Purity: ≥98%

Batch Molecular Structure:



References:

Yu et al (2020) Computational screening of antagonists against the SARS-CoV-2 (COVID-19) coronavirus by molecular docking. *Int.J.Antimicrob.Agents*. PMID: 32389723.

Yan et al (2019) Luteolin decreases the yield of influenza A virus *in vitro* by interfering with the coat protein I complex expression. *J.Nat.Med.* **73** 487. PMID: 30758716.

Kim et al (2011) Luteolin, a novel natural inhibitor of tumor progression locus 2 serine/ threonine kinase, inhibits tumor necrosis factor- α -induced cyclooxygenase-2 expression in JB6 mouse epidermis cells. *J.Pharm.Exp.Ther.* **338** 1013.

Storage: Store at +4°C

CAUTION - This product is light sensitive and we recommend that the solid material and any solutions obtained are protected from exposure to light.

Solubility & Usage Info:

1eq. NaOH to 5 mM

DMSO to 50 mM

ethanol to 25 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

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