

Can this San Diego startup mimic exercise and fasting with a pill? Epirium raises \$85M to find out

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A biotech startup in La Jolla has raised \$85 million from notable science investors to investigate its idea for treating age-related diseases: a pill

that mimics the effects of exercise and fasting.

The company, called Epirium Bio, says its scientists have discovered a new human [hormone](#), which, when influenced, can trigger the production of more mitochondria. The depletion of the body's mitochondria—a.k.a. "engines" of cells—is at the core of many age-related human illnesses.

"Until now, the only way we've ever been able to improve [mitochondrial biogenesis](#) is through exercise and fasting," said the company's CEO Russ Cox.

The science emerged from research at UC San Diego, where Epirium's chief scientific officer, George Schreiner, and its chief technology officer, Sundeep Dugar, worked with other UCSD collaborators. At the time, they were studying flavanols, chemicals found in dark chocolate, berries and other foods linked to heart health. As they explored the [biological activity](#) around flavanols, it became clear they were observing a new—and unidentified—hormonal pathway.

The company's leaders believe influencing the hormone, which is still unnamed, will boost the amount and productivity of mitochondria.

"We successfully discovered the hormone, and now have synthesized and produced it," Cox said. The hormone will be named in a soon-to-be-published scientific paper.

To start, Epirium will be tackling rare muscle disorders, such as Duchenne muscular dystrophy, Becker muscular dystrophy and Friedreich's ataxia.

The company's investigational pill has been tested in 110 patients total during Epirium's proof of concept trials. But it hasn't yet entered full-

scale human trials, which are slated to begin early this year.

Down the road, Cox thinks there will be much broader applications in slowing or reversing diseases that stem from aging, such as heart failure, Parkinson's or Alzheimer's.

"A lot of people believe the real effects of this hormone are tied to the heart, the muscle and the brain," Cox said. "But those are long-term goals."

The company has a group of high-profile investors on board. Longitude Capital, ARCH Venture Partners, Bluebird Ventures, Vertex Ventures HC and Adams Street have joined in on the \$85 million round of financing, which closed in December. There's also an investor called Longevity Fund, a group focused on extending human life.

Epirium employs 10 people today at its La Jolla headquarters and plans to add 40 more positions within 12 months. The new jobs will span several departments, from clinical development and operations to office staff.

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