

# PRODUCT INFORMATION



## Compound E

Item No. 15579

CAS Registry No.: 209986-17-4

Formal Name: N-[(1S)-2-[[[(3S)-2,3-dihydro-1-methyl-2-oxo-5-phenyl-1H-1,4-benzodiazepin-3-yl]amino]-1-methyl-2-oxoethyl]-3,5-difluorobenzeneacetamide

Synonym:  $\gamma$ -Secretase Inhibitor XXI

MF:  $C_{27}H_{24}F_2N_4O_3$

FW: 490.5

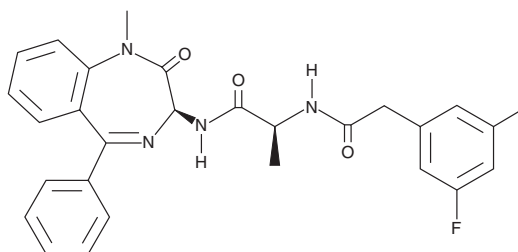
Purity:  $\geq 98\%$

UV/Vis.:  $\lambda_{max}$ : 228 nm

Supplied as: A crystalline solid

Storage:  $-20^\circ\text{C}$

Stability:  $\geq 2$  years



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

### Laboratory Procedures

Compound E is supplied as a crystalline solid. A stock solution may be made by dissolving the compound E in the solvent of choice, which should be purged with an inert gas. Compound E is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of compound E in these solvents is approximately 2, 20, and 25 mg/ml, respectively.

Compound E is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, compound E should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Compound E has a solubility of approximately 0.03 mg/ml in a 1:30 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

$\gamma$ -Secretase is a multimeric aspartyl protease that regulates signaling pathways by proteolytically cleaving substrates, abrogating or releasing signaling molecules.<sup>1</sup> Two well-known substrates are the carboxyl-terminal fragments (CTFs) of the receptor Notch, which has key roles in development, and that of amyloid precursor protein (APP), which is important in Alzheimer's disease.<sup>1</sup> Compound E is a potent, cell-permeable, and selective inhibitor of  $\gamma$ -secretase, blocking the cleavage of both APP and Notch CTFs with  $IC_{50}$  values of  $\sim 0.3$  nM.<sup>2-4</sup> Compound E induces neuronal differentiation, impairs ovarian folliculogenesis, and suppresses thymocyte development by preventing Notch activation by  $\gamma$ -secretase.<sup>5-7</sup>

### References

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4. Zhao, G., Mao, G., Tan, J., et al. *J. Biol. Chem.* **279**(49), 50647-50650 (2004).
5. Ferrari-Toninelli, G., Bonini, S.A., Uberti, D., et al. *Neuro. Oncol.* **12**(12), 1231-1243 (2010).
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#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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