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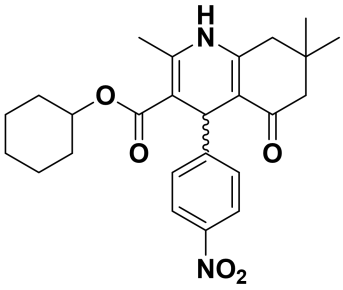
Notch Pathway Modulator – FLI-06

Chemical Name: cyclohexyl 2,7,7-trimethyl-4-(4-nitrophenyl)-5-oxo-1,4,5,6,7,8-hexahydroquinoline-3-carboxylate



Molecular Weight:	438.52
Formula:	$C_{25}H_{30}N_2O_5$
Purity:	≥98%
CAS#:	313967-18-9
Solubility:	DMSO up to 50 mM
Storage	Powder: 4 °C 1 year DMSO: 4 °C 3 months -20 °C 1 year

Biological Activity:

FLI-06 is a novel potent and selective small molecule intercepting Notch signaling and the early secretory pathway (EC_{50} ~2.3 μM), identified by using automated microscopy to monitor the trafficking and processing of a ligand-independent Notch-GFP fusion reporter. FLI-06 can induce accumulation of the reporter at the plasma membrane by interfering with transport in the secretory pathway. It can also disrupt the Golgi apparatus in a manner distinct from that of brefeldin A and golgicide A. FLI-06 inhibited general secretion at a step before exit from the endoplasmic reticulum (ER), which was accompanied by a tubule-to-sheet morphological transition of the ER, rendering FLI-06 the first small molecule acting at such an early stage in secretory traffic. FLI-06 is a very useful chemical probe to study the inhibition of membrane traffic at pre-ER-exit site (ERES) stages without fusion of ER-Golgi.

How to Use:

In vitro: FLI-06 was used at 10 μM final concentration in vitro and in cellular assays.

In vivo: FLI-06 was applied at 50 μM in E3 embryo medium to zebrafish embryos with chorions torn but not completely removed from the sphere stage until the stage of analysis.

Reference:

1. Krämer A, et al. Small molecules intercept Notch signaling and the early secretory pathway. (2013) Nat Chem Biol. 9(11):731-8.