Reversing aging in the elderly? Cells derived from skin of old mice show it may be possible

Researchers at Instituto de Medicina Molecular (iMM) João Lobo Antunes have found that manipulating a single RNA molecule is enough to revert cellular ageing.

Throughout time all cells age gradually, contributing to the development of several diseases. Inducing cellular regeneration is one of the strategies used to fight diseases associated with cellular ageing. However, aged cells tend to be highly resistant to any type of manipulation intended to induce regeneration.

Ribonucleic acid, or RNA, is responsible for protein synthesis inside cells. However, a specific type of molecule named non-coding RNA is never translated into protein. In fact, since the mapping of the human genome in 2001 it is known that only about 2% is actually translated into proteins.

Now, the team led by Bruno de Jesus and Maria do Carmo-Fonseca, used a genetically modified mouse model to study cellular ageing and regeneration. They found that cells derived from the skin of old mice produced higher amounts of a long non-coding RNA molecule named Zeb2-NAT when compared to cells from young mice. By reducing the amount of this specific RNA molecule, it was possible to efficiently regenerate old cells.

“These results are an important step to be able to regenerate diseased tissues in older people,” said Bruno de Jesus.

[Editor’s note: Read the full study]

Read full, original post: Scientists discover molecule that could revert cellular aging