



Technical Data Sheet:

DAPT

Catalog Number	SML15A, SML15C												
Synonyms	GSI-IX; GSI IX, γ -Secretase Inhibitor IX, LY-374973												
Size	5 mg or 50 mg												
Description	DAPT is a γ-secretase inhibitor (with IC50s of 115 and 200 nM for total A β and A β 42, respectively) that can reduce A β 40 and A β 42 levels in human primary neuronal cells and brain extracts, DAPT also inhibits γ -secretase complex and indirectly inhibits Notch, a γ -secretase substrate (Dovey, et al). Its activity causes neural cells to commit to neuronal differentiation (Crawford et al). and has been shown to reduce colony-forming efficiency in mouse neural stem cells (Androutsellis-Theotokis et al). DAPT has also been shown to promote differentiation of pancreatic cells from human pluripotent stem cells (D'Amour et al).												
Molecular Weight	432.46												
Molecular Formula	C ₂₃ H ₂₆ F ₂ N ₂ O ₄												
Chemical Name	N-[(3,5-Difluorophenyl) acetyl]-L-alanyl-2-phenyl] glycine-1,1-dimethylethyl ester												
CAS Number	208255-80-5												
Target	γ -secretase; Autophagy												
Appearance	White to off-white (Solid)												
Purity	≥95% by NMR												
Solubility and Reconstitution	Soluble in DMSO up to 100mM, for example: 10 mg/115.626 mL = 0.086 mg/mL = 0.2 mM 10 mg/23.1235 mL = 0.432 mg/mL = 1 mM 10 mg/4.6247mL = 2.162 mg/mL = 5 mM 10 mg/2.3124mL = 4.324 mg/mL = 10 mM												
Storage Temperature and Stability	<table><tr><td>Powder:</td><td>-20°C</td><td>3 years</td></tr><tr><td></td><td>4°C</td><td>2 years</td></tr><tr><td>In solvent:</td><td>-80°C</td><td>6 months</td></tr><tr><td></td><td>-20°C</td><td>1 month</td></tr></table>	Powder:	-20°C	3 years		4°C	2 years	In solvent:	-80°C	6 months		-20°C	1 month
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References	<p>Androutsellis-Theotokis, A., et al. (2006) Notch signaling regulates stem cell numbers in vitro and in vivo. <i>Nature</i> 442: 823-826.</p> <p>Crawford, T.Q., et al. (2007) The notch response inhibitor DAPT enhances neuronal differentiation in embryonic stem cell-derived embryoid bodies independently of sonic hedgehog signaling. <i>Dev Dyn</i> 236: 886-892.</p> <p>Dovey, H.F., et al. (2001) Functional gamma-secretase inhibitors reduce beta-amyloid peptide levels in brain. <i>J Neurochem</i> 76: 173-181.</p> <p>D'Amour, K.A., et al. (2006) Production of pancreatic hormone-expressing endocrine cells from human embryonic stem cells. <i>Nat Biotechnol</i> 24: 1392-1401.</p>												