

DAPT

Catalog No: tcsc0264



Available Sizes

Size: 5mg

Size: 10mg

Size: 50mg



Specifications

CAS No:

208255-80-5

Formula:

$C_{23}H_{26}F_2N_2O_4$

Pathway:

Stem Cell/Wnt;Neuronal Signaling;Autophagy

Target:

γ -secretase; γ -secretase;Autophagy

Purity / Grade:

>98%

Solubility:

DMSO : 62.5 mg/mL (144.52 mM; Need ultrasonic); H2O :

Alternative Names:

GSI-IX

Observed Molecular Weight:

432.46

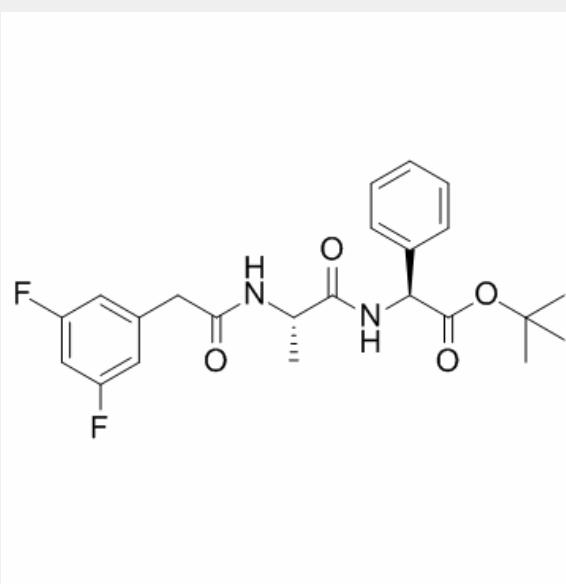
Product Description

DAPT is a **γ-secretase** inhibitor with **IC₅₀**s of 115 and 200 nM for total Aβ and Aβ₄₂, respectively.

IC₅₀ & Target: IC₅₀: 115 nM (Aβ), 200 nM (Aβ₄₂)^[5]

In Vitro: DAPT inhibits Aβ production over 90%, effects only a modest reduction in APPβ in the culture media. Although APPβ is reduced by about 30% by DAPT treatment, this effect is not concentration-dependent and is reversed by the removal of DAPT^[1]. CNE-2 cells are treated with increasing concentrations of DAPT (0, 25, 50 and 75 μM), and the γ-secretase-generated Notch 1 fragment Val1744-NICD is decreased after 48 h in a dose-dependent manner (P[2]).

In Vivo: DAPT is administered to PDAPP mice (100 mg/kg s.c.) and the levels of DAPT and Aβ are examined in the brain cortex. Peak DAPT levels of 490 ng/g are achieved in the brain 3 h after treatment, and levels greater than 100 ng/g (~200 nM) are sustained throughout the first 18 h. These brain concentrations of DAPT are in excess of its IC₅₀ for lowering Aβ in neuronal cultures (115 nM), and results in a robust and sustains pharmacodynamic effect^[1]. DAPT protects brain against cerebral ischemia by down-regulating the expression of Notch 1 and Nuclear factor kappa B in rats. Western blot analyses also show a significant decrease of Notch 1 and NF-κB expression in DAPT (0.03 mg/kg) group (P[3]).



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