



Tipo	Periódico
Título	Biotransformed citrus extract as a source of anti-inflammatory polyphenols: Effects in macrophages and adipocytes
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Programa/Curso (s)	Programa de Pós-Graduação Stricto Sensu em Ciências da Saúde
DOI	10.1016/j.foodres.2017.03.034
Assunto (palavras chaves)	Citrus residue extract; Polyphenols; Obesity; Anti-inflammatory activity; Cell culture
Idioma	Inglês
Fonte	Título do periódico: Food Research International ISSN: 0963-9969 Volume/Número/Paginação/Ano: v. 97, p. 37-44, 2017
Data da publicação	22 March 2017
Formato da produção	Digital https://doi.org/10.1016/j.foodres.2017.03.034
Resumo	Chronic non-communicable diseases such as obesity are preceded by increased macrophage infiltration in adipose tissue and greater secretion of pro-inflammatory cytokines. We evaluated the anti-inflammatory potential of Biotransformed extract, and two control extracts: In Natura and Autoclaved. The assays were performed using a cellular model with RAW264.7, 3T3-L1 cells, and RAW264.7 and 3T3-L1 co-culture. The innovation of the study was the use of Biotransformed extract, a unique phenolic extract of a bioprocessed citrus residue. LPS stimulated RAW264.7 cells treated with the Biotransformed extract exhibited lower secretion of TNF- α and NO and lower protein expression of NF κ B. In RAW264.7 and 3T3-L1 co-culture, treatment with 1.0 mg/mL of the Biotransformed extract reduced secretion of TNF- α (30.7%) and IL-6 (43.4%). Still, the Biotransformed extract caused higher increase in adiponectin in relation to control extracts. When the co-culture received a LPS stimulus, the Autoclaved extract at 1.0 mg/mL reduced IL-6 and TNF- α concentrations, and raised adiponectin. However, it was noteworthy that the Biotransformed extract was also able to significantly reduce IL-6 concentration while the Natural extract was not. The Biotransformed citrus extract evaluated in this study showed anti-inflammatory activity in macrophages and in co-culture, indicating that bioprocess of citrus residue can contribute to new product development with anti-inflammatory potential.
Fomento	