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PROCEDURE FOR OBTAINING PEPTIDES WITH ANTIOXIDANT AND ANTIHYPERTENSIVE PROPERTIES FROM OLIVE SEEDS

Patent

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Application areas

- Biological Sciences
- Agriculture and Marine Resources
- Agrofood Industry



Type of Collaboration

- Technical cooperation
- Commercial agreement with technical assistance
- License agreement

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ABSTRACT

The proposed chemical procedure allows obtaining a peptide extract with antioxidant and antihypertensive capacity from olive seeds.

The procedure requires the prior extraction of proteins following a previously optimized method, and enzymatic hydrolysis of the extracted proteins. The extraction of the proteins contained in the olive pit is performed using a Tris-HCl buffer at pH 7.5 containing sodium dodecyl sulfate and dithiothreitol. Then, the extracted proteins are purified by precipitation with acetone. The isolated proteins are dissolved in an alkaline medium and it is carried out the hydrolysis using Alcalase or Thermolysin enzymes at controlled temperature and with agitation. After the digestion, the enzyme is inactivated and the supernatant containing peptides with antihypertensive or antioxidant capacity, is separated by centrifugation.

Comparing the results with those obtained for a control compound with recognized antioxidant capacity demonstrates that hydrolysates obtained are interesting sources of peptides with antioxidant properties. Through this procedure, it is described a use alternative of a waste material such as olive pits and that until now it was not performed. Compared with other use forms of this residue, this method allows the revaluation of this cheap source of protein.

ADVANTAGES AND INNOVATIONS

- First proposed procedure for industrial waste use of the olive processing to obtain peptide with bioactive properties.
- The procedure of the invention is simple, inexpensive, fast and safe, because it uses basic instrumentation and a commercial enzyme widely used in the food industry.
- It is a cheap source of compounds with high biological value solving the problem of the produced use of waste during the production of table olives and olive oil.