

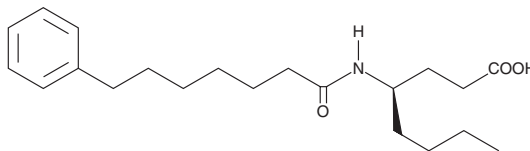
# Product Information



## CAY10590

Item No. 13181

**CAS Registry No.:** 1101136-50-8  
**Formal Name:** 4-[(1-oxo-7-phenylheptyl)amino]-(4R)-octanoic acid  
**MF:** C<sub>21</sub>H<sub>33</sub>NO<sub>3</sub>  
**FW:** 347.5  
**Purity:** ≥98%  
**Stability:** ≥2 years at -20°C  
**Supplied as:** A crystalline solid



### Laboratory Procedures

For long term storage, we suggest that CAY10590 be stored as supplied at -20°C. It should be stable for at least two years.

CAY10590 is supplied as a crystalline solid. A stock solution may be made by dissolving the CAY10590 in an organic solvent purged with an inert gas. CAY10590 is soluble in organic solvents such as ethanol, DMSO, and DMF. The solubility of CAY10590 in these solvents is approximately 20 mg/ml.

If aqueous stock solutions are required for biological experiments, they can best be prepared by diluting the organic solvent into aqueous buffers or isotonic saline. Ensure that 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.

Phospholipase A<sub>2</sub> (PLA<sub>2</sub>) catalyzes the hydrolysis of fatty acids at the *sn*-2 position of glycerophospholipids, liberating arachidonic acid for subsequent eicosanoid synthesis.<sup>1</sup> Three primary types of PLA<sub>2</sub> exist: secretory (sPLA<sub>2</sub>), calcium-dependent cytosolic (cPLA<sub>2</sub>), and calcium-independent cytosolic (iPLA<sub>2</sub>).<sup>2</sup> Of these three enzymes, cPLA<sub>2</sub> is the rate-limiting stimulus for release of arachidonic acid whereas sPLA<sub>2</sub> amplifies the action of cPLA<sub>2</sub> and regulates phagocytosis and foam cell formation.<sup>3</sup> CAY10590, a simple amide based on (R)- $\gamma$ -norleucine, is a potent and selective inhibitor of sPLA<sub>2</sub>. It exhibits 95% inhibition (X<sub>1</sub>(50) = 0.003) of sPLA<sub>2</sub> at 0.091 mole fraction without affecting the activities of cPLA<sub>2</sub> or iPLA<sub>2</sub>.<sup>4</sup>

### References

1. Dennis, E.A. Phospholipases. *Enzymes XVI*, 307-353 (1983).
2. Dennis, E.A. Diversity of group types, regulation, and function of phospholipase A<sub>2</sub>. *J. Biol. Chem.* **269**, 13057-13060 (1994).
3. Balestrieri, B. and Arm, J.P. Group V sPLA<sub>2</sub>: Classical and novel functions. *Biochim. Biophys. Acta* **1761**, 1280-1288 (2006).
4. Antonopoulou, G., Barbayianni, E., Magrioti, V., *et al.* Structure-activity relationships of natural and non-natural amino acid-based amide and 2-oxoamide inhibitors of human phospholipase A<sub>2</sub> enzymes. *Bioorg. Med. Chem.* **16**, 10257-10269 (2008).

### Related Products

CAY10641 - Item No. 10662 • sPLA<sub>2</sub> (human Type V) Monoclonal Antibody - Item No. 160510 • sPLA<sub>2</sub> (murine Type V) Polyclonal Antibody - Item No. 160512 • Myeloperoxidase (human) EIA Kit - Item No. 585001 • sPLA<sub>2</sub> Assay Kit - Item No. 765001 • sPLA<sub>2</sub> (Type V) Inhibitor Screening Assay Kit - Item No. 10004883

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**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

#### MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent under separate cover to the MSDS supervisor at your institution.

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