

African plant extract offers new hope for Alzheimer's

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Diagram of the brain of a person with Alzheimer's Disease. Credit: Wikipedia/public domain.

A plant extract used for centuries in traditional medicine in Nigeria could form the basis of a new drug to treat Alzheimer's disease, researchers at The University of Nottingham have found.

Their study, published in the journal *Pharmaceutical Biology*, has shown that the extract taken from the leaves, stem and roots of *Carpolobia lutea*, could help to protect [chemical messengers](#) in the brain which play a vital role in functions including memory and learning.

The tree extract could pave the way for [new drugs](#) to tackle patient

symptoms but without the unwanted side-effects associated with some current treatments.

The study was led by Dr Wayne Carter in the University's Division of Medical Sciences and Graduate Entry Medicine, based at Royal Derby Hospital. He said: "As a population we are living longer, and the number of people with dementia is growing at an alarming rate. Our findings suggest that traditional medicines will provide new chemicals able to temper Alzheimer's [disease](#) progression."

Neurodegenerative diseases represent a huge health burden globally, placing pressure on health services and having a negative impact on the lives of patients and their families.

Researchers and [drug](#) companies are racing to discover new treatments for these disorders and have begun looking to plant extracts as a potential source of [novel drugs](#).

In patients with Alzheimer's disease and other diseases such as Parkinson's disease and myasthenia gravis, the activity of the neurotransmitter acetylcholine, is reduced, leading to problems with memory and attention.

Current drugs - called acetylcholinesterase inhibitors - reduce the normal breakdown of acetylcholine. Extensive research is underway to find new versions of these drugs but with additional beneficial properties.

Carpolobia lutea, known more commonly as cattle stick, is a small shrub or tree found native to Central and West Africa. Herbalists in Nigerian tribes use the essence of the root as an aphrodisiac and the treatment of genitourinary infections, gingivitis, and waist pains.

It has also been reported to possess other anti-inflammatory, anti-

arthritic, antimicrobial, antimalarial, and analgesic properties. This could be particularly important in Alzheimer's disease as there is more evidence emerging that Alzheimer's patients have inflammation in the brain.

The Nottingham study found that the plant was highly effective in preventing the breakdown of acetylcholine but had other beneficial antioxidant properties in fighting free radicals - unstable atoms that can cause damage to cells and contribute to ageing and disease - damage that may be exacerbated in Alzheimer's disease.

More information: Lucky Legbosi Nwidi et al, Anti-acetylcholinesterase activity and antioxidant properties of extracts and fractions of, *Pharmaceutical Biology* (2017). [DOI: 10.1080/13880209.2017.1339283](https://doi.org/10.1080/13880209.2017.1339283)

Provided by University of Nottingham

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