

Product Data Sheet

Product Name: NAV-2729

Cat. No.: GC19259

Chemical Properties

Cas. No. 419547-11-8

SMILES O=C1C=C(C2=CC=C([N+])([O-])=O)C=C2)NC3=C(C4=CC=C(Cl)C=C4)C(CC5=CC=CC=C5)=NN13

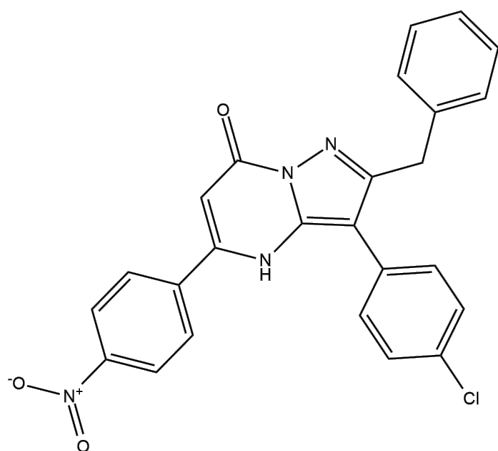
Formula C25H17ClN4O3 M.Wt 456.88

Solubility DMSO : 2 mg/mL (4.38 mM; Need ultrasonic) Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure



Background

NAV-2729 is a dual Arf1/Arf6 activation inhibitor.

NAV-2729 directly binds to Arf6. Based on a structural homology model of the Arf6/Arf6-GEF complex, it is predicted that NAV-2729 associates with Arf6 at the Arf6 GEF-binding area, which is distinct from the guanine nucleotide-binding pocket of Arf6. NAV-2729 blocks ARNO- and GEP100-

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

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mediated guanine nucleotide exchange on Arf6. The treatment of uveal melanoma cells with NAV-2729 interferes with anchorage-independent growth of the cell[1]. NAV-2729 is a dual Arf1/Arf6 inhibitor and is more effective toward Arf1 than Arf6. NAV-2729 blocks spontaneous activation of Arf6 and its activation by cytohesins and BRAG. NAV-2729 is an inhibitor of the spontaneous activation of Arf6, and it also inhibits the activation of Arf6 by its GEFs, ARNO and BRAG2, in solution. The inhibitory profile of NAV-2729 is analyzed at a concentration of 25 μ M, which is reported to result in almost total inhibition of spontaneous and GEF-stimulated Arf6 activation in vitro. Under the conditions used in assays, NAV-2729 inhibits spontaneous nucleotide exchange of δ 13Arf6 by ~15%. NAV-2729 inhibits the activation of δ 13Arf6 by BRAG2Sec7PH by 25%. δ 17Arf1 has no measurable spontaneous nucleotide exchange. Activation of δ 17Arf1 by BRAG2Sec7PH is inhibited by NAV-2729, and the efficiency is markedly higher than that for Arf6 (50%). In a dose-response experiment, nucleotide exchange rates are reduced by 50% by 10 μ M NAV-2729 for δ 17Arf1 while 50% inhibition is not achieved even at 25 μ M NAV-2729 for δ 13Arf6[2].

Systemic treatment of mice with NAV-2729 interfere with tumorigenesis and tumor growth in orthotopic xenograft mouse model of uveal melanoma[1].

References:

- [1]. Yamauchi Y, et al. Machineries regulating the activity of the small GTPase Arf6 in cancer cells are potential targets for developing innovative anti-cancer drugs. *Adv Biol Regul.* 2017 Jan;63:115-121.
- [2]. Benabdi S, et al. Family-wide Analysis of the Inhibition of Arf Guanine Nucleotide Exchange Factors with Small Molecules: Evidence of Unique Inhibitory Profiles. *Biochemistry.* 2017 Sep 26;56(38):5125-5133.

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