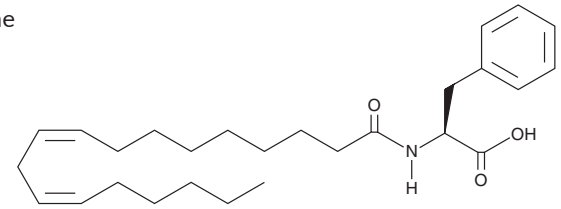
PRODUCT INFORMATION

Linoleoyl Phenylalanine

Item No. 20063

CAS Registry No.:	2441-64-7
Formal Name:	N-[(9Z,12Z)-1-oxo-9,12-octadecadien-1-yl]-L-phenylalanine
Synonym:	N-Linoleoyl Phenylalanine
MF:	$C_{27}H_{41}NO_3$
FW:	427.6
Purity:	≥98%
UV/Vis.:	λ_{max}: 262, 379 nm
Supplied as:	A solution in methyl acetate
Storage:	-20°C
Stability:	≥2 years



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

Laboratory Procedures

Linoleyl phenylalanine is supplied as a solution in methyl acetate. To change the solvent, simply evaporate the linoleyl phenylalanine under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol, DMSO, and dimethyl formamide purged with an inert gas can be used. The solubility of linoleyl phenylalanine in these solvents is approximately 25, 15, and 20 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. If an organic solvent-free solution of linoleyl phenylalanine is needed, it can be prepared by evaporating the methyl acetate and directly dissolving the neat oil in aqueous buffers. The solubility of linoleyl phenylalanine in PBS, pH 7.2, is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Linoleoyl phenylalanine is an endogenous N-acyl amine found in *D. melanogaster* larvae.[1] N-acyl amines have been shown to have anti-inflammatory action that can be monitored using 15-deoxy prostaglandin J_2 (PGJ_2) quantification.[2,3] N-Linoleoyl phenylalanine does not increase PGJ_2 expression in RAW cells, indicating lack of an anti-inflammatory action.[3] N-acyl amines also promote mitochondrial uncoupling.[4]

References

1. Tortoriello, G., Rhodes, B.P., Takacs, S.M., *et al.* Targeted lipidomics in *Drosophila melanogaster* identifies novel 2-monoacylglycerols and N-acyl amides. *PLoS One* **8(7)**, e67865 (2013).
2. Dennis, E.A., and Norris, P.C. Eicosanoid storm in infection and inflammation. *Nat. Rev. Immunol.* **15(8)**, 511-523 (2015).
3. Burstein, S., McQuain, C., Salmonsen, R., *et al.* N-Amino acid linoleoyl conjugates: Anti-inflammatory activities. *Bioorg. Med. Chem. Lett.* **22(2)**, 872-875 (2012).
4. Long, J.Z., Svensson, K.J., Bateman, L.A., *et al.* The secreted enzyme PM20D1 regulates lipidated amino acid uncouplers of mitochondria. *Cell* **166**, 1-12 (2016).

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