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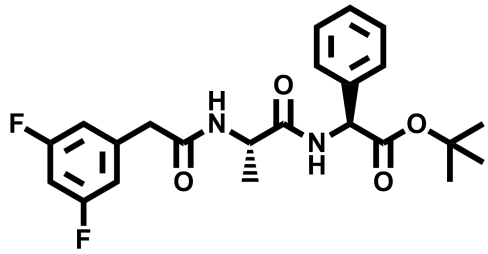
# γ-secretase Inhibitor DAPT

**Chemical Name:** N-[(3,5-Difluorophenyl)acetyl]-L-alanyl-2-phenylglycine-1,1-dimethylethyl ester



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|---|---|
| Molecular Weight: | 432.46 |
| Formula: | $C_{23}H_{26}F_2N_2O_4$ |
| Purity: | ≥98% |
| CAS#: | 208255-80-5 |
| Solubility: | DMSO up to 100 mM |
| Storage | Powder: 4°C 1 year<br>DMSO: 4°C 3 month<br>-20°C 1 year |

**Biological Activity:**

DAPT is a widely used γ-secretase inhibitor and serves as an inhibitor of Notch, a γ-secretase substrate. It can also cause a reduction in Aβ40 and Aβ42 levels in human primary neuronal cells ($IC_{50}$ ~115 nM for total Aβ and ~200 nM for Aβ42) and in brain extracts, as well as in vivo. Since the Notch pathway is involved in development of many cell types, DAPT is used to modulate Notch activity in ESC/iPSC or adult stem cell differentiation studies.

**How to Use:**

**In vitro:** DAPT is used at 10 μM final concentration in cell culture.

**In vivo:** DAPT was orally dosed to mice at 100-200 mg/kg once per day or intraperitoneally dosed to mice at 10-100 mg/kg once per day.

**Reference:**

1. Lanz TA, et al. The gamma-secretase inhibitor N-[N-(3,5-difluorophenacetyl)-L-alanyl]-S-phenylglycine t-butyl ester reduces A beta levels in vivo in plasma and cerebrospinal fluid in young (plaque-free) and aged (plaque-bearing) Tg2576 mice.(2003) J Pharmacol Exp Ther. 305(3):864-71.
2. Dovey HF, et al. Functional gamma-secretase inhibitors reduce beta-amyloid peptide levels in brain. (2001) J Neurochem. 76(1):173-81.
3. Androutsellis-Theotokis A, et al. Notch signalling regulates stem cell numbers in vitro and in vivo. (2006) Nature 442(7104):823-6.
4. Crawford, T. and Roelink, H. The Notch Response inhibitor DAPT enhances neuronal differentiation in embryonic stem cell-derived embryoid bodies independently of Sonic Hedgehog Signaling. (2007) Dev Dyn. 236(3):886-92.