

Title: The Nutritional Genomics Laboratory at the HNRCA – Summary of Current Research Activities

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Abstract:

The Laboratory of Nutritional Genomics of the Jean Mayer USDA Human Nutrition Research Center on Aging is a pioneer in the study of gene-diet interactions in the area of cardiovascular diseases, utilizing both genetic epidemiology approaches as well as controlled dietary intervention studies. Our four primary objectives are to identify 1) new human genes involved in the homeostasis of lipid metabolism using genome-wide association studies and bioinformatics; 2) candidate genes for overweight and obesity in humans with special emphasis on those modulating the risk for the metabolic syndrome; 3) genetic factors determining differential susceptibility towards chronic disorders in response to a Western-type diet and lifestyle in humans with differing ethnic backgrounds; 4) new longevity genes and describe their modulation by nutritional and environmental factors in animals and humans. Summaries of current work, with special emphasis on large genomics datasets and analysis methods, will be presented.