

# Researchers establish scientific link between acne treatment and depression

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A drug commonly used to treat severe acne can lead to depressive behaviour in mice, according to research published in the journal *Neuropsychopharmacology*.

Since the drug's introduction in the early 1980s there have been controversial reports of depression and suicidal behaviour that may have occurred in some people taking Roaccutane.

This has led to the drug's manufacturers, Roche, including a warning in the product information that taking the medication may cause depression, psychosis and suicidal behaviour.

However, the chemical mechanism by which this might happen has never been established.

In new independent research, scientists at the universities of Bath and Texas at Austin gave Roaccutane to mice over a period of six weeks, and then monitored the rodents' behaviour.

They found that whilst there was no change in the physical abilities of the mice, the rodents spent significantly more time immobile in a range of laboratory assessments designed to test their stress responsiveness – suggesting that administration of Roaccutane increases depression-related behaviour in mice.

"Without more research it is difficult to say for sure whether the same

link applies to people taking the drug," said Dr Sarah Bailey from the Department of Pharmacy and Pharmacology at the University of Bath.

"However, establishing a link between the active molecules within the drug and a change in depression-related behaviour, albeit in mice, is an important step forward in our understanding of the effects of this drug in the wider context of brain function.

"To date the only evidence for any link with patients has come from individual case reports and such patient data is complicated by the psychosocial effects of having severe acne.

"This laboratory evidence provides a useful model for future research into Roaccutane and understanding how this family of compounds affects the brain."

Roaccutane belongs to a group of medicines called retinoids - vitamin A-related compounds known to affect development of the nervous system. For this reason Roaccutane is not prescribed to pregnant women.

"Previously scientists thought that retinoids were only important in the development of the nervous system. Now there is a growing interest in retinoids as regulators of different aspects of brain function in adults," said Dr Bailey.

"While our research is the first to demonstrate that retinoids are capable of influencing depression-related behaviours, these compounds may also play a role in the pathology of Alzheimer's disease and schizophrenia".

This research was conducted through a collaboration between Dr. Sarah Bailey (Department of Pharmacy and Pharmacology, University of Bath) and Dr. Michelle Lane (Department of Human Ecology, Division of Nutritional Sciences, at the University of Texas at Austin) and funded by

the University of Texas at Austin.

Source: University of Bath

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