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Studies on extraction and utilization of biologically active compounds from Capsicum genus in the pharmaceutical industry**Roxana Madalina Stoica, Caterina Tomulescu, Angela Casarica, Ana Despina Ionescu and Misu Moscovici**
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Biologically active compounds existing in the *Capsicum* genus, particularly capsaicinoids, provide many therapeutically uses due to its anti-inflammatory properties, to treat chronic pain, such as rheumatoid arthritis and neuralgia, and due to its anticancer, antimicrobial and antioxidant activity. The pungent metabolites in the fruits of *Capsicum* species are called capsaicinoids, and among the most abundant of these components are capsaicin and dihydrocapsaicin, which are responsible for about 90% of total pungency. Other important components resulting from the extraction of oleoresins are carotenoids (mainly capsanthin and capsorubin), which are widely used in the food industry, both because of their coloring and their antioxidant characteristics. The amount of capsaicinoids in peppers varies depending on the stage of maturity, variety used, cultivation conditions, nutrients soil and water stress. The capsaicinoids begin to accumulate in the early stages of fruit development and they reach a maximum rate as the fruit matures. The main objective of this study had involved the extraction of capsaicinoids from three *Capsicum* varieties, such as Guindilla Larga Roja, Fresno and Congo Trinidad, in order to obtain a pharmaceutical product for topical use. The realization of a topical formulation containing capsaicin, known for its analgesic action and local vasodilator, is a viable alternative in pain therapy. Capsaicinoids were identified in all extracts with concentration ranging from 0.3 to 0.7% (dry weight) and the best results were obtained with 96% ethanol as solvent comparing with methanol and acetonitrile, using Soxhlet extraction.

Recent Publications:

1. Dang Y Y, Zhang H and Xiu Z L (2014) Three -liquid-phase extraction and separation of capsanthin and capsaicin from *Capsicum annuum* L. Czech J. Food Sci. 32: 109-114.
2. Anwar E F and Ramadan D H (2014) Formulation and evaluation of gel and emulgel of chili extract (*Capsicum frutescens* L.) as topical dosage forms. International Journal of Pharmacy and Pharmaceutical Sciences. 6: 13-16.
3. Islam MdA, Scharma S S, Sinha P, Negi M S, Neog B and Tripathi S B (2015) Variability in capsaicinoid content in different landraces of *Capsicum* cultivated in north-eastern India. Scientia Horticulturae. 183: 66-71.
4. Musfiroh I, Treesyangelina M and Mughtaridi M (2013) Capsaicin level of various *Capsicum* fruits. International Journal of Pharmacy and Pharmaceutical Sciences 5: 248-251
5. Sganzerla M, Janclei P C, Tavares de Melo A M and Godoy H T (2014) Fast method for capsaicinoids analysis from *Capsicum* Chinese fruits. Food Research International. 64: 718-725

Biography

Roxana Madalina Stoica is a Researcher at the National Institute for Chemical-Pharmaceutical Research and Development-ICCF, Bucharest, Romania, in the Pharmaceutical Biotechnology Department. She has obtained her PhD in the field of Biotechnology and her research was focusing on the obtaining of biologically active principles from vegetal sources.

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