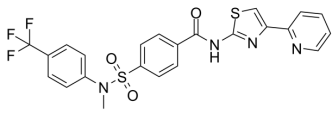
SSTC3

Cat. No.:	HY-120675
CAS No.:	1242422-09-8
Molecular Formula:	$C_{23}H_{17}F_3N_4O_3S_2$
Molecular Weight:	518.53
Target:	Casein Kinase; Wnt
Pathway:	Cell Cycle/DNA Damage; Stem Cell/Wnt
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 2 years -20°C 1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 125 mg/mL (241.07 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.9285 mL	9.6426 mL	19.2853 mL
	5 mM	0.3857 mL	1.9285 mL	3.8571 mL
	10 mM	0.1929 mL	0.9643 mL	1.9285 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (4.01 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (4.01 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

SSTC3 is a casein kinase 1α (CK1α) activator (K_d = 32 nM) that inhibits WNT signaling (EC_{50} = 30 nM). SSTC3 exhibits minimal gastrointestinal toxicity compared to other classes of WNT inhibitors[1].

In Vitro

SSTC3 (0-1μM, 5 days) decreases the viability of HCT116 cells in an on-target manner. This capacity is significantly reduced when the mutant CTNNB1 allele driving its carcinogenic properties is deleted[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	Colorectal cancer (CRC) cell lines.

Concentration:	0-1 μM.
Incubation Time:	5 days.
Result:	Decreased the viability.

Western Blot Analysis[1]

Cell Line:	SW403 cells.
Concentration:	100 nM.
Incubation Time:	15 min.
Result:	Increased β-catenin phosphate levels.

In Vivo

SSTC3 can be maintained for 24 hours after treatment[1].
SSTC3 (25 mg/kg, ip once daily for 8-12 days) suppresses the growth of colorectal carcinoma in CD-1 mice[1].
SSTC3 (10 mg/kg, ip once daily for 1 month) inhibits the growth of Apc mutation-driven tumors[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Five-week-old Apc^{min} mice[1].
Dosage:	10 mg/kg.
Administration:	IP for 1 month.
Result:	Inhibited the growth of Apc mutation-driven tumors.

Animal Model:	CD-1 mice.
Dosage:	25 mg/kg.
Administration:	IP once daily for 8-12 days.
Result:	Inhibited the growth of HCT116 xenografts. Attenuated the growth of this metastatic CRC PDX and markedly reduced the cell density of residual cancer. Reduced the expression of WNT biomarkers in this CRC PDX.

CUSTOMER VALIDATION

- Stem Cell Res Ther. 2022 May 12;13(1):198.

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REFERENCES

[1]. Li B, et al, Differential abundance of CK1α provides selectivity for pharmacological CK1α activators to target WNT-dependent tumors. Sci Signal. 2017 Jun 27;10(485). pii: eaak9916.

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

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