

Product Name: Orlistat

Catalog No.: 3540

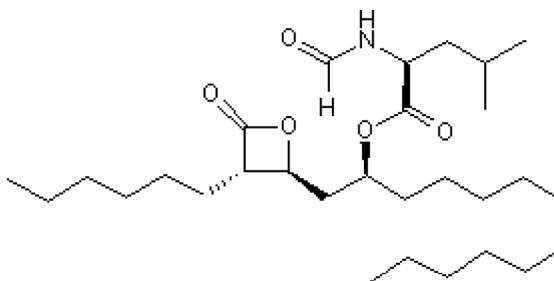
Batch No.: 3

CAS Number: 96829-58-2

IUPAC Name: *N*-Formyl-L-leucine (1*S*)-1-[[[(2*S*,3*S*)-3-hexyl-4-oxo-2-oxetanyl]methyl]dodecyl ester

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₂₉H₅₃NO₅
Batch Molecular Weight: 495.73
Physical Appearance: White solid
Solubility: DMSO to 100 mM
 ethanol to 100 mM
Storage: Store at +4°C
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.7% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Optical Rotation: [α]_D = -35.4 (Concentration = 1, Solvent = Chloroform)
Microanalysis:

	Carbon Hydrogen Nitrogen		
Theoretical	70.26	10.78	2.82
Found	70	10.8	2.84

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Orlistat is a hypolipemic pancreatic, gastric and carboxylester lipase inhibitor. Exhibits no activity at phospholipase A₂, liver esterase, trypsin and chymotrypsin. Inhibits the thioesterase domain of fatty acid synthase, leading to cell cycle arrest at the G₁/S boundary in vitro. Prevents the absorption of approximately one third of fat from food and exhibits progestokinetic, antiobesity and antihypercholesterolemic activity in vivo. Orlistat inhibits neutral lipid lipase LIPE and dose-dependently reduces α-synuclein-positive cytoplasmic inclusions in α-synuclein-expressing neuroblastoma cell lines.

Physical and Chemical Properties:

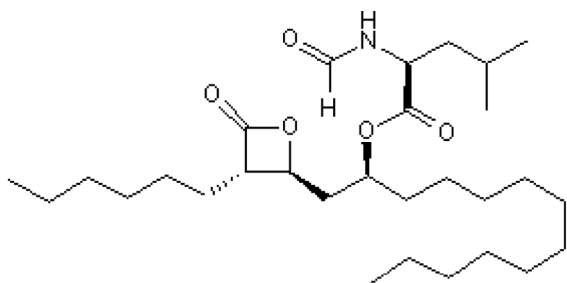
Batch Molecular Formula: C₂₉H₅₃NO₅

Batch Molecular Weight: 495.73

Physical Appearance: White solid

Minimum Purity: ≥98%

Batch Molecular Structure:



Storage: Store at +4°C

Solubility & Usage Info:

DMSO to 100 mM

ethanol to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Fanning et al (2022) Lipase regulation of cellular fatty acid homeostasis as a Parkinson's disease therapeutic strategy. NPJ Parkinsons Dis. **8** 74. PMID: 35680956.

Enc et al (2008) Orlistat accelerates gastric emptying and attenuates GIP release in healthy subjects. Am.J.Physiol.Gastrointest.Liver Physiol. **296** G482. PMID: 19109408.

Kridel et al (2004) Orlistat is a novel inhibitor of fatty acid synthase with antitumor activity. Cancer Res. **64** 2070. PMID: 15026345.

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bio-techne.com

info@bio-techne.com

techsupport@bio-techne.com

North America

Tel: (800) 343 7475

China

info.cn@bio-techne.com

Tel: +86 (21) 52380373

Europe Middle East Africa

Tel: +44 (0)1235 529449

Rest of World

www.tocris.com/distributors

Tel:+1 612 379 2956