# **PRODUCT** INFORMATION



## Isoforskolin

Item No. 11716

CAS Registry No.:	64657-21-2	
Formal Name:	(3R,6S,6aS)-6-(acetyloxy)-3-	0
	ethenyldodecahydro-5S,10S,10bS-	
	trihydroxy-3,4aR,7,7,10aR-pentamethyl-	
	1H-naphtho[2,1-b]pyran-1-one	́ ́ ́ ́ ́ ́ ́ ́ ́ ́ ́ ́ ́ ́ ́ ́ ́ ́ ́
MF:	$C_{22}H_{34}O_7$	
FW:	410.5	ОН
Purity:	≥98%	
Supplied as:	A solid	
Storage:	-20°C	U O
Stability:	≥4 years	

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Isoforskolin is supplied as a solid. A stock solution may be made by dissolving the isoforskolin in the solvent of choice, which should be purged with an inert gas. Isoforskolin is soluble in organic solvents such as chloroform and DMSO.

### Description

Isoforskolin is a naturally occurring diterpene originally isolated from the Indian coleus plant C. forskohlii.<sup>1</sup> It demonstrates positive inotropic effects ex vivo in guinea pig atria (EC<sub>50</sub> = 1.09  $\mu$ M).<sup>2</sup> In vivo, isoforskolin is antihypertensive, decreasing systolic blood pressure by 28 mmHg in spontaneously hypertensive rats when administered at 25 mg/kg per day, p.o. for 5 days. Pretreatment of rats with isoforskolin (10 mg/kg, i.p.) decreases LPS-induced lung injury by decreasing karyocyte, neutrophil count, and protein content in bronchoalveolar lavage fluid, and ameliorating LPS-induced lung morphological changes.<sup>3</sup> Isoforskolin (1 mg/kg, i.p.) decreases mean arthritis index in a mouse model of Lyme arthritis induced by injection of B. burgdorferi basic membrane protein A (BmpA) into the tibiotarsal joint cavity.<sup>4</sup> Isoforskolin also activates membranous mammalian adenylyl cyclase (AC) expressed in insect cells  $(EC_{50}s = 0.8, 13.3, and 7.4 \mu M$  for AC1, AC2, and AC5, respectively).<sup>5</sup>

#### References

- 1. Bhat, S.V., Bajwa, B.S., Dornauer, H., et al. Structures and stereochemistry of new labdane diterpenoids from Coleus forskohlii Brig. Tetrahedron Lett. 18(19), 1669-1672 (1977).
- 2. Bhat, S.V., Dohadwalla, A.N., Bajwa, B.S., et al. The antihypertensive and positive inotropic diterpene forskolin: Effects of structural modifications on its activity. J. Med. Chem. 26(4), 486-492 (1983).
- 3. Yang, W., Qiang, D., Zhang, M., et al. Isoforskolin pretreatment attenuates lipopolysaccharide-induced acute lung injury in animal models. Int. Immunopharmacol. 11(6), 683-692 (2011).
- 4. Zhao, H., Liu, A., Shen, L., et al. Isoforskolin downregulates proinflammatory responses induced by Borrelia burgdorferi basic membrane protein A. Exp. Ther. Med. 14(6), 5974-5980 (2017).
- 5. Pinto, C., Papa, D., Hübner, M., et al. Activation and inhibition of adenylyl cyclase isoforms by forskolin analogs. J. Pharmacol. Exp. Ther. 325(1), 27-36 (2008).

WARNING THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFFTY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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