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Scottish researchers make breakthrough in preventing **strokes**  
  
  
  
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SCIENTISTS have moved a step closer to preventing fatal **strokes** after discovering how to trigger a built-in defence mechanism in the **brain**.

Researchers from Edinburgh and Dundee have identified a protein that enables the **brain** to keep functioning when it is starved of its blood supply.

The scientists now hope the AMPK protein can be harnessed to **protect** at-risk patients from suffering permanent **brain** damage or death if they suffer a **stroke**.

AMPK is produced naturally to enable the **brain** to keep functioning when supplies of oxygen and glucose are restricted as blood vessels are damaged.

Drugs that trigger the production of AMPK are already in use to treat conditions such as liver disease, but now researchers are examining ways of using it to trigger the **brain's** "defensive process" during **strokes**, which are caused when the blood supply to parts of the **brain** become blocked.

AMPK was first discovered by Professor Graham Hardie of the University of Dundee, who worked in a team with researchers from the Universities of Edinburgh and Leeds.

He said: "There are drugs currently on the market that stimulate AMPK, which are used to treat other conditions.

"In future these and other drugs could be given to at-risk patients to give them a better chance of surviving a **stroke**."

The discovery was yesterday welcomed by health experts, who said that it could eventually lead to a drastic reduction in people being left severely disabled by **strokes**.

Dr Sharlin Ahmed, research liaison officer at The **Stroke** Association, said: "When a **stroke** occurs, the **brain** is starved of oxygen causing **brain** cells to become damaged or die.

This study suggests that **brain** cells could in fact have the potential to naturally **protect** themselves when the blood supply is cut off if a certain defensive process is triggered.

"The findings could help us to understand how we can **protect** **brain** cells when a **stroke** strikes, which could reduce the level of disability that many **stroke** survivors are left with."

AMPK works by making the **brain** operate more slowly when it is deprived of its blood flow, protecting nerves against the effects of depleted oxygen supply.

Mark Evans, professor of cellular pharmacology at the University of Edinburgh led the research.

He said: "Our findings suggest that if **brain** cells run short of energy, they start to work more slowly.

"But it is better to work slowly than not at all."

**Strokes** are the greatest single cause of severe disability in Scotland and the third most common cause of death.

The latest figures provided by charity Chest Heart and **Stroke** Scotland estimate that there are approximately 13,000 new **strokes** in Scotland each year.

Of these approximately 3,000 happen to people who are aged under 65.