MedicalXpress

Cannabis compound can help cells

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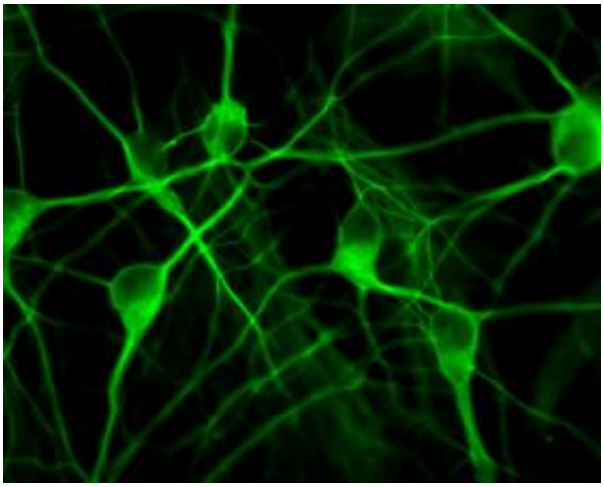

Neurones which have been labelled with a fluorescent marker.

(PhysOrg.com) -- Cannabis has been used recreationally and for medicinal purposes for centuries, yet its 60 plus active components are only partly understood. Now scientists have discovered how a compound in cannabis can help cells to function in our bodies, and aid recovery after a damaging event.

In a paper published in the *Journal of Neuroscience*, the researchers report on their studies into cannabidiol - a naturally occurring molecule found in cannabis.

Also known as CBD, it is not the constituent that gives the high - that compound is called tetrahydrocannabinol or THC - and so may be more

acceptable as a drug treatment.

Both compounds are currently used in a pharmaceutical medicine to help patients relieve pain and other symptoms of Multiple Sclerosis.

Now researchers have discovered how CBD actually works within brain cells.

By interacting with mitochondria - which are the power generators of all cells - it can help maintain normal levels of calcium allowing cells to function properly and providing a greater resistance to damage.

Disturbance of calcium levels has long been associated with a number of brain disorders. So the finding could have implications for the development of new treatments for disorders related to malfunctioning mitochondria.

Dr Bettina Platt, from the University's School of Medical Sciences, said: "Scientists have known for a long time that cannabidiol can help with pain relief but we never really knew how it worked.

"However we have discovered what it actually does at the cellular level.

"We are hoping that our findings can instruct the development of cannabidiol based treatments for disorders related to mitochondrial dysfunction such as Parkinson's disease or Huntington's disease."

Nevertheless, Dr Platt warned that smoking cannabis would not necessarily have the same effect.

"There are different strains of cannabis out there and many no longer contain cannabidiol. In fact, these have been deliberately bred out to enhance the THC content," she said.

"As a result, smoking cannabis would not necessarily have the same beneficial effect, and could even exacerbate neuronal damage."

Provided by University of Aberdeen