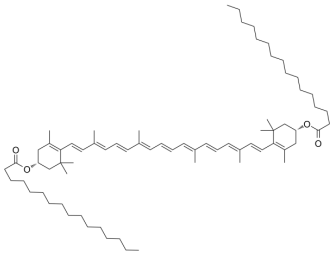
Zeaxanthin dipalmitate

Cat. No.:	HY-N9182
CAS No.:	144-67-2
Molecular Formula:	$C_{72}H_{116}O_4$
Molecular Weight:	1045.69
Target:	Adiponectin Receptor; P2X Receptor; Autophagy
Pathway:	Metabolic Enzyme/Protease; Membrane Transporter/Ion Channel; Autophagy
Storage:	Powder -20°C 3 years In solvent -80°C 6 months -20°C 1 month



BIOLOGICAL ACTIVITY

Description	Zeaxanthin dipalmitate (Physalien) is a wolfberry-derived carotenoid, has anti-inflammatory and anti-oxidative stress effects. Zeaxanthin dipalmitate directly interact with p2X7 receptor (K_d=81.2 nM) and adiponectin receptor 1 (AdipoR1; K_d =533 nM) in a positive dose-dependent manner. Zeaxanthin dipalmitate restores mitochondrial autophagy functions suppressed by ethanol intoxication. Zeaxanthin dipalmitate can be used in the research of alcoholic fatty liver disease (AFLD) and retinitis pigmentosa (RP)[1][2].
IC_{50} & Target	p2X7/AdipoR1 receptor[1]
In Vitro	Zeaxanthin dipalmitate (1 μM; 2 h) totally or partially reverses the down-regulation of Atg5, beclin-1, and LC3A/B by ethanol (250 mM), and the up-regulation of p62 by ethanol in BRL-3A cells[1]. Zeaxanthin dipalmitate (1 μM; 2 h) partially recovers the ethanol-suppressed LC3B in BRL-3A cells[1]. Zeaxanthin dipalmitate (1 μM; 2 h) partially recovers the ethanol-suppressed cell viability and ethanol-induced aspase-3/7 activity of BRL-3A cells[1]. Zeaxanthin dipalmitate (1 μM; 2 h) recovers the ethanol-induced inhibition of mitophagy in BRL-3A cells[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Zeaxanthin dipalmitate (10 mg/kg; p.o.; daily for 2 weeks) reduces the serum ALT and AST levels increased by long-term ethanol challenge in at AFLD Model[1]. Zeaxanthin dipalmitate (10 mg/kg; p.o.; daily for 2 weeks) effectively attenuates the histological injury[1]. Zeaxanthin dipalmitate (10 mg/kg; p.o.; daily for 2 weeks) attenuates the AFLD-induced hepatic apoptosis (reveal by caspase-3/7 activity) and inflammation (TNF-α) in rat[1]. Zeaxanthin dipalmitate (approximately 4 μM; intravitreal injection for once) improves the visual behavior of rd10 mice and delays the degeneration of retinal photoreceptors[2]. Zeaxanthin dipalmitate (approximately 4 μM; intravitreal injection for once) improves the light responses of photoreceptors, bipolar cells and retinal ganglion cells[2]. Zeaxanthin dipalmitate (approximately 4 μM; intravitreal injection for once) reduces the expression of genes that are involved in inflammation, apoptosis and oxidative stress in rd10 mice[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Gao H, et al. Wolfberry-Derived Zeaxanthin Dipalmitate Attenuates Ethanol-Induced Hepatic Damage. Mol Nutr Food Res. 2019 Jun;63(11):e1801339.

[2]. Liu F, et al. Wolfberry-derived zeaxanthin dipalmitate delays retinal degeneration in a mouse model of retinitis pigmentosa through modulating STAT3, CCL2 and MAPK pathways. J Neurochem. 2021 Sep;158(5):1131-1150.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA