

# 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:**

$\gamma$ -secretase; $\gamma$ -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

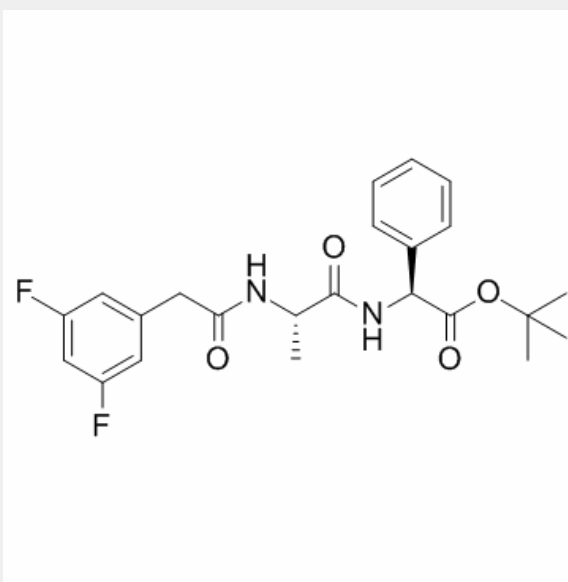
## Product Description

DAPT is a  **$\gamma$ -secretase** inhibitor with **IC<sub>50</sub>s** of 115 and 200 nM for total A $\beta$  and A $\beta$ 42, respectively.

IC50 & Target: IC50: 115 nM (A $\beta$ ), 200 nM (A $\beta$ 42)<sup>[5]</sup>

**In Vitro:** DAPT inhibits A $\beta$  production over 90%, effects only a modest reduction in APP $\beta$  in the culture media. Although APP $\beta$  is reduced by about 30% by DAPT treatment, this effect is not concentration-dependent and is reversed by the removal of DAPT<sup>[1]</sup>. CNE-2 cells are treated with increasing concentrations of DAPT (0, 25, 50 and 75  $\mu$ M), and the  $\gamma$ -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 A $\beta$  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 IC<sub>50</sub> for lowering A $\beta$  in neuronal cultures (115 nM), and results in a robust and sustains pharmacodynamic effect<sup>[1]</sup>. 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- $\kappa$ B expression in DAPT (0.03 mg/kg) group (P[3]).



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!