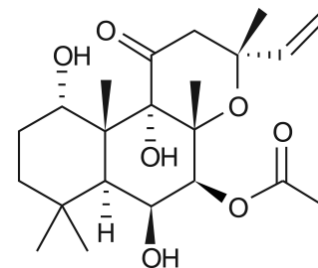


Forskolin

Catalog Number: ST10023



Size	10 mg
Description	Forskolin is a cell permeable activator of adenylyl cyclase ($IC_{50} = 41 \text{ nM}$), resulting in higher levels of cyclic AMP (cAMP) in the cell. It has been used to potentiate neuron differentiation as well as maintain human ES cells in a naïve or ground state. Forskolin has been shown to enable chemical reprogramming of mouse embryonic fibroblasts to iPS cells in combination with CHIR99021, Tranylcypromine, Valproic Acid, 3-Deazaneplanocin A, and RepSox.
Molecular Weight	410.5
Molecular Formula	$C_{22}H_{34}O_7$
Chemical Name	[3R-(3 α ,4 $\alpha\beta$,5 β ,6 β ,6 $\alpha\alpha$,10 α ,10 $\alpha\beta$,10 $\beta\alpha$)]-5-(Acetyloxy)-3-ethenyldodecahydro-6,10,10b-trihydroxy-3,4a,7,7,10a-pentamethyl-1H-naphtho[2,1-b]pyran-1-on
CAS Number	66575-29-9
PubChem Identifier	47936
Appearance	White to off-white solid
Purity	>99% by HPLC analysis
Solubility	Soluble in DMSO at 25 mM
Reconstitution	For a 10 mM concentrated stock solution, reconstitute the compound by adding 2.4 mL of DMSO to the entire contents of vial. If precipitate is observed, warm the solution to 37°C for 2 to 5 minutes.
Recommended Usage	For use in cell culture, warm medium just prior to adding the reconstituted compound. Once the compound is added, mix and filter-sterilize the medium using a 0.2 μM low-protein binding filter. Note: for most cells, the maximum tolerance to DMSO is less than 0.5%.
Storage and Stability	Solid: Shipped at room temperature. Store at -20°C. Stable for 6 months when stored as directed. Solution: Following reconstitution, store aliquots in tightly sealed vials at -20°C. Avoid repeated freeze-thaw cycles.
References	<p>Hanna, J., et al. (2010) Human embryonic stem cells with biological and epigenetic characteristics similar to those of mouse ESCs. <i>Proc Natl Acad Sci USA</i> 107: 9222-9227. PMID: 20442331.</p> <p>Hou, P., et al. (2013) Pluripotent stem cells induced from mouse somatic cells by small-molecule compounds. <i>Science</i> 341: 651-654. PMID: 23868920.</p> <p>Kim, S.S., et al. (2005) cAMP induces neuronal differentiation of mesenchymal stem cells via activation of extracellular signal-regulated kinase/MAPK. <i>Neuroreport</i> 16: 1357-1361. PMID: 16056139.</p> <p>Robbins, J.D., et al. (1996) Forskolin carbamates: binding and activation studies with type I adenylyl cyclase. <i>J Med Chem</i> 39: 2745-2752. PMID: 8709105.</p>

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