Product Name: **Rottlerin** **Catalog No.: 1610** **Batch No.: 3**

CAS Number: 82-08-6 EC Number: 201-395-4

IUPAC Name: 3'-[(8-Cinnamoyl-5,7-dihydroxy-2,2-dimethyl-2*H*-1-benzopyran-6-yl)methyl]-2',4',6'-trihydroxy-5'-methylacetophenone

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{30}H_{28}O_8$

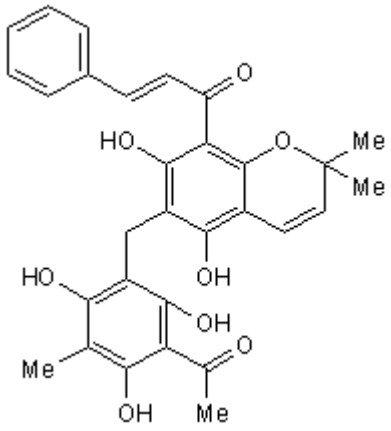
Batch Molecular Weight: 516.55

Physical Appearance: Brown solid

Solubility: ethanol to 2 mM with gentle warming
DMSO to 20 mM

Storage: Store at +4°C

Batch Molecular Structure:



2. ANALYTICAL DATA

Melting Point: Between 200 - 205°C

HPLC: Shows 94.5% purity

Mass Spectrum: Consistent with structure

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Description:

Originally reported to inhibit PKC isoforms. Also reported to inhibit CAM kinase III. However, recently shown to inhibit a wide range of protein kinases, and most potently to inhibit PRAK and MAPKAP-K2 (IC_{50} values are 1.9 and 5 µM respectively). Also shown to act as a direct mitochondrial uncoupler. Thought to stimulate autophagy by targeting upstream mTORC1 control pathways.

Physical and Chemical Properties:

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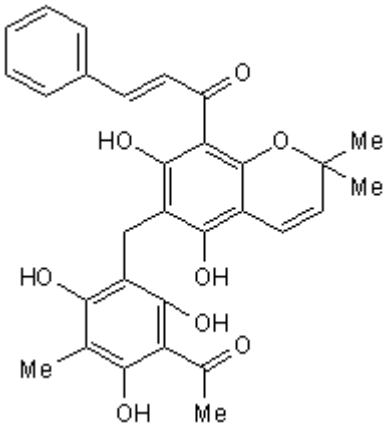

Storage: Store at +4°C

Solubility & Usage Info:

ethanol to 2 mM with gentle warming
DMSO to 20 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.

References:

Gschwendt *et al* (1994) Rottlerin, a novel protein kinase inhibitor. Biochem.Biophys.Res.Commun. ***199*** 93. PMID: 8123051.

Davies *et al* (2000) Specificity and mechanism of action of some commonly used protein kinase inhibitors. Biochem.J. ***351*** 95. PMID: 10998351.

Zhang *et al* (2007) Neuroprotective effect of protein kinase Cδ inhibitor rottlerin in cell culture and animal models of Parkinson's disease. J.Pharmacol.Exp.Ther. ***322*** 913. PMID: 17565007.

Balgi *et al* (2009) Screen for chemical modulators of autophagy reveals novel therapeutic inhibitors of mTORC1 signaling. PLoS One ***4*** e7124. PMID: 19771169.