

Study: Diabetic Drug Slows Aging

The world's most widely used anti-diabetic drug, metformin, has been shown to slow aging and increase lifespan.

In a new study reported in the *Proceedings of the National Academy of Sciences*, Belgian researchers determined the drug boosts oxygen levels in cells, which in turn increases their vitality and longevity.

The findings, by Belgian doctoral researcher Wouter De Haes, are based on laboratory studies involving roundworms, but investigators believe the mechanisms may be the same for human cells.

"As they age, the worms get smaller, wrinkle up, and become less mobile. But worms treated with metformin show very limited size loss and no wrinkling. They not only age slower, but they also stay healthier longer," said De Haes. "While we should be careful not to over-extrapolate our findings to humans, the study is promising as a foundation for future research."

Other studies involving human patients have shown that metformin suppresses some cancers and heart disease.

De Haes explained that mitochondria—the tiny energy factories in cells—provide the body's cells with energy. Highly reactive oxygen molecules are produced as a byproduct of this process. While high levels of these molecules can damage proteins and DNA, a small dose can actually do the cell good, the new study shows.

"As long as the amount of harmful oxygen molecules released in the cell remains small, it has a positive long-term effect on the cell. Cells use the reactive oxygen particles to their

advantage before they can do any damage,” said De Haes.

“We found that this makes cells stronger and extends their healthy lifespan.”

For the original article, visit .