

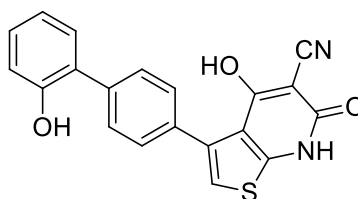
Catalog # 10-1171

A-769662

CAS# 844499-71-4

4-Hydroxy-3-(2'-hydroxy-[1,1'-biphenyl]-4-yl)-6-oxo-6,7-dihydrothieno[2,3-b]pyridine-5-carbonitrile

Lot # X104219



A potent and reversible AMP-activated protein kinase (AMPK) allosteric activator. Activates AMPK by binding to the α and β subunits and not the AMP binding site¹. $EC_{50}=0.8 \mu M$ for purified rat liver AMPK and inhibits fatty acid biosynthesis in rat hepatocytes $IC_{50}=3.2 \mu M^2$. Inhibits the rate of whole-body fatty acid oxidation, decreases body weight gain, reduces plasma and liver triglycerides and lowers plasma glucose in ob/ob mice². Inhibits adipocyte differentiation³. Prevents transcriptional activation of Oct4 and establishes a metabolic barrier to induced pluripotent stem cell reprogramming⁴. Synergizes with AICAR⁵. Cell permeable.

- 1) Scott *et al.* (2008), *Thienopyridone drugs are selective activators of AMP-activated protein kinase beta1-containing complexes*; Cell Biol., **15** 1220
- 2) Cool *et al.* (2006), *Identification and characterization of a small molecule AMPK activator that treats key*
- 3) Zhou *et al.* (2009), *Inhibitory effects of A-769662, a novel activator of AMP-activated protein kinase on 3T3-L1 adipogenesis*; Biol. Pharm. Bull., **32** 993
- 4) Vazquez-Martin *et al.* (2012) *Activation of AMP-activated protein kinase (AMPK) provides a metabolic barrier to reprogramming somatic cells into stem cells*; Cell Cycle, **11** 974
- 5) Ducommun *et al.* (2014) *Enhanced activation of cellular AMPK by dual-small molecule treatment: AICAR and A769662*; Am. J. Physiol. Endocrinol. Metab., **306** E688

PHYSICAL DATA

Molecular Weight:	360.39
Molecular Formula:	C ₂₀ H ₁₂ N ₂ O ₃ S
Purity:	98% by HPLC
	NMR: (Conforms)
Solubility:	DMSO (up to 30 mg/ml) or Ethanol (up to 5 mg/ml with warming)
Physical Description:	Beige solid
Storage and Stability:	Store as supplied desiccated at -20°C for up to 1 year from the date of purchase. Solutions in DMSO or ethanol may be stored at -20°C for up to 3 months.

Materials provided by Focus Biomolecules are for laboratory research use only and are not intended for human or veterinary applications.