**Product Description**

DAPT is an inhibitor of the γ-secretase complex. Notch is a key target of γ-secretase, therefore DAPT indirectly inhibits the Notch pathway. Other targets of γ-secretase that would be influenced by DAPT include amyloid precursor protein, E-cadherin, and ErbB4 (Dovey et al.).

**Molecular Name:** DAPT  
**Alternative Names:** GSI-IX; LY-374973  
**CAS Number:** 208255-80-5  
**Chemical Formula:** C₃₃H₆₆F₂N₂O₄  
**Molecular Weight:** 432.5 g/mol  
**Purity:** ≥ 95%  
**Chemical Name:** N-[2S-(3,5-difluorophenyl)acetyl]-L-alanyl-2-phenyl-1,1-dimethylethyl ester-glycine

**Structure:**

![DAPT Structure](attachment:image.png)

**Properties**

**Physical Appearance:** A crystalline solid  
**Storage:** Product stable at -20°C as supplied. Protect from prolonged exposure to light. Stable as supplied for 12 months from date of receipt.  
**Solubility:**  
· Absolute ethanol ≤ 2.3 mM  
· DMSO ≤ 55 mM  
For example, to prepare a 10 mM stock solution in DMSO, resuspend 5 mg in 1.16 mL of DMSO. Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.

Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.
Published Applications

MAINTENANCE AND SELF-RENEWAL
· Reduces colony-forming efficiency of mouse neural stem cells (Androutsellis-Theotokis et al.).
· Enhances radiation-induced cell death of glioma stem cells (Wang et al.).

DIFFERENTIATION
· Promotes differentiation of nociceptors from human pluripotent stem cells, in combination with several other small molecules (Chambers et al.).
· Promotes differentiation of neurons from human and mouse embryonic stem (ES) cells (Crawford & Roelink; Elkabetz et al.).
· Promotes differentiation of retinal pigment epithelium from mouse ES cells (Osakada et al.).
· Promotes differentiation of pancreatic cells from human pluripotent stem cells (D’Amour et al.).

CANCER RESEARCH
· Reduces mammosphere-forming efficiency of breast cancer cell lines and ductal carcinoma in situ cells (Farnie et al.; Harrison et al.).

References


Related Small Molecules

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