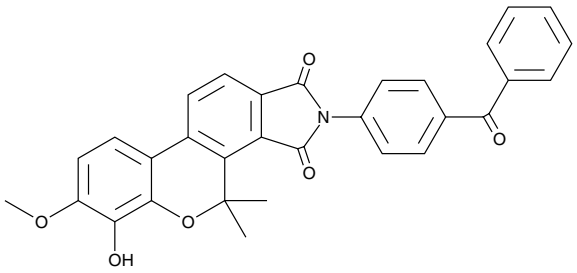
Product Information

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:	$C_{31}H_{23}NO_6$
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 (Thr^{172}) by LKB19 and Ca^{2+}/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 Thr^{172} in cultured L6 muscle cells with an EC_{50} 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

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