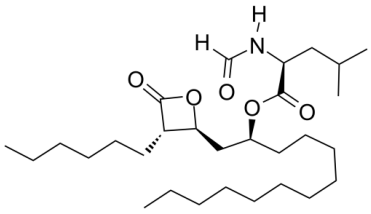
Data Sheet

Product Name:	Orlistat
Cat. No.:	CS-2165
CAS No.:	96829-58-2
Molecular Formula:	C29H53NO5
Molecular Weight:	495.73
Target:	Apoptosis; Fatty Acid Synthase (FAS)
Pathway:	Apoptosis; Metabolic Enzyme/Protease
Solubility:	H2O : < 0.1 mg/mL (insoluble); DMSO : ≥ 100 mg/mL (201.72 mM)



BIOLOGICAL ACTIVITY:

Orlistat is a general lipase inhibitor with IC50 of 122 ng/ml for PL from human duodenal juice. Target: lipase inhibitor Orlistat (also known as tetrahydrolipstatin) is a drug designed to treat obesity. It is marketed as a prescription drug under the trade name Xenical by Roche in most countries, and is sold over-the-counter as Alli by GlaxoSmithKline in the United Kingdom and the United States. Its primary function is preventing the absorption of fats from the human diet by acting as a lipase inhibitor, thereby reducing caloric intake. It is intended for use in conjunction with a healthcare provider-supervised reduced-calorie diet. Orlistat is the saturated derivative of lipstatin, a potent natural inhibitor of pancreatic lipases isolated from the bacterium Streptomyces toxytricini. However, due to its relative simplicity and stability, orlistat was chosen over lipstatin for development as an anti-obesity drug. The effectiveness of orlistat in promoting weight loss is definite, though modest. Pooled data from clinical trials suggest that people given orlistat in addition to lifestyle modifications, such as diet and exercise, lose about 2–3 kilograms (4.4–6.6 lb) more than those not taking the drug over the course of a year.

References:

[1]. Zhi J, et al. Review of limited systemic absorption of orlistat, a lipase inhibitor, in healthy human volunteers. J Clin Pharmacol. 1995 Nov;35(11):1103-8.

[2]. Padwal R, et al. Long-term pharmacotherapy for obesity and overweight. Cochrane Database Syst Rev. 2004;(3):CD004094.

[3]. Zhang E, et al. Glycycoumarin Sensitizes Liver Cancer Cells to ABT-737 by Targeting De Novo Lipogenesis and TOPK-Survivin Axis. Nutrients. 2018 Mar 15;10(3). pii: E353.

CAIndexNames:

L-Leucine, N-formyl-, (1S)-1-[[(2S,3S)-3-hexyl-4-oxo-2-oxetanyl]methyl]dodecyl ester

SMILES:

O=C1[C@@H](CCCCCC)[C@H](C[C@@H](OC([C@@H](N([H])C([H])=O)CC(C)C)=O)CCCCCCCCCCC)O1

Caution: Product has not been fully validated for medical applications. For research use only.

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