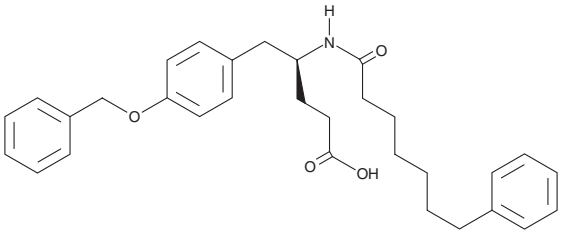
PRODUCT INFORMATION

$sPLA_2$ Inhibitor

Item No. 17277

CAS Registry No.: 393569-31-8
Formal Name: γS-[(1-oxo-7-phenylheptyl) amino]-4-(phenylmethoxy)-benzenepentanoic acid
Synonyms: KH064, Secretory Phospholipase A_2 Inhibitor
MF: $C_{31}H_{37}NO_4$
FW: 487.6
Purity: ≥95%
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

$sPLA_2$ inhibitor is supplied as a crystalline solid. A stock solution may be made by dissolving the $sPLA_2$ inhibitor in the solvent of choice, which should be purged with an inert gas. $sPLA_2$ inhibitor is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of $sPLA_2$ inhibitor in ethanol and DMF is approximately 5 mg/ml and approximately 2 mg/ml in DMSO.

$sPLA_2$ inhibitor is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, $sPLA_2$ inhibitor should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. $sPLA_2$ inhibitor has a solubility of approximately 0.1 mg/ml in a 1:6 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Secreted phospholipases A_2 ($sPLA_2$s) are a diverse family of low molecular weight PLA_2s with tissue-specific expression patterns and actions.[1] The group IIA $sPLA_2$ ($sPLA_2$-IIA) was originally purified from platelets and exudates from patients with rheumatoid arthritis.[1] Its expression can be induced by inflammatory mediators, and mouse studies suggest that it may play roles in colorectal polyposis, atherosclerosis, and bacterial infections.[1,2] $sPLA_2$ inhibitor is an orally active inhibitor of $sPLA_2$-IIA.[3] It protects against intestinal reperfusion injury in rats when given at 10 mg/kg orally.[3] $sPLA_2$ inhibitor also attenuates NF-κB signaling in lung cancer cells and protects against diet-induced metabolic syndrome in rats.[4,5]

References

1. Murakami, M., Taketomi, Y., Miki, Y., *et al.* Recent progress in phospholipase A_2 research: From cells to animals to humans. *Prog. Lipid Res.* **50(2)**, 152-192 (2011).
2. Murakami, M., Taketomi, Y., Girard, C., *et al.* Emerging roles of secreted phospholipase A_2 enzymes: Lessons from transgenic and knockout mice. *Biochimie* **92(6)**, 561-582 (2010).
3. Arumugam, T.V., Arnold, N., Proctor, L.M., *et al.* Comparative protection against rat intestinal reperfusion injury by a new inhibitor of $sPLA_2$, COX-1 and COX-2 selective inhibitors, and an LTC_4 receptor antagonist. *Br. J. Pharmacol.* **140(1)**, 71-80 (2003).
4. Yu, J.A., Kalatardi, S., Dohse, J., *et al.* Group IIa sPLA2 inhibition attenuates NF-κB activity and promotes apoptosis of lung cancer cells. *Anticancer Res.* **32(9)**, 3601-3607 (2012).
5. Iyer, A., Lim, J., Poudyal, H., *et al.* An inhibitor of phospholipase A_2 group IIA modulates adipocyte signaling and protects against diet-induced metabolic syndrome in rats. *Diabetes* **61(9)**, 2320-2329 (2012).

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