



# SZABO SCANDIC

Part of Europa Biosite

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Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Zuschläge

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- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

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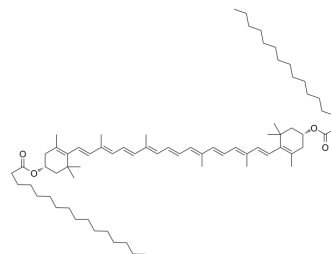
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## Zeaxanthin dipalmitate

|                           |  |       |          |
|---------------------------|--|-------|----------|
| <b>Cat. No.:</b>          | HY-N9182   |       |          |
| <b>CAS No.:</b>           | 144-67-2   |       |          |
| <b>Molecular Formula:</b> | C <sub>72</sub> H <sub>116</sub> O <sub>4</sub>                        |       |          |
| <b>Molecular Weight:</b>  | 1045.69  |       |          |
| <b>Target:</b>            | Adiponectin Receptor; P2X Receptor; Autophagy                          |       |          |
| <b>Pathway:</b>           | Metabolic Enzyme/Protease; Membrane Transporter/Ion Channel; Autophagy |       |          |
| <b>Storage:</b>           | Powder   | -20°C | 3 years  |
|                           | In solvent   | -80°C | 6 months |
|                           |  | -20°C | 1 month  |



### BIOLOGICAL ACTIVITY

|                                     |   |
|-------------------------------------|---|
| <b>Description</b>                  | <p>Zeaxanthin dipalmitate (Physalien) is a wolfberry-derived carotenoid, has anti-inflammatory and anti-oxidative stress effects. Zeaxanthin dipalmitate directly interact with p2X7 receptor (<math>K_d=81.2</math> nM) and adiponectin receptor 1 (AdipoR1; <math>K_d=533</math> 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)<sup>[1][2]</sup>.</p>  |
| <b>IC<sub>50</sub> &amp; Target</b> | p2X7/AdipoR1 receptor <sup>[1]</sup>  |
| <b>In Vitro</b>                     | <p>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<sup>[1]</sup>.</p> <p>Zeaxanthin dipalmitate (1 μM; 2 h) partially recovers the ethanol-suppressed LC3B in BRL-3A cells<sup>[1]</sup>.</p> <p>Zeaxanthin dipalmitate (1 μM; 2 h) partially recovers the ethanol-suppressed cell viability and ethanol-induced aspase-3/7 activity of BRL-3A cells<sup>[1]</sup>.</p> <p>Zeaxanthin dipalmitate (1 μM; 2 h) recovers the ethanol-induced inhibition of mitophagy in BRL-3A cells<sup>[1]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>  |
| <b>In Vivo</b>                      | <p>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<sup>[1]</sup>.</p> <p>Zeaxanthin dipalmitate (10 mg/kg; p.o.; daily for 2 weeks) effectively attenuates the histological injury<sup>[1]</sup>.</p> <p>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<sup>[1]</sup>.</p> <p>Zeaxanthin dipalmitate (approximately 4 μM; intravitreal injection for once) improves the visual behavior of rd10 mice and delays the degeneration of retinal photoreceptors<sup>[2]</sup>.</p> <p>Zeaxanthin dipalmitate (approximately 4 μM; intravitreal injection for once) improves the light responses of photoreceptors, bipolar cells and retinal ganglion cells<sup>[2]</sup>.</p> <p>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<sup>[2]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> |

### REFERENCES

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[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.

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

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