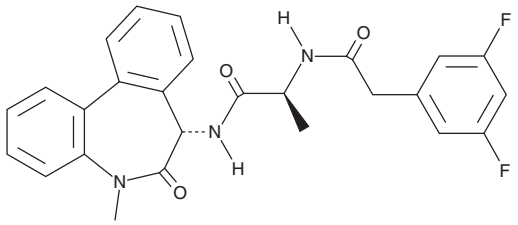
PRODUCT INFORMATION

DBZ

Item No. 14627

CAS Registry No.:	209984-56-5
Formal Name:	N-[(1S)-2-[[(7S)-6,7-dihydro-5-methyl-6-oxo-5H-dibenz[b,d]azepin-7-yl]amino]-1-methyl-2-oxoethyl]-3,5-difluoro-benzeneacetamide
Synonyms:	Dibenzazepine, YO-01027
MF:	$C_{26}H_{23}F_2N_3O_3$
FW:	463.5
Purity:	≥98%
UV/Vis.:	λ_{max}: 232 nm
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

DBZ is supplied as a crystalline solid. A stock solution may be made by dissolving the DBZ in the solvent of choice, which should be purged with an inert gas. DBZ is soluble in the organic solvent DMSO at a concentration of approximately 45 mg/ml.

DBZ is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. 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.[1] 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.[2] DBZ is a dipeptidic inhibitor of γ-secretase that potently blocks the cleavage of Notch into its active signaling effector, Notch intracellular domain, in human T cell lymphoma (SupT1) cells (IC_{50} = 1.7 nM).[3] Within 4 hours after a single 100 µM/kg dose, DBZ demonstrates anti-Alzheimer activity in an APP transgenic mouse model characterized by high levels of Aβ40 by reducing Aβ40 levels by 71%.[3]

References

1. Dovey, H.F., John, V., Anderson, J.P., *et al.* Functional γ-secretase inhibitors reduce β-amyloid peptide levels in brain. *J. Neurochem.* **76**, 173-181 (2001).
2. Wolfe, M.S. Therapeutic strategies for Alzheimer's disease. *Nat. Rev. Drug Discov.* **1**, 859-866 (2002).
3. Milano, J., McKay, J., Dagenais, C., *et al.* Modulation of notch processing by γ-secretase inhibitors causes intestinal goblet cell metaplasia and induction of genes known to specify gut secretory lineage differentiation. *Toxicol. Sci.* **82(1)**, 341-358 (2004).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM