

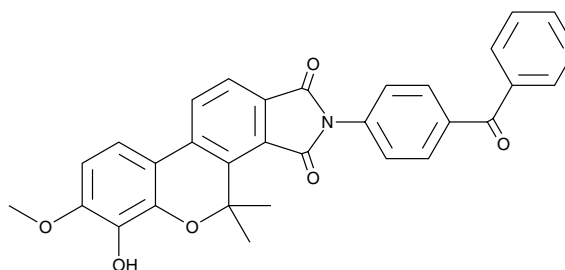
Product Information



Ampkinone

Item No. 10631

CAS Registry No.: 1233082-79-5
Formal Name: 2-(4-benzoylphenyl)-6-hydroxy-7-methoxy-4,4-dimethyl-[1]benzopyrano[3,4-e]isoindole-1,3(2H,4H)-dione
MF: C₃₁H₂₃NO₆
FW: 505.5
Purity: ≥95%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 259, 280, 387 nm



Laboratory Procedures

For long term storage, we suggest that ampkinone be stored as supplied at -20°C. It should be stable for at least two years.

Ampkinone is supplied as a crystalline solid. A stock solution may be made by dissolving the ampkinone in the solvent of choice. Ampkinone is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of ampkinone in these solvents is approximately 2 and 10 mg/ml, respectively.

Ampkinone is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

AMP-activated protein kinase (AMPK) plays a role in energy metabolism and glucose homeostasis by monitoring the ratio of ATP to AMP. AMPK stimulates glucose uptake in skeletal muscle when activated during muscle contraction and exercise by the phosphorylation of threonine 172 (Thr¹⁷²) by LKB19 and Ca²⁺/calmodulin-dependent kinase kinase. Ampkinone is a small molecule activator of AMPK. It has been shown to stimulate functional activation of AMPK *via* the phosphorylation at Thr¹⁷² in cultured L6 muscle cells with an EC₅₀ value of 4.3 μM, enhancing glucose uptake by 3.2-fold.¹ When given to diet-induced obese mice, 10 mg/kg ampkinone up-regulated the activity of AMPK in liver and muscle, enhancing insulin sensitivity and increasing the oxidation of adipose tissues.¹

Reference

1. Oh, S., Kim, S.J., Hwang, J.H., *et al.* Antidiabetic and antiobesity effects of ampkinone (6f), a novel small molecule activator of AMP-activated protein kinase. *J. Med. Chem.* **53**, 7405-7413 (2010).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/10631

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent *via* email to your institution.

WARRANTY AND LIMITATION OF REMEDY

Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman **warrants only** to the original customer that the material will **meet our specifications at the time of delivery.**

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have **any obligation or liability**, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

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Buyer's **exclusive remedy** and Cayman's sole liability hereunder shall be limited to a **refund** of the purchase price, or at Cayman's option, the **replacement**, at no cost to Buyer, of all material that does not meet our specifications.

Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

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