

Take a look at the health influencers clicking up followers on social media these days and you'll start to notice a trend involving some variation of taking cold showers, soaking in special tubs that make the water ice-cold, or diving into freezing bodies of water. While these self-styled health gurus tout the ability of cold-water bathing to do everything from reducing anxiety to helping with depression, actual scientists have discovered something it can do: convert unhealthy white fat cells into healthy brown fat. Now, researchers have figured out how to activate this process chemically with no need to brave frigid water. The discovery could lead to better treatments for diabetes and cardiovascular diseases.

While body fat gets a bad rap overall, brown fat really belongs in its own category . That's because, unlike white fat – the stuff that accumulates on our bellies and thighs, and leads to a wide range of health conditions – brown fat actually helps us lose weight. It does so by burning up sugar and fat molecules in the body to create heat, in a process known as thermogenesis. It's long been known that cold can activate brown fat , but not everyone wants to sit in a chilly bath to get the beneficial effects.

This fact has led scientists to find alternative ways to recruit brown fat cells into action. In 2020, endocrinologist Patrick Rensen and his colleagues figured out that we have a chemical target called a beta2-adrenergic receptor (b2-AR) in our bodies which

can activate brown fat cells. Working with researchers at Leiden University Medical Center in the Netherlands, Rensen was able to take the lab findings and apply them to human volunteers.

He and his team gave 10 volunteers a drug called salbutamol, a b2-RA activator that is typically used to treat asthma. They then watched how brown fat behaved in the body using PET-CT scans. The team saw that after the drug was administered, it dramatically increased the amount of sugar that was consumed by the brown fat cells. When the b2-AR receptor was blocked, the effect vanished.

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