

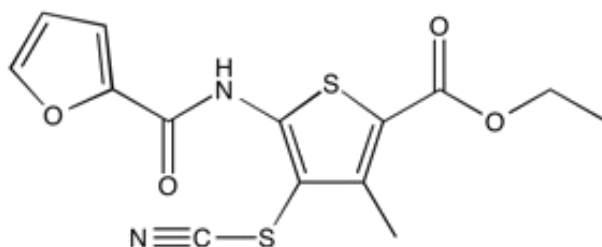
Catalog # 10-1588

CBR-5884

CAS# 681159-27-3

Ethyl 5-(furan-2-carboxamido)-3-methyl-4-thiocyanatothiophene-2-carboxylate

Lot # S103037



Potent and selective inhibitor of 3-phosphoglycerate dehydrogenase (PHGDH), $IC_{50}=33 \mu M^1$. The action of PHGDH is the first committed step of serine biosynthesis² and certain cancer cells overexpress PHGDH³. CBR-5884 inhibits serine biosynthesis in cells with no effect on two other dehydrogenases, lactate dehydrogenase and MDH1 and without general cytotoxic effects up to $40 \mu M$. CBR-5884 is selectively toxic to tumor cells with high serine synthesis activity. A novel tool for selective inhibition of serine biosynthesis in cells which also provides further proof that PHGDH is a viable target for the development of novel anticancer agents¹.

- 1) Mullarky *et al.* (2016), *Identification of a small molecule inhibitor of 3-phosphoglycerate dehydrogenase to target serine biosynthesis in cancers*; Proc. Natl. Acad. Sci. USA, **113** 1778
- 2) Snell *et al.* (1986), *The duality of pathways for serine biosynthesis is a fallacy*; Trends Biochem. Sci., **11** 241
- 3) DeNicola *et al.* (2015), *NRF2 regulates serine biosynthesis in non-small cell lung cancer* Nat. Genet., **47** 1475

PHYSICAL DATA

Molecular Weight:	336.39
Molecular Formula:	$C_{14}H_{12}N_2O_4S_2$
Purity:	98% by TLC
	NMR: (Conforms)
Solubility:	DMSO (up to 50 mg/ml) , DMF (up to 50 mg/ml)
Physical Description:	Off-white solid
Storage and Stability:	Store as supplied desiccated at $-20^\circ C$ for up to 2 years from the date of purchase. Solutions in DMSO or DMF may be stored at $-20^\circ C$ for up to 2 months.

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