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The effect of steeping robusta coffee beans on monocytes : Expression of IL-1β and TNF-α against Streptococcus mutans (Article) (Open Access)

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Abstract

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Adhesion, IL–1β, TNF–α are components that affect in inflammation. So, the effect of steeping green and black Robusta coffee beans to adhesion of Streptococcus mutans on this components. This study used monocytes isolated from healthy human peripheral blood using Ficoll-Hypaque centrifugation method. Monocytes were divided into eight groups, i. e. (i) Control group (untreated monocytes), (ii) S. mutans group (monocytes + S. mutans), (iii) Black Coffee 2.5 % group (monocytes + black coffee beans 2.5 % + S. mutans), (iv) Black Coffee 5 % group (monocytes + black coffee beans 5 % + S. mutans), (v) black Coffee 10 % group (monocytes + black coffee beans 10 % + S. mutans), (vi) Green Coffee 2.5 % group (monocytes + green coffee beans 2.5 % + S. mutans), (vii) Green Coffee 5 % group (monocytes + green coffee beans 5 % + S. mutans), (viii) Green coffee 10 % group (monocytes + green coffee beans 10 % + S. mutans). S. mutans adhesion on monocytes was analyzed using histochemistry method, while immunocytochemical staining was used for analyzing IL–1β and TNF–α. Cells counting was done per 100 monocytes under a light microscope with 400 x magnification. Data were analyzed using ANOVA followed by LSD test. Results showed that steeping green and black Robusta coffee beans increased the adhesion of S. mutans on monocytes, but it decreased of IL–1β, TNF–α expression (P <0.05). In conclusion, steeping of Robusta coffee beans increased adhesion and decreased IL-1β, TNF-α against S. mutans.

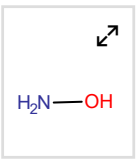
SciVal Topic Prominence

Topic: Coffee | Coffee beans | Ground coffee

Prominence percentile: 98.661

Chemistry database information

Substances



Author keywords

Black coffee | Cytokine | Green coffee | Immunocytochemical | Inflammation

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