

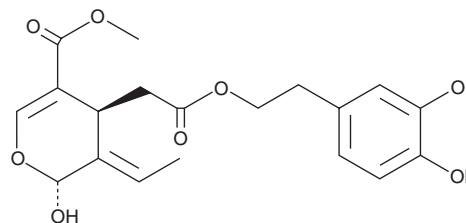
# PRODUCT INFORMATION



## Oleuropein aglycone

Item No. 35547

**CAS Registry No.:** 31773-95-2  
**Formal Name:** (2R,3E,4S)-3-ethylidene-3,4-dihydro-2-hydroxy-5-(methoxy,carbonyl)-2H-pyran-4-acetic acid, 2-(3,4-dihydroxyphenyl)ethyl ester  
**Synonym:** 3,4-DHPEA-EA  
**MF:** C<sub>19</sub>H<sub>22</sub>O<sub>8</sub>  
**FW:** 378.4  
**Purity:** ≥95%  
**Supplied as:** A 10 mg/ml solution in ethanol  
**Storage:** -20°C  
**Stability:** ≥2 years  
**Item Origin:** Synthetic



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Oleuropein aglycone is supplied as a solution in ethanol. To change the solvent, simply evaporate the oleuropein aglycone under a gentle stream of nitrogen and immediately add the solvent of choice. Oleuropein aglycone is slightly soluble in acetonitrile.

### Description

Oleuropein aglycone is a polyphenol and an aglycone form of oleuropein (Item No. 21220) that has been found in extra virgin olive oil and has diverse biological activities.<sup>1-4</sup> It is formed from oleuropein via enzymatic, acidic, or acetyl hydrolysis.<sup>1</sup> Dietary administration of oleuropein aglycone (50 mg/kg of food) increases the number of neuronal autophagic vesicles and reverses cognitive deficits in a TgCRND8 transgenic mouse model of Alzheimer's disease.<sup>2</sup> It also decreases cortical and hippocampal levels of histone deacetylase 2 (HDAC2) and restores long-term potentiation in the same model. Oleuropein aglycone increases urinary norepinephrine, as well as interscapular brown adipose tissue epinephrine and UCP1 protein levels, and decreases plasma leptin levels and total abdominal cavity adipose tissue weight in a rat model of high-fat diet-induced obesity.<sup>3</sup> It also reduces lung neutrophil infiltration, lipid peroxidation, and IL-1β levels in a mouse model of carrageenan-induced pleurisy.<sup>4</sup>

### References

1. Xu, F., Li, Y., Zheng, M., *et al.* Structure properties, acquisition protocols, and biological activities of oleuropein aglycone. *Front. Chem.* **6**, 239 (2018).
2. Cordero, J.G., García-Escudero, R., Avila, J., *et al.* Benefit of oleuropein aglycone for Alzheimer's disease by promoting autophagy. *Oxid. Med. Cell. Longev.* 5010741 (2018).
3. Oi-Kando, Y., Iwasaki, Y., Nakamura, T., *et al.* Oleuropein aglycone enhances UCP1 expression in brown adipose tissue in high-fat-diet-induced obese rats by activating β-adrenergic signaling. *J. Nutr. Biochem.* **40**, 209-218 (2017).
4. Impellizzeri, D., Esposito, E., Mazzon, E., *et al.* The effects of oleuropein aglycone, an olive oil compound, in a mouse model of carrageenan-induced pleurisy. *Clin. Nutr.* **30**(4), 533-540 (2011).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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