

# Creutzfeldt-Jakob, 'Mad Cow' blood test now on the horizon

September 12 2012

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(Medical Xpress)—A simple blood test for Creutzfeldt-Jakob Disease and Mad Cow disease is a step closer, following a breakthrough by medical researchers at the University of Melbourne.

Using newly available genetic sequencing scientists discovered cells infected with prions (the [infectious agent](#) responsible for these diseases) release particles which contain easily recognized 'signature genes'.

Associate Professor Andrew Hill—from the Department of Biochemistry and Molecular Biology at the Bio21 Institute—said these particles travel in the blood stream, making a diagnostic blood test a possibility.

"This might provide a way to screen people who have spent time in the UK, who currently face restrictions on their ability to donate blood," he said.

"With a simple blood test nurses could deem a prospective donor's blood as healthy, with the potential to significantly boost critical blood stocks."

Mad Cow disease was linked to the deaths of nearly 200 people in Great Britain who consumed meat from infected animals in the late 1980s.

Since 2000, the Australia Red Cross Blood Service has not accepted blood from anybody who lived in the UK for more than six months between 1980 and 1996, or who received a [blood transfusion](#) in the UK

after 1980.

The research is published in this week's Oxford University Press [Nucleic Acids Research](#) journal.

Lead author Dr Shayne Bellingham said the breakthrough might also help detect other human [neurodegenerative diseases](#), such as Alzheimer's and Parkinson's.

"This is an exciting new field where we can test for conditions in the brain and throughout the body, without being invasive," he said.

The researchers' genetic testing focused on a form of cell discharge called exosomes.

If exosomes were infected with prions (the pathogen that causes Creutzfeldt-Jakob Disease and [Bovine Spongiform Encephalopathy](#), commonly known as [Mad Cow Disease](#)) they were found to also carry a specific signature of small genes called microRNA's.

**More information:** [doi: 10.1093/nar/gks832](https://doi.org/10.1093/nar/gks832)

Provided by University of Melbourne

Citation: Creutzfeldt-Jakob, 'Mad Cow' blood test now on the horizon (2012, September 12) retrieved 6 May 2024 from

<https://medicalxpress.com/news/2012-09-creutzfeldt-jakob-mad-cow-blood-horizon.html>

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