bio-techne
TOCRIS

Print Date: Aug 13th 2025

Certificate of Analysis

www.tocris.com

Product Name: **Forskolin** **Catalog No.: 1099** **Batch No.: 4**

CAS Number: 66575-29-9 EC Number: 266-410-9

IUPAC Name: (3*R*,4a*R*,5*S*,6*S*,6a*S*,10*S*,10a*R*,10b*S*)-5-(Acetyloxy)-3-ethenyldodecahydro-6,10,10b-trihydroxy-3,4a,7,7,10a-pentamethyl-1*H*-naphtho[2,1-*b*]pyran-1-one

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{22}H_{34}O_7$

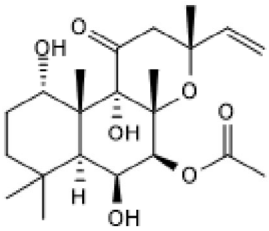
Batch Molecular Weight: 410.51

Physical Appearance: White solid

Solubility: ethanol to 10 mM
DMSO to 25 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.0% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	64.37	8.35	0
Found	64.36	8.43	0

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

bio-techne.com
info@bio-techne.com
techsupport@bio-techne.com

North America
Tel: (800) 343 7475

China
info.cn@bio-techne.com
Tel: +86 (21) 52380373

Europe Middle East Africa
Tel: +44 (0)1235 529449

Rest of World
www.tocris.com/distributors
Tel:+1 612 379 2956

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Description:

Forskolin, or coleonol, is a cell-permeable, potent, reversible and rapid activator of adenylyl cyclase, an enzyme that converts ATP to cAMP and pyrophosphate (EC_{50} = 0.5 µM). In combination with other compounds, forskolin enables chemical reprogramming of mouse embryonic fibroblasts to pluripotent stem cells, without genetic factors (protocol available). In combination with IBMX (Cat. No. 2845), forskolin induces neural differentiation of mesenchymal stem cells by downregulating neuron restrictive silencer factor. In a rat model of Huntington's disease-like neurodegeneration, forskolin also exhibits neuroprotective effects. Hypoten... Please see product specific page on www.tocris.com for full description.

Physical and Chemical Properties:

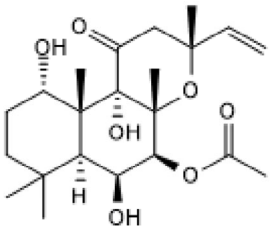
Batch Molecular Formula: $C_{22}H_{34}O_7$

Batch Molecular Weight: 410.51

Physical Appearance: White solid

Minimum Purity: ≥98%

Batch Molecular Structure:



Storage: Store at -20°C

Solubility & Usage Info:

ethanol to 10 mM
DMSO 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. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

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:

Sato *et al* (2015) SnapShot: Growing Organoids from Stem Cells. Cell ***161*** 1700. PMID: 26091044.

Hou *et al* (2013) Pluripotent stem cells induced from mouse somatic cells by small-molecule compounds. Science ***341*** 651. PMID: 23868920.

Kim *et al* (2005) cAMP induces neuronal differentiation of mesenchymal stem cells via activation of extracellular signal-regulated kinase/MAPK. Neuroreport ***16*** 1357. PMID: 16056139.