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ACAI – The Brazilian berrie and it’s molecular targets

Ney Felipe Fernandes

Nutrição Avançada, Brazil

Açaí, a word of Tupi Guarani origin (yasa'i) meaning "weeping fruit" is the fruit of the Euterpe oleracea palm tree, native to the Amazon rainforest, in South America. Commercially sold açaí is extracted by maceration and extraction of its pulp containing carbohydrates, lipids (mainly oleic acid), fibers and proteins. But as in the nutritional sciences we should not look only at the tip of the iceberg, that is, the macronutrients, we must look at what is immersed, what is more important and what is sometimes not seen with the naked eye: its phytochemical points. When speaking of longevity, the eyes must be focused mainly on two physiological aspects: reduction of subclinical basal inflammation and attenuation of oxidative stress. It is probably in these two aspects (oxidative stress and inflammation) that açaí (whether consumed in the form of fruit in natural or juice or pulp) can contribute to human health. The coloration of açaí is due to the presence of a large number of anthocyanins. The most predominant anthocyanins in açaí are cyanidin 3-O-rutinoside and cyanidin 3-O-glycoside (C-3-O) that has correlation with improvement inflammatory indicators (TNF-alpha, NfκB) an increase in the expression of Nrf2. Also, velutin (flavone isolated from açaí pulp) may have an anti-inflammatory role, since it was able to modulate TNF and NfκB levels in vitro. In another study, açaí was able to modulate the activity of TLR4 receptors, thus impacting other inflammatory markers (VCAM, ICAM, TNF-alpha, NfκB). We cannot say that we would obtain safe and desirable results from anthocyanins by simply consuming the açaí that is marketed (and usually not its fresh fruit) Nor can we, as we know, claim that a given functional food cures certain disease. However, it is prudent to work with the idea of 'chronic, regular ingestion' to promote longevity.

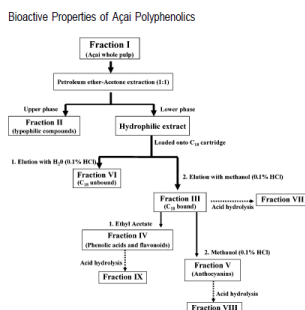


Figure 1. Simplified isolation scheme used to fractionate and purify phytochemicals present in açai whole pulp.

Biography

Nutritionist, master's in molecular biology (Universidade Federal do Paraná), Specialist in Exercise Physiology (Universidade Veiga de Almeida- Rio de Janeiro), Nutrição Avançada Owner, Author of the book "Sports Nutrition - Myths and Truths".

nefelipef@hotmail.com