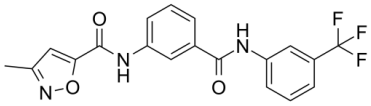
Data Sheet

Product Name:	T56-LIMKi
Cat. No.:	CS-6384
CAS No.:	924473-59-6
Molecular Formula:	C19H14F3N3O3
Molecular Weight:	389.33
Target:	LIM Kinase (LIMK)
Pathway:	Cell Cycle/DNA Damage
Solubility:	DMSO : ≥ 36 mg/mL (92.47 mM)



BIOLOGICAL ACTIVITY:

T56-LIMKi is a selective inhibitor of **LIMK2**; inhibits the growth of Panc-1 cells with an **IC_{50}** of 35.2 μM. IC50 & Target: IC50: 35.2 μM (Panc-1 cells)[1] **In Vitro:** T56-LIMKi efficiently inhibits the growth of ST88-14, U87, Panc-1 cells, A549 lung cancer cells with IC_{50} values of 18.3, 7.4, 35.2 and 90 μM, respectively. T56-LIMKi decreases phosphorylated cofilin (p-cofilin) levels and thus inhibits growth of several cancerous cell lines, including those of pancreatic cancer, glioma and schwannoma[1]. It blocks the phosphorylation of cofilin which leads to actin severance and inhibition of tumor cell migration, tumor cell growth, and anchorage-independent colony formation in soft agar. T56-LIMKi (10-50 μM) reduces p-cofilin in a dose-dependent manner in $NF1^{-/-}$MEFs with an IC_{50} of 30 μM. Notably, the inhibitor does not affect the amounts of total cofil. 50μM T56-LIMKi causes a statistically significant reduction in the number of cells exhibiting stress fibers[2]. **In Vivo:** T56-LIMKi can induce inhibition of cofilin phosphorylation and Panc-1 tumor shrinkage in vivo. Mice treated with T56-LIMKi (60 mg/kg) shows a significant decrease in tumor volume compared to control[1].

PROTOCOL (Extracted from published papers and Only for reference)

Cell Assay: T56-LIMKi can induce inhibition of cofilin phosphorylation and Panc-1 tumor shrinkage in vivo. Mice treated with T56-LIMKi (60 mg/kg) shows a significant decrease in tumor volume compared to control[1]. **Animal Administration:** [1]Mouse: T56-LIMKi is dissolved in 0.5% carboxymethylcellulose solution. Mice are implanted with xenografted Panc-1 cells. Treatment is started 7 days later. Mice in the two experimental groups are each treated with a daily oral non-toxic dose of T56-LIMKi (30 or 60 mg/kg in gavage) and mice in the control group receives only the vehicle (0.5% CMC) in the gavage[1].

References:

[1]. Rak R, et al. Novel LIMK2 Inhibitor Blocks Panc-1 Tumor Growth in a mouse xenograft model. Oncoscience. 2014 Jan 1;1(1):39-48. eCollection 2014.

[2]. Mashiach-Farkash E, et al. Computer-based identification of a novel LIMK1/2 inhibitor that synergizes with salirasib to destabilize the actin cytoskeleton. Oncotarget. 2012 Jun;3(6):629-39.

CAIndexNames:

5-Isoxazolecarboxamide, 3-methyl-N-[3-[[[3-(trifluoromethyl)phenyl]amino]carbonyl]phenyl]-

SMILES:

O=C(C1=CC(C)=NO1)NC2=CC=CC(C(NC3=CC=CC(C(F)(F)F)=C3)=O)=C2

Caution: Product has not been fully validated for medical applications. For research use only.

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