

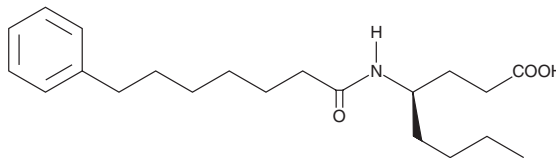
PRODUCT INFORMATION



CAY10590

Item No. 13181

CAS Registry No.: 1101136-50-8
Formal Name: 4-[(1-oxo-7-phenylheptyl)amino]-
(4R)-octanoic acid
MF: C₂₁H₃₃NO₃
FW: 347.5
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

CAY10590 is supplied as a crystalline solid. A stock solution may be made by dissolving the CAY10590 in the solvent of choice, which should be purged with an inert gas. CAY10590 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of CAY10590 in these solvents is approximately 30, 20, and 25, respectively.

Description

Phospholipase A₂ (PLA₂) catalyzes the hydrolysis of fatty acids at the *sn*-2 position of glycerophospholipids, liberating arachidonic acid for subsequent eicosanoid synthesis.¹ Three primary types of PLA₂ exist: secretory (sPLA₂), calcium-dependent cytosolic (cPLA₂), and calcium-independent cytosolic (iPLA₂).² Of these three enzymes, cPLA₂ is the rate-limiting stimulus for release of arachidonic acid whereas sPLA₂ amplifies the action of cPLA₂ and regulates phagocytosis and foam cell formation.³ CAY10590, a simple amide based on (R)- γ -norleucine, is a potent and selective inhibitor of sPLA₂. It exhibits 95% inhibition (X₁₍₅₀₎ = 0.003) of sPLA₂ at 0.091 mole fraction without affecting the activities of cPLA₂ or iPLA₂.⁴

References

1. Dennis, E.A. Phospholipases. *Enzymes*. Boyer, P.D., editor, 3rd edition, *Academic Press* (1983).
2. Dennis, E.A. Diversity of group types, regulation, and function of phospholipase A₂. *J. Biol. Chem.* **269**(18), 13057-13060 (1994).
3. Balestrieri, B. and Arm, J.P. Group V sPLA₂: Classical and novel functions. *Biochim. Biophys. Acta* **1761**(11), 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 A₂ enzymes. *Bioorg. Med. Chem.* **16**(24), 10257-10269 (2008).

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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