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### The Search for genomic markers for coffee consumption

The turnaround of the millennium brought us lots of expectation in terms of world market globalization economy, planet environment preservation and energy resources to mention a few. However, one of the most important discoveries in the science field was the unveiling of the human genome. Since then, most of the attention has turned to understanding the function of many genes and genomic fragments and their relationship with human pathophysiology. Much has been accomplished so far, such as *BRCA1* and *BRCA2* markers for breast cancer; *HOXB13* gene for prostate cancer; *APOE*  $\epsilon$ 4 for Alzheimer's disease and many others that lead to the possibility of genetic testing to predict the risk of developing the disease, if the mutant variant gene is expressed in the individual genome.

Coffee is the mostly widely consumed beverage worldwide with known health benefits. The genomic approach to search for specific regions in the human DNA that are highly expressed within the coffee consumers is also a recent phenomenon. Genome-wide association studies (GWAS) have identified a number of regions of interest associated with coffee consumption. A consortium actually was created with the participation of researchers from all over the world, in an effort to accelerate these findings. The purpose is to understand the relationship between parts of the human DNA and the increased or decreased coffee use and its correlation with the prevention of a series of diseases as type-2 diabetes, cancers and neurodegenerative diseases that account for the majority of the chronic disorders that afflict our post-millennium population.

#### **Biography**

Santos has completed his PhD from SUNY at Buffalo and is an Associate Professor at Department of Pharmaceutical Sciences at School of Pharmacy. She has a company devoted to research and consultancy, Dr. Coffee in Savannah as well as a laboratory devoted to research on Coffee and health benefits. She has published many papers, participated as peer reviewer for various journals and has written chapters and textbooks in Portuguese, English and Korean.

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