

Ayugenomics: Traditional Medicine to Modern Pharmacogenomics

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Abstract

Ayurveda is one of the most ancient and yet living traditions documented and practiced widely in India. It has strong philosophical, experiential and logical foundation that addresses health holistically. The concept of Prakriti or constitution has central role in understanding health and disease in Ayurveda. Prakriti of a person is taken into account for prescribing medicines or diet or lifestyle in Ayurveda. Research in Ayurveda has been dominated by studies on medicinal plants and the development of herbal drugs; however, basic research which employs modern biology, immunology, and chemistry to investigate the fundamental concepts in Ayurveda such as Prakriti, panchakarma procedures, rasayanas has received little attention.

Our study for the first time established molecular basis for classification of individuals based on Tri-doshas or constitutional types^{1, 2, 3}. The findings suggested that prakriti has a genetic basis and the prakriti-based therapy is consistent with personalized medicine. We also demonstrated differential DNA methylation signatures in three distinct prakriti phenotypes revealing the epigenetic basis of dosha prakriti⁴.

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Biography

Dr. Kalpana Joshi, Professor and head of the Biotechnology. Dr. Joshi's research areas include drug discovery, Genomics and Ayurveda Biology. She lead several projects in Ayurveda Biology and public health supported by Indian Government funding agencies like

DST, SERB, ICMR and Office of Principal Scientific Advisor. Recently she received prestigious M. M. Sharma award for research in Science and Technology. Dr. Kalpana was Lupin Endowment Fellow at ICT (former UDCT) for the year 2010.