Certificate of Analysis

Product Name: **DAPT** **Catalog No.: 2634** **Batch No.: 6**

CAS Number: 208255-80-5

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

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{23}H_{26}F_2N_2O_4$

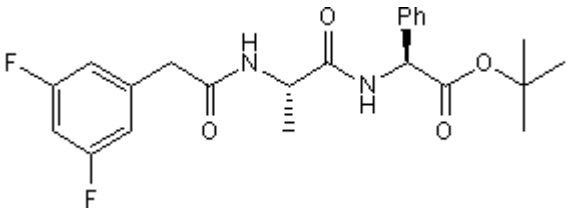
Batch Molecular Weight: 432.46

Physical Appearance: White solid

Solubility: DMSO to 100 mM

Storage: Store at +4°C

Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.8 (Dichloromethane:Methanol:Ammonia soln. [80:20:2])

HPLC: Shows 99.5% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Optical Rotation: $[\alpha]_D$ = +23.1 (Concentration = 1.1, Solvent = Methanol)

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	63.88	6.06	6.48
Found	64.03	6.07	6.62

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Description:

Inhibitor of γ-secretase; causes a reduction in Aβ40 and Aβ42 levels in human primary neuronal cultures (IC_{50} values are 115 and 200 nM for total Aβ and Aβ42 respectively) and in brain extract, cerebrospinal fluid and plasma in vivo. Does not effect APPα and APPβ levels. Blocks Notch signaling in hybrid human-mouse fetal thymus organ culture (FTOC). Activity causes neural cells to commit to neuronal differentiation.

Physical and Chemical Properties:

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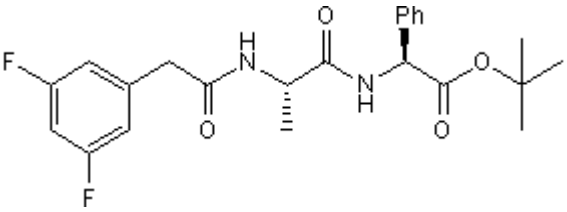
Batch Molecular Weight: 432.46

Physical Appearance: White solid

Minimum Purity: >99%

Batch Molecular Structure:



Storage: Store at +4°C

Solubility & Usage Info:

DMSO to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Dovey *et al* (2001) Functional gamma-secretase inhibitors reduce beta-amyloid peptide levels in brain. J.Neurochem. ***76*** 173. PMID: 11145990.

De Smedt *et al* (2005) Different thresholds of notch signaling bias human precursor cells towards B-, NK-, monocytic/dendritic, or T-cell lineage in thymus microenvironment. Blood ***106*** 3498. PMID: 16030192.

Crawford and Roelink (2007) The notch response inhibitor DAPT enhances neuronal differentiation in embryonic stem cell-derived embryoid bodies independently of sonic hedgehog signaling. Dev.Dyn. ***236*** 886. PMID: 17295317.