

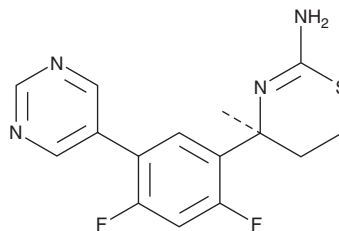
# PRODUCT INFORMATION



**LY2811376**

Item No. 16712

**CAS Registry No.:** 1194044-20-6  
**Formal Name:** (4S)-4-[2,4-difluoro-5-(5-pyrimidinyl)phenyl]-5,6-dihydro-4-methyl-4H-1,3-thiazin-2-amine  
**MF:** C<sub>15</sub>H<sub>14</sub>F<sub>2</sub>N<sub>4</sub>S  
**FW:** 320.4  
**Purity:** ≥98%  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



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

## Laboratory Procedures

LY2811376 is supplied as a crystalline solid. A stock solution may be made by dissolving the LY2811376 in the solvent of choice. LY2811376 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of LY2811376 in ethanol is approximately 25 mg/ml and approximately 30 mg/ml in DMSO and DMF.

LY2811376 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, LY2811376 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. LY2811376 has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

## Description

Accumulation of the  $\beta$ -amyloid (A $\beta$ ) peptide in the brain is implicated as the primary cause of neurodegeneration and progression of Alzheimer's disease.<sup>1</sup> A $\beta$  is derived from sequential proteolytic cleavage of the amyloid precursor protein (APP) by  $\beta$ -secretase (BACE) and  $\gamma$ -secretase.<sup>2</sup> LY2811376 is a non-peptide inhibitor of BACE1 (IC<sub>50</sub> = 239 nM for the synthetic peptide) that demonstrates ~10-fold selectivity over BACE2 and >50-fold selectivity over the aspartyl proteases cathepsin D, pepsin, and renin.<sup>3</sup> LY2811376 treatment in APP-overexpressing cells and transgenic animal models yields a dose-dependent decrease in A $\beta$ .<sup>3</sup> Furthermore, LY2811376 has been reported to reduce C99 and sAPP $\beta$ , the two primary APP cleavage products generated by BACE1.<sup>3</sup>

## References

1. Hong, L., Turner, R.T.I., Koelsch, G., *et al.* Memapsin 2 (b-secretase) as a therapeutic target. *Biochem. Soc. Trans.* **30**(4), 530-534 (2002).
2. Grüninger-Leitch, F., Schlatter, D., Küng, E., *et al.* Substrate and inhibitor profile of BACE (b-secretase) and comparison with other mammalian aspartic proteases. *J. Biol. Chem.* **277**(7), 4687-4693 (2002).
3. May, P.C., Dean, R.A., Lowe, S.L., *et al.* Robust central reduction of amyloid-b in humans with an orally available, non-peptidic b-secretase inhibitor. *J. Neurosci.* **31**(46), 16507-16516 (2011).

### 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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