

# Role of maltodextrin and inulin as encapsulating agents on the protection of oleuropein during in vitro gastrointestinal digestion

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## Abstract

Olive leaves extract (OLE) was spray-dried with maltodextrin (MD) or inulin (IN) to study the evolution of oleuropein (OE) during in vitro gastrointestinal digestion, its bioaccessibility and potential bioavailability. In the case of OLE-MD, OE was partially degraded in gastric and intestinal conditions; whereas in OLE-IN, OE was released under gastric conditions and partially degraded under intestinal conditions. In both cases, the encapsulation of OLE led to higher OE contents at the end of digestion, compared with non-encapsulated OLE, suggesting a protective role of the polysaccharides by the formation of non-covalent polysaccharides-OE complexes. OE bioaccessibility was ten times higher ( $p < 0.05$ ) in OLE-MD and OLE-IN than in non-encapsulated OLE. However, OE potential bioavailability, evaluated by tangential filtration, was not detected. Encapsulation technology and the encapsulant agent used may determine the release of the encapsulated compounds at a specific-site and their effect on health.

## Keywords

**Author Keywords:** [Olive leaves extract](#); [Oleuropein](#); [Microparticles](#); [Inulin](#); [Maltodextrin](#); [In vitro digestion](#)

**KeyWords Plus:** [OLIVE LEAF EXTRACT](#); [PHENOLIC-COMPOUNDS](#); [DIETARY FIBER](#); [OIL](#); [MICROENCAPSULATION](#); [BIOACCESSIBILITY](#); [POLYPHENOLS](#); [STARCH](#); [LEAVES](#); [BIOAVAILABILITY](#)

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