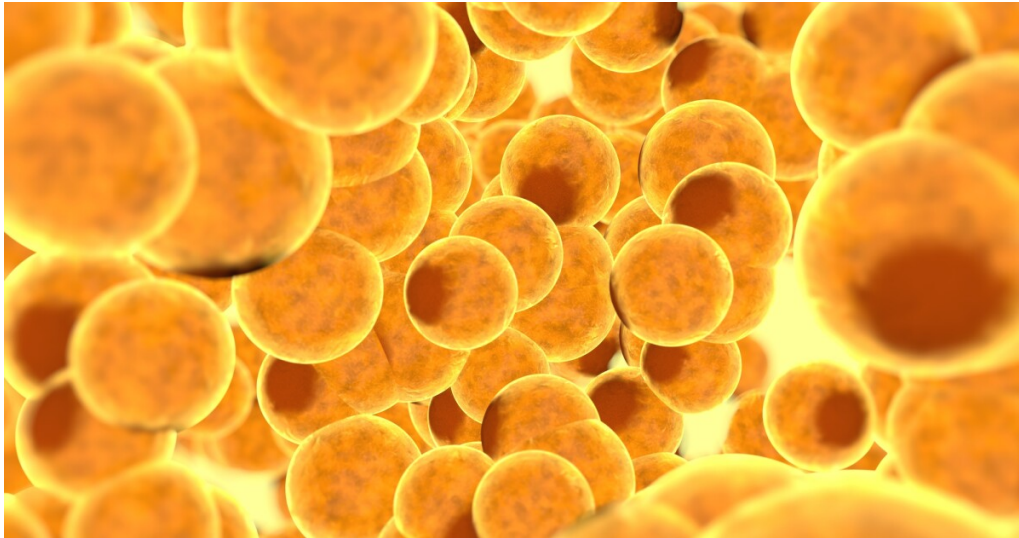


Science

Hydrogel injected into the fat store fights obesity from the inside

kriskaito · 17 hours ago

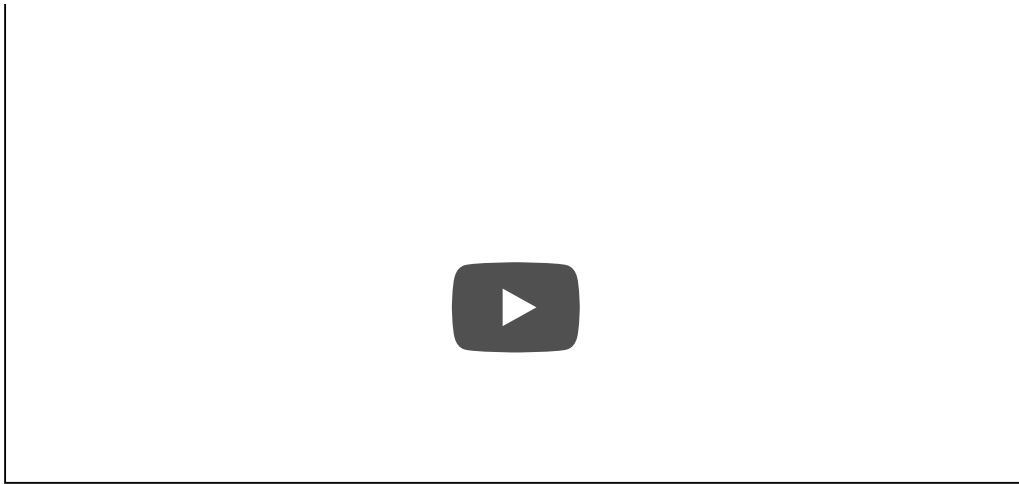


There are many forms of next-generation treatments to combat obesity, but the Nanyang Technological University example, which uses a unique combination of light and metabolic functions to break down fat, has some unique benefits. The team's solution consists of hydrogels that can be injected into fat deposits and exposed to near-infrared light, and obese mice show up to 54% fat loss after treatment.

The function of this new technology relies on a protein called TRPV1 that plays an important role in our metabolism. This protein can trigger the conversion of white fat, which stores excess calories in the belly of beer and the handle of love, into brown fat. This is the type of fat that the body burns quickly for energy and warmth, and therefore [Anti-obesity research](#). The focus is on therapies that can initiate this transformation.

TRPV1 activity also promotes the breakdown of lipid droplets into fatty acids. Fatty acids can be used by the converted brown fat to burn calories, or they can be broken down in the bloodstream through a process called lipolysis. In addition, this protein stimulates hormone secretion, improving glucose and lipid metabolism in the liver and muscles, as well as improving insulin sensitivity.

Researchers have begun developing treatments targeting TRPV1 with hydrogels containing copper sulfide nanoparticles that activate proteins in response to light



NTU Singapore Scientists' New Therapeutic Approach to Obesity Efforts

Source: Nanyang Technological University

<https://newatlas.com/medical/hydrogel-injected-fat-stores-obesity/> Hydrogel injected into the fat store fights obesity from the inside