

PRODUCT INFORMATION



AMPK activator

Item No. 14741

CAS Registry No.: 849727-81-7
Formal Name: 5-[3-[4-[2-(4-fluorophenyl)ethoxy]phenyl]propyl]-2-furancarboxylic acid

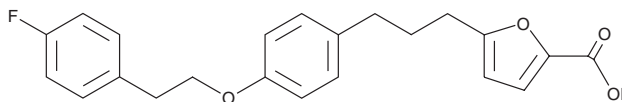
Synonym: D942
MF: C₂₂H₂₁FO₄
FW: 368.4
Purity: ≥95%

UV/Vis.: λ_{max}: 225, 263 nm

Supplied as: A crystalline solid

Storage: -20°C

Stability: ≥4 years



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

Laboratory Procedures

AMPK activator is supplied as a crystalline solid. A stock solution may be made by dissolving the AMPK activator in the solvent of choice, which should be purged with an inert gas. AMPK activator is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of AMPK activator in ethanol is approximately 2 mg/ml and approximately 25 mg/ml in DMSO and DMF.

AMPK activator is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, AMPK activator should first be dissolved in DMF and then diluted with the aqueous buffer of choice. AMPK activator has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

AMPK activator is an indirect activator of AMP-activated protein kinase, AMPK (EC₅₀ = 11.7 μM).¹ It is thought to activate AMPK by inhibiting mitochondrial complex I, producing an increase in AMP levels.¹ AMPK activator stimulates glucose uptake in L6 myocytes and promotes phosphorylation of acetyl-CoA carboxylase, a known target of AMPK.¹ AMPK activator also decreases blood glucose concentrations in female Zucker diabetic rats, demonstrating its utility in whole animals.¹ At 50 μM, it inhibits the growth of multiple myeloma cells.² AMPK activator induces phosphorylation of raptor in PC3 prostate cancer cells, down-regulating mTORC1 signaling and reducing survivin expression.³

References

1. Kosaka, T., Okuyama, R., Sun, W., *et al.* Identification of molecular target of AMP-activated protein kinase activator by affinity purification and mass spectrometry. *Anal. Chem.* **77**(7), 2050-2055 (2005).
2. Baumann, P., Mandl-Weber, S., Emmerich, B., *et al.* Activation of adenosine monophosphate activated protein kinase inhibits growth of multiple myeloma cells. *Exp. Cell Res.* **313**(16), 3592-3603 (2007).
3. Roca, H., Varsos, Z.S., and Pienta, K.J. CCL2 is a negative regulator of AMP-activated protein kinase to sustain mTOR complex-1 activation, survivin expression, and cell survival in human prostate cancer PC3 cells. *Neoplasia* **11**(12), 1309-1317 (2009).

WARNING

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

SAFETY 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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