

# Extracts of Chilean native fruits inhibit oxidative stress, inflammation and insulin-resistance linked to the pathogenic interaction between adipocytes and macrophages

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© 2016 Elsevier Ltd Obesity-associated insulin-resistance is set by a chronic inflammatory state established in the adipose tissue. Chilean native fruits calafate (CA) and maqui (MA) berries present remarkable anti-inflammatory features. Here, we evaluated antioxidant, anti-inflammatory and insulin-sensitizer effects of these fruits in an in vitro inflammatory setting. Differentiated 3T3-L1 cells exposed to conditioned media (CM) from activated macrophages were treated with CA and MA extracts. MA increased metalloproteinase (MMP)-2 activity on day 3, and both CA and MA modulated MMP-9 activity on day 10 of differentiation. In differentiated CM-treated 3T3-L1, extracts increased GSH levels and GSH/GSSG ratio, CA and MA prevented caspase-3 induction, and MA decreased MCP-1, while CA increased IL-6 gene expressions. Finally, MA reverted CM specific IRS-1 phosphorylation, and CA improved insulin-stimulated glucose uptake. Thus, treatments with extracts of Chilean native fruits were able to