PRODUCT INFORMATION



Palmitoleic Acid

Item No. 10009871

CAS Registry No.:	373-49-9	
Formal Name:	(9Z)-hexadecenoic acid	
Synonyms:	C16:1(9Z), C16:1 n-7, FA 16:1,	
	(9Z)-Hexadecenoic Acid, <i>cis</i> -Palmitoleic Acid	
MF:	C ₁₆ H ₃₀ O ₂	COOH
FW:	254.4	
Purity:	≥99%	
Supplied as:	A neat oil	
Storage:	-20°C	
Stability:	≥4 years	
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.		

Laboratory Procedures

Palmitoleic acid is supplied as a neat oil. A stock solution may be made by dissolving the palmitoleic acid in the solvent of choice, which should be purged with an inert gas. Palmitoleic acid is sparingly soluble (1-10 mg/ml) in DMSO and slightly soluble (0.1-1 mg/ml) in acetonitrile and chloroform.

Description

Palmitoleic acid is an ω -7 monounsaturated fatty acid that has been found in macadamia and sea buckthorn oils.^{1,2} It increases basal and insulin-stimulated glucose uptake and glucose transporter 4 (Glut4) protein levels in 3T3-L1 adipocytes when used at a concentration of 200 μ M.³ Ex vivo, palmitoleic acid (300 mg/kg per day) increases glucose uptake and aerobic and anaerobic glycolysis and reduces de novo fatty acid synthesis and activity of the lipogenic enzymes ATP citrate lyase (ACL) and glucose-6-phosphate dehydrogenase (G6PDH) in isolated murine adipocytes. Dietary administration of palmitoleic acid (300 mg/kg) reduces high-fat diet-induced insulin resistance and liver inflammation in mice.⁴

Reference

- 1. Yang, B. and Kallio, H.P. Fatty acid composition of lipids in sea buckthorn (Hippophaë rhamnoids L.) berries of different origins. J. Agric. Food Chem. 49(4), 1939-1947 (2001).
- 2. Fard, A.M., Turner, A.G., and Willett, G.D. High-resolution electrospray-ionization fourier-transform ion cyclotron resonance and gas chromatography-mass spectrometry of macadamia nut oil. Aus. J. Chem. 56(5), 499-508 (2003).
- 3. Bolsoni-Lopes, A., Festuccia, W.T., P., et al. Palmitoleic acid (n-7) increases white adipocytes GLUT4 content and glucose uptake in association with AMPK activation. Lipids Health Dis. 13(199), 1-10 (2014).
- 4. Souza, C.O., Teixeira, A.A.S., Lima, E.A., et al. Palmitoleic acid (N-7) attenuates the immunometabolic disturbances caused by a high-fat diet independently of PPARa. Mediators Inflamm. 2014(582197), 1-12 (2014).

WARNING THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFFTY 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.

WARRANTY AND LIMITATION OF REMEDY

uyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 05/02/2025

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD ANN ARBOR, MI 48108 · USA PHONE: [800] 364-9897 [734] 971-3335 FAX: [734] 971-3640 CUSTSERV@CAYMANCHEM.COM WWW.CAYMANCHEM.COM