

Science Watch Names Pathak's Article "Fast Breaking Paper"

By Nancy Parrish, Staff Writer

A July 2011 article in *Science* by Vinay Pathak, Ph.D., and colleagues was recently designated a Fast Breaking Paper in Microbiology by Thomson Reuters Science Watch. This designation was based on an analysis by Thomson Reuters, which determined that the

later reported to be present in 6–27% of human prostate cancers and in the peripheral blood of 67% of CFS patients. In an interview with Science Watch, Pathak explained that these reports “were greeted with much interest from scientists and patients.” The scientists, he said, thought the papers suggested that



Vinay Pathak, Ph.D., right, with Krista Delviks-Frankenberry, Ph.D., staff scientist, and Tobias Paprotka, Ph.D., former visiting fellow, two of his co-authors in the Viral Mutation Section, HIV Drug Resistance Program. Photo courtesy of Vinay Pathak.

paper “displayed a higher bimonthly citation increase than any other paper of comparable age and type in its field,” according to the Science Watch website.

The article was cited 80 times in Thomson Reuters' Web of Science, as of December 5, 2012.

Pathak, head, Viral Mutation Section, HIV Drug Resistance Program (DRP), Center for Cancer Research (CCR), and his co-authors reported a “de-discovery” of the link between xenotropic murine leukemia virus-related virus (XMRV) and human prostate cancer and chronic fatigue syndrome (CFS).

According to the DRP website, XMRV is a retrovirus that was isolated in 2006 from a human prostate cancer and

XMRV might be circulating in the human population and therefore contributing to disease (see related article on page 5).

However, several studies failed to detect XMRV in multiple samples from prostate cancer and CFS patients or controls. Pathak's research team hypothesized that an understanding of when and how XMRV first arose might help explain the discrepancy in results.

His group showed that XMRV is “most likely a laboratory-derived mouse virus” that was generated during an experiment in the mid-1990s, Pathak said. “Since prostate cancer has been around for decades, and chronic fatigue syndrome has been described at least since the mid-1980s, our results

strongly imply that XMRV is not associated with these human diseases.” Instead, he explained, reports of XMRV in human tissue are a result of contamination in laboratory samples.

The research findings were highlighted in news features in the *New York Times*, *Washington Post*, and *Nature*. The study was also selected as one of the top two CCR Science Advances of the year in Virology. Further, as a result of his work on XMRV, the first author, Tobias Paprotka, won the 2011 Norman P. Salzman Memorial Award in Virology.

“Scientists Can Now Redirect Their Efforts”

“The major significance of the paper,” Pathak said, “is that scientists interested in prostate cancer and chronic fatigue syndrome can now redirect their efforts towards identifying the real causes of these diseases.”

Pathak attributes the success of the findings to the teamwork of his colleagues. “The success and impact of these studies was in large part due to collaboration with all of my colleagues who are co-authors on this paper,” he said. Collaborators in the research included John Coffin, Ph.D. (Tufts University, and special advisor to the director of CCR); Wei-Shau Hu, Ph.D. (head, Viral Recombination Section, DRP); Hsing-Jien Kung, Ph.D., and Clifford Tepper, Ph.D. (University of California, Davis).

The full article (Paprotka et al., Recombinant origin of the retrovirus XMRV, *Science* 333 [6038]: 97–101, 1 July 2011) may be viewed at: <http://www.sciencemag.org/content/333/6038/97.full.pdf>. ■

Editor's note: The information for this article was drawn from the following sources: *Science Watch*, at <http://archive.sciencewatch.com/dr/fbp/2012/parthak-vinay>; HIV Drug Resistance Program website, <http://home.ncifcrf.gov/hivdrp/news.html#Advance2011>.