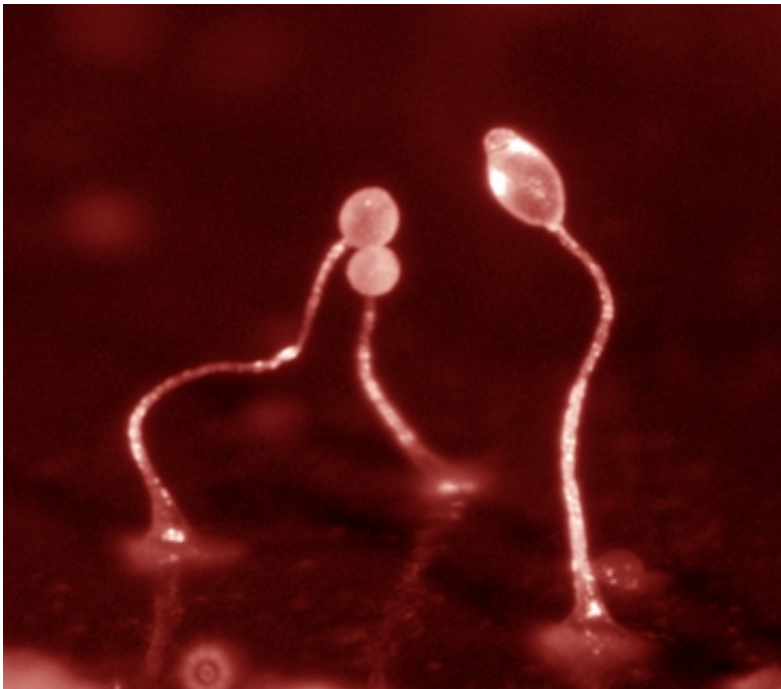


Researchers discover simple amoeba holds the key to better treatment for Alzheimer's

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This image shows *Dictyostelium* amoeba. Credit: Royal Holloway University

Scientists have discovered the use of a simple single-celled amoeba to understand the function of human proteins in causing Alzheimer's disease.

The new study, published in the *Journal of Cell Science* today (Friday 24 January) by researchers at Royal Holloway, University of London and the Institute of Psychiatry King's College London, reveals how the

amoeba will enable a better understanding of the function of these Alzheimer's disease-associated proteins in the cell without the need for testing on animals, with the ultimate aim of developing improved treatments for the [degenerative disease](#).

Mutations in presenilin proteins cause inherited forms of Alzheimer's disease, and these proteins also play a major role in the age-related onset of the condition.

However, understanding the role of these proteins is difficult, since cells lacking the proteins are non-viable.

Presenilin proteins have been extensively analysed and animals are commonly used in this research area, but these experiments are problematic since deletion of the proteins in animal cells causes a loss of viability and blocks the development.

"This discovery allows us to examine the role for the human presenilin 1 [protein](#), without the use of animal testing. It is amazing that so simple an organism lends itself to the study of such a complex disease," says Professor Robin Williams from the School of Biological Sciences at Royal Holloway.

"This work on the amoeba *Dictyostelium* shows we can successfully use this simple model to try to better understand the normal roles of other proteins and genes involved in Alzheimer's disease and other forms of neurodegeneration," added Dr Richard Killick from the Institute of Psychiatry King's College London.

Provided by Royal Holloway, University of London

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