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Extraction and development of Natural Products as an alternative strategy for disease control

Inflammation consists of an answer of the organism, triggered by different types of injuries on the tissues or for infectious agents. Although inflammatory answer is considered a protective event, pro-inflammatory mechanisms may contribute to the development of chronic diseases, such as diabetes, cancer, arthritis, neurological diseases and psoriasis, which is why the control of the inflammatory process is desired.

Many researches have focused on new bioactive molecules, natural products and functional foods as alternatives to the development of new anti-inflammatory agents. Several studies have also demonstrated the neuroprotective, hepatoprotective, cardioprotective, antifungal, anti-inflammatory, and anticancer activities of natural compounds as lycopene.

Furthermore, lycopene pretreatment at various doses significantly delayed tumor formation and growth, thereby reducing skin carcinogenesis in female ICR mice. Generally, lycopene inhibits cell proliferation, arrests cell cycle in different phases, and increases apoptosis in breast, colon, and prostate cancer lines.

Therefore, the idea behind this conversation will be talking about some compounds extracted from food with activities anti-inflammatory and antioxidant, which work singly or in an association, might influence in the inflammatory process, reducing its harmful effects and the risk to develop diseases as breast cancer.

Speaker Biography

Adriany Amorim, Ph.D. in Biotechnology, is Industrial chemistry since 2002 and PhD in Biotechnology from Federal University of Piauí - Brazil in 2015 and from Autonomous University of Madrid - Spain in 2017. She has expertise in the extraction of antioxidants and developed an extraction process of natural antioxidant by clean technology. Therefore, she published two patents on this subject, one in Brazil and another in Portugal. In her last publications on medicinal chemistry, she has shown the effect of lycopene, extracted from natural source, against human breast adenocarcinoma cell and, its effects on the reduction of inflammatory process in mice. She is currently Professor of Food Processing at EARTH University in Costa Rica and works with the processing of some food containing natural additives, without the addition of chemical conservators.

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