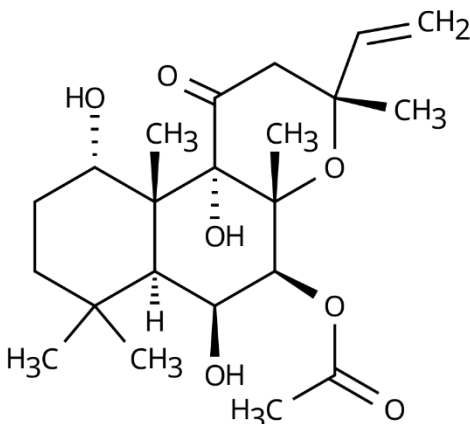


TrailBio® Forskolin User Instructions

Product Configurations

Catalog Number	Size	Quantity
TB18463	10 mg	1 vial

Product Description

Category	Specification
Product	Forskolin
Synonyms	Coleonol; Colforsin; Colforsina
CAS Number	66575-29-9
MDL Number	MFCD00082317
Formula	C ₂₂ H ₃₄ O ₇
Molecular Weight	410.50 g/mol
Storage (Solid)	4 °C for up to 2 years, protect from light
Storage (Solution)	-80 °C for up to 6 months or -20 °C for up to 1 month; protect from light
Shipping	Ambient temperature
Chemical Structure	 The chemical structure of Forskolin is a complex polycyclic molecule. It features a central six-membered ring with a ketone group (=O) and a hydroxyl group (-OH). This ring is fused to a five-membered ring containing an ester group (-O-C(=O)-CH₃). Another five-membered ring is fused to the side, containing a hydroxyl group (-OH) and a methyl group (-CH₃). A side chain with a terminal vinyl group (-CH=CH₂) and a methyl group (-CH₃) is attached to the structure. Stereochemistry is indicated with wedges and dashes.

Quality & Analytical Specifications

Test Parameter	Specification
Solid Appearance (Color)	White to off-white
Purity	≥98%

Solubility

Solvent	Solubility	Notes
DMSO	≤100 mg/ml (243 mM)	may require sonication

Solution Preparation Guide

Amount	1 mM	5 mM	10 mM
1 mg	2.436 ml	0.487 ml	0.244 ml
5 mg	12.180 ml	2.436 ml	1.218 ml
10 mg	24.361 ml	4.872 ml	2.436 ml

Biological Description

Forskolin is a potent adenylyl cyclase activator that increases intracellular cAMP levels by directly activating the enzyme's catalytic subunit. It has also been reported to induce differentiation in various cell types, activate PXR and FXR, and promote autophagy, and can be used to study cAMP-dependent signaling, cell differentiation, metabolic regulation, and autophagy.

Associated Pathways & Applications

Category	Description
Associated Pathways	Adenylyl cyclase/cAMP; GPCR/G protein; TGF-β/Smad; Wnt/β-catenin; PXR/FXR
Applications	Stem cell culture; cAMP induction; cell differentiation studies; autophagy studies; exosome biogenesis and secretion studies; T-cell proliferation studies

Target & IC₅₀

Target	IC ₅₀
Adenylyl cyclase	41 nM

Notes

- When using DMSO-based stock solutions, maintain a final DMSO concentration of <0.5% in cell culture applications to minimize potential cellular toxicity, unless a higher concentration has been validated for the specific cell type.
- Avoid repeated freeze-thaw cycles. Prepare single-use aliquots when possible.
- Compound may collect on the vial cap or neck during shipping; centrifuge briefly before opening to bring contents to the bottom.
- Certificate of Analysis (CoA) available upon request. Please contact support@trailbio.com.

Also available from Trailhead Biosystems®

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