

Protein sheds insight into vCJD

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A protein linked to the immune system could play a key role in helping scientists understand how vCJD spreads throughout the body. The study looked at production of a protein - called PrPC - in specific immune cells.

The disease occurs after corrupted proteins - known as prions - accumulate in the spleen, [lymph nodes](#) and tonsils.

These cells - follicular dendritic cells - act like spider's webs, attracting foreign particles, which can then be disposed of by the body's immune system.

The prions then spread to the brain where the disease destroys [nerve cells](#).

The researchers found that when the cells expressed PrPC, prions, were able to replicate on the surface of their surface and spread throughout the body.

Prions

Researchers at The Roslin Institute found that they could thwart the spread of prions by preventing production of a [protein](#) in just one type of immune cell.

However, when only these cells were prevented from producing PrPC, the prions were not able to multiply and were destroyed by other cells.

Stopping these cells from expressing this protein did not affect the regular function of the immune system.

"We also want to understand how cells are infected with vCJD in the first place, so that we can look at ways of stopping this from happening and find ways to diagnose the disease at its early stages," Dr. Mabbott added.

"If we can find a way of stopping this protein from being expressed by specific [immune cells](#) then we could potentially block the spread of the disease to the brain," said Dr. Neil Mabbott, The Roslin Institute.

The study is published in the journal *PLoS Pathogens*.

More information:

www.plospathogens.org/home.action

Preventing spread of vCJD to the brain

The study could lead to treatments to stop [vCJD](#) spreading to the brain and causing disease.

Provided by University of Edinburgh

However, any treatments would be viable only if scientists are able to find a way to diagnose the condition in its early stages.

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Protein production

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