

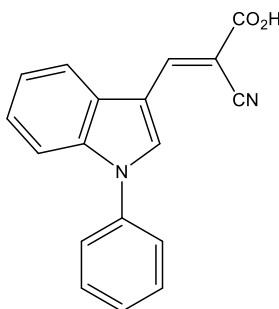
Catalog # 10-4748

UK-5099

CAS# 56396-35-1

2-Cyano-3-(1-phenyl-1H-indol-3-yl)-2-propenoic acid

Lot # S101082



Potent inhibitor of the mitochondrial pyruvate carrier (MPC).¹ Rapidly increases glucose uptake in human monocytes.² Attenuates mitochondrial oxidative phosphorylation and increases glycolysis creating greater stem-like properties in LnCap prostate cancer cells.³ Blocks the neuroprotective action of L-lactate or pyruvate during glutamate-induced excitotoxicity.⁴ Inhibits pyruvate transport across the plasma membrane of trypanosomes ($K_i=49 \mu\text{M}$).⁵

- 1) Shearman & Halestrap (1984), *The concentration of the mitochondrial pyruvate carrier in rat liver and heart mitochondria determined with alpha-cyano-beta-(1-phenylindol-3-yl)acrylate*; Biochem. J., **223** 673
- 2) Divakaruni *et al.* (2013), *Thiazolidinediones are acute, specific inhibitors of the mitochondrial pyruvate carrier.*, Proc. Natl. Acad. Sci. USA, **110** 5422
- 3) Zhong *et al.* (2015), *Application of mitochondrial pyruvate carrier blocker UK5099 creates metabolic reprogram and greater stem-like properties in LnCap prostate cancer cells in vitro*; Oncotarget, **6** 37758
- 4) Jourdain *et al.* (2016), *L-Lactate protects neurons against excitotoxicity: implication of an ATP-mediated signaling cascade*; Sci. Rep., **6** 21250
- 5) Wiemer *et al.* (1995), *The inhibition of pyruvate transport across the plasma membrane of the bloodstream form of Trypanosoma brucei and its metabolic implications*; Biochem. J., **312** 479

PHYSICAL DATA

Molecular Weight:	288.30
Molecular Formula:	C ₁₈ H ₁₂ N ₂ O ₂
Purity:	98% by TLC
	NMR: (Conforms)
Solubility:	Soluble in DMSO (up to 30 mg/ml) or in Ethanol (up to 8 mg/ml)
Physical Description:	Yellow 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 1 month.

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