

# TREATMENT OF OBESITY WITH LIPID NANOPARTICLES THAT INDUCE BROWNING IN WHITE FAT

Tech ID: 33479 / UC Case 2024-101-0

## PATENT STATUS

Patent Pending

## BRIEF DESCRIPTION

Obesity is a leading cause of death in the world and is increasing at an alarming rate. Current surgical and pharmacological interventions have significant problems and new strategies for treating obesity associated diseases are needed. Converting white adipocytes into beige adipocytes has great promise for treating obesity and has the potential to generate an obesity treatment that has minimal side effects and high patient compliance. LNP/siRNA complexes have great potential for generating brown fat from white, but LNPs have not been developed that can transfect white adipocytes.

UC Berkeley researchers have shown that LNPs that contain a certain lipid can transfect adipocytes in vitro and in vivo with siRNAs targeting inhibitors of brown fat formation and can induce weight loss in obese mice and reduce the size of lipid droplets in adipocytes after a subcutaneous injection.

## SUGGESTED USES

» Therapeutic treatment for obesity

## ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- ▶ Small Molecule Endosomal Disruptor for Biotherapeutic Delivery
- ▶ Cholesterol HMPA Block Copolymer Stabilize Lipid Nanoparticles (LNPs)

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## INVENTORS

» Murthy, Niren

## OTHER INFORMATION

### CATEGORIZED AS

- » **Medical**
- » Therapeutics

### RELATED CASES

2024-101-0