

Egg oil

Chemical Properties

CAS No. : 8001-17-0

Formula:

Molecular Weight:

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.

Biological Description

Description	Egg oil is a natural oil composed primarily of cholesterol, lecithin, and glycerides of fatty acids. It exhibits activity in regulating gut microbial dysbiosis and alleviating obesity, insulin resistance, and inflammation [1] [2] [3] [4].
Targets(IC50)	Akt,PI3K,TLR
In vitro	Egg oil (0.1-0.8 mg/ml) reduces IL-8 secretion and exhibits anti-inflammatory activity through the Nrf2/NF- κ B signaling pathway [2]. Egg oil (10-600 μ g/ml) (extracted from sea urchin) mitigates the cytotoxicity induced by 7 β -OHC, regulates antioxidant enzyme activity, and decreases MDA and CD production, thereby showing neuroprotective effects against neurodegenerative diseases [4]. In the Cell Viability Assay [2], using a Caco2 cell line at a concentration of 0.1-0.8 mg/ml with an incubation time of 2 hours, the viability of the cells was maintained.
In vivo	Egg oil, derived from <i>Portunus trituberculatus</i> , administered orally at a dosage of 150-600 mg/kg for 16 weeks, enhances insulin sensitivity and glycogen synthesis. This is achieved through activation of PI3K/Akt/Glu4 signaling in skeletal muscle and PI3K/Akt/GSK3 β /GS pathways in the liver, thereby ameliorating insulin resistance [1]. Additionally, egg oil alleviates obesity induced by a high-fat diet in mice by restoring gut microbiota balance and downregulating the LPS/TLR4 pathway in the liver and epididymal fat [3]. In studies using high-fat-diet-fed C57BL/6J mice, egg oil treatment led to reduced body and adipose weight, decreased blood glucose and lipid levels, and elevated mRNA levels of PI3K, Akt, IPS1/2, Glu4, GSK3 β , and GS in muscle and liver [1][3].

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