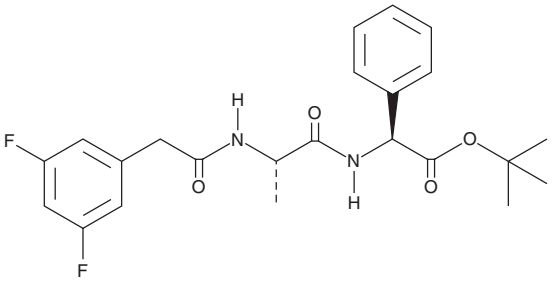
PRODUCT INFORMATION

DAPT

Item No. 13197

CAS Registry No.:	208255-80-5
Formal Name:	N-[2S-(3,5-difluorophenyl) acetyl]-L-alanyl-2-phenyl-glycine, 1,1-dimethylethyl ester
Synonym:	GSI-IX
MF:	$C_{23}H_{26}F_2N_2O_4$
FW:	432.5
Purity:	≥95%
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

DAPT is supplied as a crystalline solid. A stock solution may be made by dissolving the DAPT in the solvent of choice, which should be purged with an inert gas. DAPT is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of DAPT in ethanol is approximately 1 mg/ml and approximately 25 mg/ml in DMSO and DMF.

DAPT is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, DAPT should first be dissolved in DMF and then diluted with the aqueous buffer of choice. DAPT has a solubility of approximately 0.1 mg/ml in a 1:9 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

γ-Secretase is a multi-subunit aspartyl protease that cleaves amyloid precursor protein (APP) and many other type 1 transmembrane proteins, including Notch, E-cadherin, and ErbB4. The proteolysis of APP by secretases produces beta amyloid (Aβ), a 39- to 42-amino acid peptide which forms the amyloid plaques that are characteristic of Alzheimer's disease. DAPT is an inhibitor of γ-secretase, blocking the production of total Aβ in human primary neuronal cultures with an IC_{50} value of 115 nM and Aβ42 with an IC_{50} value of 200 nM.[1] DAPT is also effective *in vivo*, reducing brain levels of Aβ when given orally to mice that are transgenic for human APPV717F or to rats.[1-3] Through its effects on γ-secretase, DAPT indirectly inhibits Notch, affecting cell signaling and cell differentiation.[4,5]

References

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3. El Mouedden, M., Vandermeeren, M., Meert, T., *et al. Curr. Pharm. Des.* **12**, 671-676 (2006).
4. Kanungo, J., Zheng, Y.-L., Amin, N.D., *et al. J. Neurochem.* **106**, 2236-2248 (2008).
5. De Smedt, M., Hoebeke, I., Reynvoet, K., *et al. Blood* **106(10)**, 3498-3506 (2005).

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