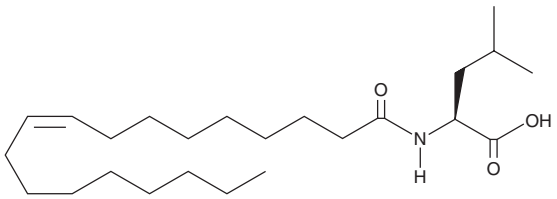
PRODUCT INFORMATION

N-Oleoyl Leucine

Item No. 20064

CAS Registry No.: 136560-76-4
Formal Name: N-[(9Z)-1-oxo-9-octadecen-1-yl]-L-leucine
MF: $C_{24}H_{45}NO_3$
FW: 395.6
Purity: ≥98%
UV/Vis.: λ_{max}: 272 nm
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

N-Oleoyl leucine 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 (DMF) purged with an inert gas can be used. The solubility of N-oleoyl leucine in DMF is approximately 10 mg/ml and approximately 12 mg/ml in DMSO.

N-Oleoyl leucine is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the ethanolic solution of N-oleoyl leucine should be diluted with the aqueous buffer of choice. N-Oleoyl leucine has a solubility of approximately 200 µg/ml in a 1:4 solution of ethanol:PBS (pH 7.2) using this method.

Description

N-Oleoyl leucine is an N-acyl amide generated by PM20D1 that uncouples mitochondrial respiration independent of uncoupling protein 1 (UCP1) *in vitro*.[1] N-Oleoyl leucine (25 mg/kg, i.p.) decreases body weight and food intake, preferentially decreasing fat mass in a diet-induced obesity mouse model. It improves glucose homeostasis in a fasting glucose tolerance test and increases VO_2 while slightly decreasing overall locomotor activity.

Reference

1. Long, J.Z., Svensson, K.J., Bateman, L.A., *et al*. The secreted enzyme PM20D1 regulates lipidated amino acid uncouplers of mitochondria. *Cell* **166(2)**, 1-12 (2016).

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