

NST-628

Chemical Properties

CAS No. : 3002056-30-3

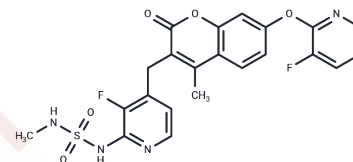
Formula: C₂₂H₁₈F₂N₄O₅

Molecular Weight: 488.46

Store at low temperature

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

Description	NST-628 is a pan-RAF-MEK molecular glue that prevents RAF from phosphorylating and activating MEK, inhibiting the RAF-MEK signaling complex.
Targets(IC50)	Raf,MEK,Molecular Glues
In vitro	NST-628 demonstrates elevated antiproliferative activity in BRAF Class II/III mutant cell models compared to other RAF and MEK inhibitors, without promoting heterodimer formation of BRAF and CRAF. [1] NST-628 (4-100 nM; 48 h) induces early and late apoptosis in a dose-dependent manner and decreases live cell populations in NRAS mutant IPC-298 and SK-MEL-2, NF1 mutant MeWo, and KRAS mutant HCT116 cell lines. [1]
In vivo	NST-628 when administered orally (p.o.) at doses of 3 mg/kg and 5 mg/kg once daily (qd), or 1.5 mg/kg twice daily (b.i.d), significantly slowed tumor growth in models with KRAS and NRAS mutations. In the SK-MEL-2-luc model, it caused tumor regression. [1] Administered intragastrically (i.g.) at 0.3-3 mg/kg once daily for 18-20 days, NST-628 inhibited the RAS-MAPK pathway in mice in a dose-dependent manner, showing strong anti-tumor activity in the MeWo-luc model. At a dose of 2 mg/kg once daily for 26 days in an NCI-H23 KRASG12C-mutant lung adenocarcinoma model, NST-628 effectively slowed tumor growth and significantly inhibited the RAS-MAPK pathway. [1]

Solubility Information

Solubility	DMSO: 80 mg/mL (163.78 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 3.3 mg/mL (6.76 mM),Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.0473 mL	10.2363 mL	20.4725 mL
5 mM	0.4095 mL	2.0473 mL	4.0945 mL
10 mM	0.2047 mL	1.0236 mL	2.0473 mL
50 mM	0.0409 mL	0.2047 mL	0.4095 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Ryan MB, et al. The Pan-RAF-MEK Nondegrading Molecular Glue NST-628 Is a Potent and Brain-Penetrant Inhibitor of the RAS-MAPK Pathway with Activity across Diverse RAS- and RAF-Driven Cancers. *Cancer Discov.* 2024 Jul 1;14(7):1190-1205.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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