NEUROMICS

DAPT Data Sheet

Catalog Number:	MC11006	**Product Type:**	Small Molecule
Bio-Activity:	g-secretase inhibitor	**CAS #:**	208255-80-5
Research Categories:	Neuroscience, stem cells	**Chemical Name:**	N-[N-(3,5-Difluorophenacetyl)-L-alanyl]-S-phenylglycine t-butyl ester
Solubility:	Soluble in DMSO (up to 18 mg/ml).	**Molecular Formula:**	C23H26F2N2O4
Purity:	> 98%	**Molecular Weight:**	432.46
Format:	Powder	**Ship Temp:**	Ambient
Storage:	-20°C		

Application Notes

Description/Data:
DAPT is an inhibitor of γ-secretase (IC50 in human primary neurons = 115 nM for total Aβ or 200 nM for Aβ42 specifically) (1). Oral consumption of DAPT in mice and rats has reduced the amount of Aβ in brain extract, cerebrospinal fluid and plasma (2,3). DAPT also blocks Notch signaling, promoting neuronal differentiation (4). DAPT has also been shown to enhance iPS cells without the KLF4 and CMYC oncogenes (5).

References:

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

2) Portelius et al. (2009), Effects of γ-secretase inhibition on the amyloid β isoform pattern in a mouse model of Alzheimer's disease; *Cell Signal*. 5 615

3) El Moueddon et al. (2006), Reduction of Aβ levels in the Sprague Dawley rat after oral administration of the functional γ-secretase inhibitor, DAPT: a novel non-transgenic model for Aβ production inhibitors; *Curr. Pharma. Des.* 12 1671

4) 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 2236

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5) Ichida et al. (2014), Notch inhibition allows oncogene-independent generation of iPS cells; *Nature Chem. Biol.* 10 632

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