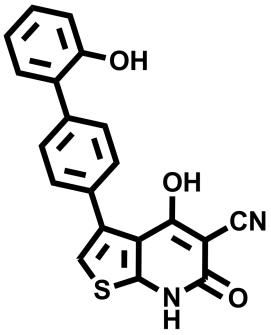
Xcess Biosciences Inc.
7144 N Harlem Ave #169
Chicago, IL 60631 USA

http://www.xcessbio.com
Toll free: 1-866-706-2330
Fax: 1-619- 810-0718
Email: info@xcessbio.com

AMPK Activator A769662

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



Molecular Weight:	360.39
Formula:	$C_{20}H_{12}N_2O_3S$
Purity:	≥98%
CAS#:	844499-71-4
Solubility:	DMSO up to 50mM
Storage	Powder: 4°C 1 year DMSO: 4°C 3 month -20°C 1 year

Biological Activity:

A769662 is a potent and selective small-molecule activator of AMP-activated protein kinase (AMPK). It induces allosteric activation of AMPK and inhibition of dephosphorylation of AMPK on Thr-172, similar to the effects of AMP. The activation of AMPK inhibits mTOR signaling, which is a positive effector of cell growth and survival. A769662 stimulated partially purified rat liver AMPK with an EC_{50} of 0.8 μM and inhibited fatty acid synthesis in primary rat hepatocytes with an IC_{50} of 3.2 μM. It can also stimulate Na+,K+-ATPase activity in skeletal muscle cells.

How to Use:

In vitro: A769662 is typically used at 10-20 μM concentration in vitro.

In vivo: A769662 could be intraperitoneally (IP) dosed to mice at 30 mg/kg twice per day.

Reference:

1. Cool B, et al. Identification and characterization of a small molecule AMPK activator that treats key components of type 2 diabetes and the metabolic syndrome. (2006) Cell Metab. 3: 403-416.
2. Scott JW, et al. Thienopyridone drugs are selective activators of AMP-activated protein kinase β1-containing complexes. (2008) Chem. Biol. 15: 1220-1230.
3. Huang X, et al. Important role of the LKB1-AMPK pathway in suppressing tumorigenesis in PTEN-deficient mice. (2008) Biochem J. 412:211-221.
4. Morizane Y, et al. AMP-activated protein kinase suppresses matrix metalloproteinase-9 expression in mouse embryonic fibroblasts. (2011) J Biol Chem. 286(18):16030-8.
5. Benziane B, et al. Activation of AMP-activated protein kinase stimulates Na+,K+-ATPase activity in skeletal muscle cells. (2012) J Biol Chem. 287(28):23451-63.