

# 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<sub>27</sub>H<sub>24</sub>F<sub>2</sub>N<sub>4</sub>O<sub>3</sub>

**FW:** 490.5

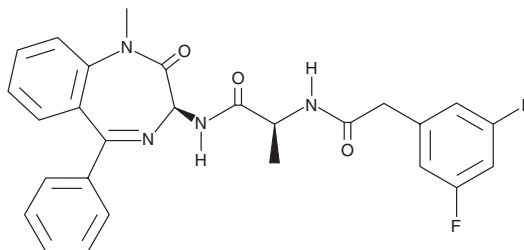
**Purity:**  $\geq$ 98%

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

**Supplied as:** A crystalline solid

**Storage:** -20°C

**Stability:** As supplied, 2 years from the QC date provided on the Certificate of Analysis, when stored properly



### 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. Compound E is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. 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<sub>50</sub> values of ~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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3. Beher, D., Wrigley, J.D.J., Nadin, A., et al. *J. Biol. Chem.* **276(48)**, 45394-45402 (2001).
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).
6. Jovanovic, V.P., Sauer, C.M., Shawber, C.J., et al. *Reprod. Biol. Endocrinol.* **11**, 43 (2013).
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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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