



Institut Hospital del Mar  
d'Investigacions Mèdiques

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Fundación IMABIS  
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# Treatment of diseases related to eating disorders

**IMIM and IMABIS Foundations and CSIC have developed a family of unsaturated fatty alcohol derivatives of olive oil phenolic compounds showing food intake inhibitory capacity in in vivo assays, as well as LDL antioxidant capacity. These compounds may have application for treatment of obesity or dyslipidemia, and also in cardiovascular diseases such as atherosclerosis.**

*An offer for Patent Licensing and/or R+D collaboration*

## Antiobesity properties

Cannabinoid receptor-1 (CB1) has an important role in several diseases, between them those related to control of food intake such as obesity or metabolic syndrome and also in cardiovascular diseases.

On the other hand, tyrosol and hydroxytyrosol, present in the olive oil, and their derivatives, show a high antioxidant activity being beneficial for prevention of cardiovascular diseases such as atherosclerosis and hypertension, avoiding accumulation of cholesterol in blood favored by the low-density lipoprotein (LDL) oxidation, the main cholesterol means of transport.

The compounds that we have developed are derivatives from unsaturated fatty alcohols conjugated to phenolic components of olive oil, showing a double inhibitory activity of cannabinoid receptor CB1 and of LDL oxidation.

The ability of these compounds to reduce food intake was evaluated in vivo in rats, achieving up to 50% of suppression of food intake at a concentration of 5mg/kg, maintaining a prolonged effect.

These compounds may have use for treatment of eating disorders such as obesity or metabolic syndrome, by means of satiety induction and control of food intake, and also for prevention of cardiovascular diseases related to metabolism of lipids.



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## Main advantages and applications

These compounds have shown a reduction of appetite up to 50% in a food deprivation animal model carried out at different doses. Results are dose-dependent and the obtained effect last at least 4 hours. The compound could be used as precursor for the improvement of hydroxytyrosol bioavailability. The compound displays good LDL antioxidant properties (0.5-3  $\mu\text{M}$ ).

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