

Bipolar research to benefit from sharing of patients' stem cells

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Stem cells from patients with bipolar disorder are being made available to scientists around the world to boost research into the condition.

Experts hope it will lead to better understanding of the disorder and will help develop new treatments.

Researchers led by the University of Edinburgh produced stem cells from [skin cells](#) donated by people with [bipolar disorder](#) as well as members of their family that are unaffected.

The stem cells can be turned into brain cells in the laboratory that have the same genes and characteristics as the brain cells from the person that donated a sample of their skin.

This approach allows scientists to study how bipolar disorder affects brain cells in the laboratory. Experts hope that this will help to reduce, and in part replace, the number of animals that are currently used to study the disease.

The [stem cells](#) will be expanded and banked by collaborators at the UK biotechnology company Roslin Cell Sciences before being made available for research to academic and commercial researchers worldwide. They will be distributed via the new European Bank for induced Pluripotent Stem Cells (EBiSC).

Bipolar disorder is a serious [mental illness](#) characterised by [extreme](#)

[mood swings](#) and bouts of severe depression.

Discovering new treatments for the illness has been hampered by the inability to study what is happening to an affected person's brain cells during their lifetime. Animal studies do not always accurately reflect the disease process in people.

The project was funded by the National Centre for the Replacement, Refinement and Reduction of Animals in Research (NC3Rs) through the CRACK IT Challenge programme, with support from Lilly and Janssen Research & Development as industry sponsors, who are also participating in the EBiSC project.

Professor Andrew McIntosh, of the University of Edinburgh, who led the project, said: "Being able to grow [brain cells](#) from families with bipolar disorder represents a major addition to our research toolbox. It will enable us to discover what goes awry in the brains of people with bipolar disorder and a number of other psychiatric disorders. It will also provide a platform against which new and more effective therapies can be tried, reducing the need for animal experiments."

Roslin Cell Sciences Chief Executive Aidan Courtney said: "The deposit of the cell lines from this project at EBiSC will enable other researchers to gain access to samples to undertake further research into this disease area. This is exactly what EBiSC was set up to achieve."

Dr Cathy Vickers, acting Head of Innovation at the NC3Rs said: "Making the cells available to the wider research community through EBiSC will maximise the scientific and 3Rs benefits of the cells and the knowledge generated from this CRACK IT Challenge."

Provided by University of Edinburgh

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