

Scientific News

Does Stress Affect Gut Health? Nestlé Researchers Learn More

Lausanne, SWITZERLAND 7 December 2009 – The integrity and functionality of the gastrointestinal system is a delicate balance of numerous factors, including genetic, biological and environmental influences. The development of many digestive disorders, such as Irritable Bowel Syndrome (IBS) is still not well understood. Scientists at the Nestlé Research Center in Lausanne, Switzerland, evaluated the effects of everyday life stress on gut health and the risk of developing gut inflammation. The full article is available in the [Journal of Proteome Research](#).

Nestlé researchers assessed the metabolic and gut responses to stress in healthy men and women. The subjects were split into two groups, low stress (LS) and moderate stress (MS), based on their levels of “background” or “everyday” stress, which was measured using a questionnaire. Both of these groups were exposed to a stress stimulus, induced by placing one of their hands in ice cold water for several seconds at a time. Metabolic analysis methods were then used to capture a global view of the metabolic events associated with background stress and the impact of incoming, acute stress on metabolism.

Scientists found that background stress was imprinted in subjects’ metabolic profiles, as was evidenced by variations in energy metabolism among the two groups. Metabolic results revealed that the stress induced by the cold water (acute stress) significantly increased gut permeability. Interestingly, however, the metabolic impact of this incoming acute stress was different between the subject groups experiencing low or moderate “everyday” stress. Such outcomes and their affects on metabolism and gut integrity may provide valuable information to better understand the mechanisms of the development of digestive diseases.

“Through this study, we are trying to learn how stress may play a role in gut health, and further, how we can effectively prevent the development of more serious digestive disorders,” says Serge Rezzi, Nestlé researcher leading the study. “Our metabonomics research continues to pioneer the link between life style and metabolism and the related effects on human health.”

Article Reference:

Rezzi S, Martin FJ, Alonso C, Guilarte M, Vicario M, Ramos L, Martinez C, Lobo B, Saperas E, Malagelada JR, Santos J, Kochhar S. Metabotyping of Biofluids Reveals Stress-Based Differences in Gut Permeability in Healthy Individuals. *Journal of Proteome Research*, 2009;8:4799-4809.

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Good Food, Good Life

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