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Identification of pain biomarkers using mass spectrometry

Leticia Cano
Biomarker Profile Corporation, USA

The identification of pain biomarkers that can aid physicians in helping patients manage pain would be an enormous contribution to medicine. Pain is present in many diseases and conditions. Currently, there are no tests for pain and medical care workers must ask the patient if he/she is in pain. We performed a proteomic analysis of low molecular weight plasma proteins in seven diseases associated with chronic pain and looked for proteins present across disease. The diseases studied were complex regional pain syndrome, fibromyalgia, migraine, sciatica, TMJ syndrome, rheumatoid arthritis and osteoarthritis. All samples were obtained from a commercial biorepository and required no further approval for use in our research. Four proteins were found to be statistically significant. In this talk we describe the development of a high resolution mass spectrometry-based test using 2 of the protein products as markers of pain and several peptides as test controls.

Biography

Leticia Cano identified a native citrullinated autoantigen for rheumatoid arthritis for her Ph.D. dissertation. She did her postdoctoral training in the laboratory of Hank Fales at the National Institutes of Health, where she identified candidate biomarkers for Dermatomyositis, Juvenile Idiopathic Arthritis, and Systemic Lupus Erythematosus. As founder and president of Biomarker Profiles Corporation, she is interested in developing methods to increase the speed of biomarker discovery.

leticiacano@biomarkerprofiles.com