



LKT Laboratories, Inc.

## Phytanic Acid

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### Product Information

Product ID P3198

CAS No. 14721-66-5

#### Chemical Name

Synonym 3,7,11,15-Tetramethylhexadecanoic acid

Formula  $C_{20}H_{40}O_2$

Formula Wt. 312.53

#### Melting Point

Purity  $\geq 97\%$

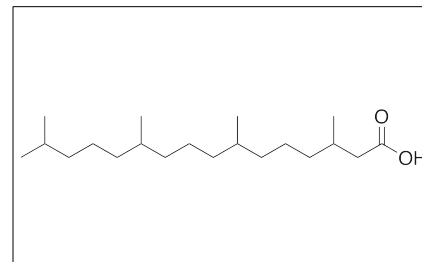
Solubility Soluble in water (< 0.1 mg/ml at 25° C), DMSO (~100 mg/ml), DMF (~100 mg/ml), and 0.15 M Tris-HCl (pH 8.5) solution (1 mg/ml)

Store Temp -20° C

Ship Temp Ambient

#### Description

Phytanic acid is a fatty acid metabolite of chlorophyll that acts as a ligand of retinoid X receptors (RXRs) and peroxisome proliferator-activated receptors (PPARs) and is known to regulate glucose metabolism. Phytanic acid also plays a role in disorders of peroxisomal metabolism such as Refsum disease. This compound induces apoptosis by uncoupling oxidative phosphorylation, stimulating ROS generation, and activating the free fatty acid receptor GPR40 to alter intracellular  $Ca^{2+}$  levels.



**Bulk quantities available upon request**

Product ID	Size
P3198	5 mg
P3198	25 mg

**References** Che BN, Oksbjerg N, Hellgren LI, et al. Phytanic acid stimulates glucose uptake in a model of skeletal muscles, the primary porcine myotubes. *Lipids Health Dis.* 2013 Feb 11;12:14. PMID: 23398851.

Busanello EN, Amaral AU, Tonin AM, et al. Disruption of mitochondrial homeostasis by phytanic acid in cerebellum of young rats. *Cerebellum.* 2013 Jun;12(3):362-9. PMID: 23081695.

Kruska N, Reiser G. Phytanic acid and pristanic acid, branched-chain fatty acids associated with Refsum disease and other inherited peroxisomal disorders, mediate intracellular  $Ca^{2+}$  signaling through activation of free fatty acid receptor GPR40. *Neurobiol Dis.* 2011 Aug;43(2):465-72. PMID: 21570468.

Schönfeld P, Kahlert S, Reiser G. A study of the cytotoxicity of branched-chain phytanic acid with mitochondria and rat brain astrocytes. *Exp Gerontol.* 2006 Jul;41(7):688-96. PMID: 16616447.

**Caution:** This product is intended for laboratory and research use only. It is not for human or drug use.