Small Molecules

Oleuropein

PPARγ antagonist

Catalog #100-0256 25 mg
100-0258 100 mg

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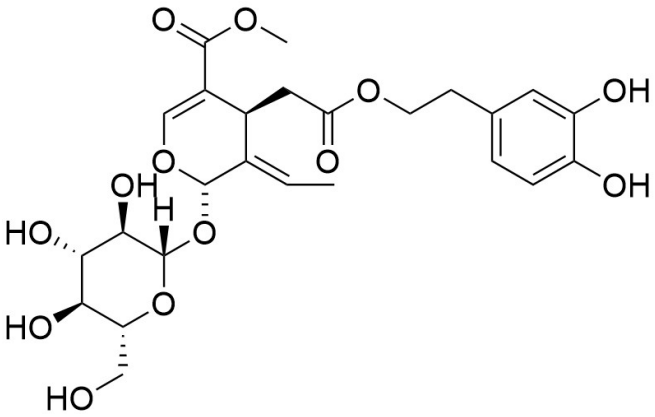
Product Description

Oleuropein is the primary phenolic compound found in olives and olive oil, and it exhibits antioxidant, anti-inflammatory, and anti-cancer properties (Sun et al.).

Molecular Name:	Oleuropein
Alternative Names:	Not applicable
CAS Number:	32619-42-4
Chemical Formula:	$C_{25}H_{32}O_{13}$
Molecular Weight:	540.5 g/mol
Purity:	≥ 98%
Chemical Name:	(2S,3E,4S)-3-ethylidene-2-(β-D-glucopyranosyloxy)-3,4-dihydro-5-(methoxycarbonyl)-2H-pyran-4-acetic acid, 2-(3,4-dihydroxyphenyl)ethyl ester
Structure:	

Properties

Physical Appearance:	A crystalline solid
Storage:	Product stable at -20°C as supplied. Protect from prolonged exposure to light. For long-term storage store with a desiccant. Stable as supplied for 12 months from date of receipt.
Solubility:	· PBS ≤ 460 µM · DMSO ≤ 55 mM · Absolute ethanol ≤ 55 mM For example, to prepare a 10 mM stock solution in DMSO, resuspend 10 mg in 1.85 mL of DMSO. Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.

Published Applications

DIFFERENTIATION

· Decreases adipocyte differentiation and increases osteoblast differentiation in mesenchymal stem cells (Santiago-Mora et al.).

CANCER RESEARCH

· Inhibits proliferation and induces apoptosis in MCF-7 human breast cancer cells (Han et al.).

References

Han J et al. (2009) Anti-proliferative and apoptotic effects of oleuropein and hydroxytyrosol on human breast cancer MCF-7 cells. Cytotechnology 59(1): 45–53.

Santiago-Mora R et al. (2011) Oleuropein enhances osteoblastogenesis and inhibits adipogenesis: the effect on differentiation in stem cells derived from bone marrow. Osteoporos Int 22(2): 675–84.

Sun W et al. (2017) Oleuropein, unexpected benefits! Oncotarget 8(11): 17409.

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