

Found: The secret of looking up to 40 years younger is chemical that rewinds the effects of old age and can make you look 20 again

- **Harvard Medical School made the discovery**
- **A protein found in all living cells called NAD could be the key**
- **They are also exploring whether it can be used to treat rare diseases**

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If all you want for Christmas is to be 20 again, it could be possible one day as scientists claim to have found the secret to eternal youth.

Experts believe they may be able to turn back the clock as much as 40 years after identifying a natural compound proven to rewind the effects of old age in mice.

A protein found in all living cells called NAD could be the key to slowing down the ageing process or reversing it altogether.



Harvard: A protein found in all living cells called NAD could be the key to slowing down the ageing process

Tests on two-year-old mice who had been given the NAD-producing compound for just one week had body tissue which resembled that of a six-month old.

Professor David Sinclair, an expert in genetics at Harvard Medical School said: 'In human years, this would be like a 60-year-old converting to a 20-year-old in these specific areas.'

The compound works by restoring communication between energy cells within the body which have broken down as we get older.

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some older people may NOT need medication

Prof Sinclair added: 'The ageing process we discovered is like a married couple - when they are young, they communicate well, but over time, living in close quarters for many years, communication breaks down.

'And just like with a couple, restoring communication solved the problem.

'There's clearly much more work to be done here, but if these results stand, then many aspects of ageing may be reversible if caught early.'



Mice: Tests on two-year-old mice who had been given the compound for one week had tissue which resembled six-month old

His team are now looking at the longer-term outcomes of the NAD-producing compound in mice and how it affects the mouse as a whole.

They are also exploring whether the compound can be used to safely treat rare diseases or more common diseases such as Type 1 and Type 2 diabetes.

Longer term, the professor plans to test if the compound will give mice a healthier, longer life.

Tim Spector, professor of genetic epidemiology at King's College London, said: 'This is an intriguing and exciting finding that some aspects of the ageing process are reversible.'

'It is however a long and tough way to go from these nice mouse experiments to showing real anti-ageing effects in humans without side effects.'

The findings were published in the journal Cell.