What you eat influences which genes your gut microbes switch on and off

New research provides further evidence of the important role that gut microbes play in health – by revealing they alter host gene expression in a diet-dependent manner. Using mice, [researchers at the University of Wisconsin-Madison] show a Western diet prevents many of the gene expression changes of a plant-rich diet.

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For their study, the researchers used mice raised on two different diets: one rich in plant carbohydrates (mimicking a human diet rich in fruits and vegetables) and the other high in simple sugars and fats (mimicking a Western diet).

The researchers found that…metabolites produced when gut bacteria ferment nutrients from plants…were communicating with the cells of the host animals through the epigenome.

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[John M. Denu, a UW-Madison professor of biomolecular chemistry and a senior researcher at the Wisconsin Institute for Discovery,] and his colleagues…note that while foods rich in fat and sugar – hallmarks of the Western diet – are more easily digested, they are not necessarily a good source of nutrients for gut microbes. This results in a less diverse microbiome, and less communication with the epigenome, they suggest.

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion, and analysis. Read full, original post: Gut microbes switch host genes on and off under influence of diet