

No Link Between XMRV and Chronic Fatigue

<http://the-scientist.com/2011/09/22/again-no-xmrv-chronic-fatigue-link/>

The presence of a mouse leukemia virus is not correlated with chronic fatigue syndrome (CFS), according to a study published today (September 22) in *Science*. The study, just one of many in the last year that have discredited the relation between the two, is accompanied by a partial retraction of one of the original papers to propose such a link.

"For most of us, the final nail [in the coffin] came a long time ago!" said [Myra McClure](#) in an e-mail, an Imperial College London retrovirologist who first questioned the link between the virus and CFS, but was not involved in the new study. "However, the way this study was conducted (same samples investigated under controlled conditions in different laboratories) should convince all."

In 2009, researchers at two labs [found](#) the presence of xenotropic murine virus-related virus (XMRV) in blood samples from patients with chronic fatigue syndrome. The findings caused a stir in the chronic fatigue community, with many sufferers wondering whether the virus caused the chronic flu-like illness..

But other researchers doubted the results and [follow-up work](#) failed to replicate the findings and [two other studies](#) traced the presence of XMRV to lab contamination. After the initial questions arose, the National Institutes of Health (NIH) funded two rigorous trials which would test blood samples in a blinded fashion at several different labs.

In the first trial, pathologist [Michael Busch](#) of the Blood Systems Research Institute in San Francisco and colleagues collected blood samples from healthy controls and chronic fatigue sufferers, including some who previously tested positive for XMRV. They then masked the origin of the samples and sent them to be tested for XMRV by nine different labs across the country, including the two labs that originally reported the positive association. Only samples sent to the latter two labs tested positive for XMRV, and CFS patient samples were no more likely to test positive for XMRV than those of healthy controls. In addition, samples from the same patient often had contradictory test results, Busch said. "There are problems with the accuracy and specificity of their assays and their earlier results," Busch said, although what the actual problems were remains unclear.

In the same issue of *Science*, one group that published the original paper retracted part of their results because DNA plasmids they used were contaminated with XMRV, making the idea of lab contamination as the source of XMRV ever more convincing. A full retraction of the paper is "long overdue," McClure said.

The finding "eliminates concern that that virus is a major determinant or causative agent involved with chronic fatigue," Busch said. These results, combined with the final NIH trial that will be completed later this year, should definitively discredit the XMRV-chronic fatigue theory, he said.

G. Simmons et. al, "Failure to Confirm XMRV/MLVs in the Blood of Patients

with Chronic Fatigue Syndrome: A Multi-laboratory Study," *Science*,
doi:10.1126/science.1213841 , 2011.