DAPT
Item No. 13197

CAS Registry No.: 208255-80-5
Formal Name: N-[2S-(3,5-difluorophenyl)acetyl]-l-alanyl-2-phenyl-1,1-dimethyl-2-ester-glycine
Synonym: GSI-IX

MF: C_{26}H_{26}F_{2}N_{2}O_{4}
FW: 432.5
Purity: >95%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid

Laboratory Procedures
For long term storage, we suggest that DAPT be stored as supplied at -20°C. It should be stable for at least two years.
DAPT is supplied as a crystalline solid. A stock solution may be made by dissolving the DAPT in the solvent of choice. DAPT is soluble in organic solvents such as ethanol, DMSO, and dimethylformamide (DMF), which should be purged with an inert gas. 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.

γ-Secretase is a multi-subunit aspartyl protease that cleaves amyloid precursor protein (APP) and many other type I 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. 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. Through its effects on γ-secretase, DAPT indirectly inhibits Notch, affecting cell signaling and cell differentiation.

Related Products
BACE (human recombinant) - Item No. 10227 • (R)-Flurbiprofen - Item No. 70255 • BACE Inhibitor Screening Assay Kit - Item No. 600070

References

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY; NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.