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Título	Modulatory Effects of Guarana (<i>Paullinia cupana</i>) on Adipogenesis
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Resumo	<p>Guarana (<i>Paullinia cupana</i>) is a plant originated in Brazil that presents a beneficial effect on body weight control and metabolic alterations. The aim of this study was to evaluate the effects of guarana on genes and miRNAs related to adipogenesis in 3T3L1 cells. The anti-adipogenic effect of guarana was evaluated by Oil Red-O staining. Gene and miRNA expression levels were determined by real time PCR. The Cebpα and β-catenin nuclear translocation were evaluated using immunocytochemistry. Our data indicated that the triglyceride-reducing effect of guarana was dose-dependent from 100 to 300 μg/mL (-12%, -20%, -24% and -40%, respectively, $p < 0.0001$). An up-regulation of the anti-adipogenic genes <i>Wnt10b</i>, <i>Wnt3a</i>, <i>Wnt1</i>, <i>Gata3</i> and <i>Dlk1</i> and a down-regulation of pro-adipogenic genes <i>Cebpa</i>, <i>Pparγ</i> and <i>Creb1</i> were also observed. Furthermore, guarana repressed mmu-miR-27b-3p, mmu-miR-34b-5p and mmu-miR-760-5p, that contributed for up-regulation of their molecular targets <i>Wnt3a</i>, <i>Wnt1</i> and <i>Wnt10b</i>. Additionally, cells treated with guarana presented an increase on β-catenin nuclear translocation ($p < 0.0018$). In summary, our data indicate that guarana has an anti-adipogenic potential due to its ability to modulate miRNAs and genes related to this process. Together our data demonstrate the important role of guarana as a putative therapeutic agent.</p>
Fomento	