

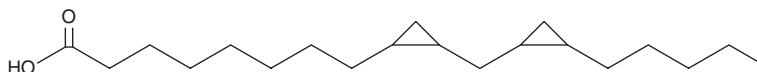
# PRODUCT INFORMATION



## DCP-LA

Item No. 21375

**CAS Registry No.:** 28399-31-7  
**Formal Name:** 2-[(2-pentylcyclopropyl)methyl]-cyclopropaneoctanoic acid  
**Synonyms:** FA 20:2, FR 236924  
**MF:** C<sub>20</sub>H<sub>36</sub>O<sub>2</sub>  
**FW:** 308.5  
**Purity:** ≥95%  
**Supplied as:** A solution in ethanol  
**Storage:** -20°C  
**Stability:** ≥2 years



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

### Laboratory Procedures

DCP-LA is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of DCP-LA in these solvents is approximately 25 and 50 mg/ml, respectively.

### Description

DCP-LA is a derivative of linoleic acid (Item No. 90150) and a potent activator of PKCε.<sup>1</sup> It activates PKCε with a greater than 7-fold stronger potency over PKCα, βI, βII, γ, δ, μ, η, and ζ in a cell-free assay. DCP-LA activates PKC in PC12 cells in a concentration-dependent manner, an effect that is blocked by the PKC inhibitor bisindolylmaleimide I (Item Nos. 13298 | 21180) and a PKCε-selective peptide inhibitor. It decreases intracellular levels of amyloid-β (Aβ) in Neuro2 neuroblastoma cells transfected with human APPSwe/PS1Δ9.<sup>2</sup> DCP-LA also stimulates hippocampal glutamate release, striatal dopamine release, and hypothalamic serotonin release in rat brain slices in a PKC- and α7-containing nicotinic acetylcholine receptor-dependent manner.<sup>3</sup> *In vivo*, DCP-LA (3 mg/kg, i.p.) prevents synaptic loss and amyloid plaque formation and decreases escape latency in the Morris water maze in the 5XFAD transgenic mouse model of Alzheimer's disease.<sup>4</sup>

### References

1. Kanno, T., Yamamoto, H., Yaguchi, T., *et al.* The linoleic acid derivative DCP-LA selectively activates PKC-ε, possibly binding to the phosphatidylserine binding site. *J. Lipid. Res.* **47(6)**, 1146-1156 (2006).
2. Nelson, T.J., Cui, C., Luo, Y., *et al.* Reduction of β-amyloid levels by novel protein kinase Cε activators. *J. Biol. Chem.* **284(50)**, 34514-34521 (2009).
3. Shimizu, T., Kanno, T., Tanaka, A., *et al.* α, β-DCP-LA selectively activates PKC-ε and stimulates neurotransmitter release with the highest potency among 4 diastereomers. *Cell Physiol. Biochem.* **27(2)**, 149-158 (2011).
4. Hongpaisan, J., Sun, M.-K., and Alkon, D.L. PKC ε activation prevents synaptic loss, Aβ elevation, and cognitive deficits in Alzheimer's disease transgenic mice. *J. Neurosci.* **31(2)**, 630-643 (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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