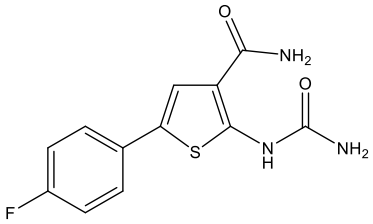
Catalog # 10-5571

TPCA-1

CAS# 507475-17-4

2-[(Aminocarbonyl)amino]-5-(4-fluorophenyl)-3-thiophenecarboxamide

Lot # X109637



Selective inhibitor of IκB kinase 2 (IKK2) (IC_{50} = 17.9 nM).[1] Inhibits production of pro-inflammatory cytokines in arthritis and other animal models of inflammation.[1,2] Also attenuates NLRP3 inflammasome activation in THP-1 myeloid cells, and suppresses IL1β-induced proliferation, migration, and invasion of HeLa cells.[3,4] Continuous exposure to TPCA-1 promotes expansion of hematopoietic stem/progenitor cells (HSPCs) *via* improved glycolysis and limited ROS production.[5]

References/Citations:

1) Podolin *et al*. (2005), *Attenuation of murine collagen-induced arthritis by a novel, selective small molecule inhibitor of IkappaB Kinase 2, TPCA-1 (2-[(aminocarbonyl)amino]-5-(4-fluorophenyl)-3-thiophenecarboxamide), occurs via reduction of proinflammatory cytokines and antigen-induced T cell Proliferation*; J. Pharmacol. Exp. Ther., **312** 373
2) Wang *et al*. (2021), *TPCA-1 negatively regulates inflammation mediated by NF-kB pathway in mouse chronic periodontitis model*; Mol. Oral Microbiol., **36** 192
3) Unterreiner *et al*. (2021), *Pharmacological inhibition of IKKβ dampens NLRP3 inflammasome activation after priming in the human myeloid cell line THP-1*; Biochem. Biophys. Res. Commun., **545** 177
4) Tao *et al.* (2021), *IL-1β promotes cervical cancer though activating NF-κB/CCL-2*; Int. J. Exp. Pathol., **14** 426
5) Sun *et al*. (2021), *Continuous NF-κB pathway inhibition promotes expansion of human phenotypical hematopoietic stem/progenitor cells through metabolism regulation*; Exp. Cell Res., **399** 112468

PHYSICAL DATA

Molecular Weight:	229.29
Molecular Formula:	$C_{12}H_{10}FN_3O_4S$
Purity:	>98% by TLC
	NMR: (Conforms)
Solubility:	DMSO (30 mg/ml)
Physical Description:	Pale yellow solid
Storage and Stability:	Store as supplied desiccated at -20°C for up to 2 years from the date of purchase.
	Solutions in DMSO may be stored at -20°C for up to 3 months.

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