

**MitoRx Therapeutics presents promising preclinical data on MTRX31, a mitochondrial-targeted small molecule for metabolically unhealthy obesity, at the American Diabetes Association's 2026 Scientific Sessions**

- *MTRX31 led to a highly significant decrease in fat mass after two-months chronic dosing in a preclinical diet-induced obesity mouse model performed at thermoneutrality*
  - o *Weight loss and reduction of fat deposits in multiple organs (ectopic fat) was observed with MTRX31, comparable to combinations of current modalities (GLP-1RA, GIP, ActR) while improving circulating and tissue metabolic parameters (FFA, TG, HDL/LDL, glucose, insulin)*
  - o *Treatment with MTRX31 improved muscle function and did not lead to lean mass loss*
- *MTRX31 showed superiority to tirzepatide (5nmol/kg) and bimagrumab in the study when administered as a monotherapy*
- *MTRX31 did not affect calorie intake and did not demonstrate the habituation phenomenon observed with tirzepatide or bimagrumab, suggesting a durable impact on weight loss*

**Harwell Oxford, UK – 8 June 2026:** MitoRx Therapeutics (“MitoRx”), a biotech company targeting the restoration of healthy mitochondrial metabolism in high-risk obesity, announces preclinical data for its lead asset, MTRX31, was presented at the American Diabetes Association's 2026 Scientific Sessions (ADA 2026), taking place in New Orleans, Louisiana from 5-8 June.

MTRX31 is a novel small molecule that aims to eliminate ectopic fat from affected organs by resetting mitochondrial function rather than suppressing appetite, restoring healthy mitochondrial metabolism by resetting the balance between fat and carbohydrate oxidation.

The data was generated from a study using a diet-induced obesity (DIO) mouse model and was presented in a poster entitled “*Myo-004 (MTRX31) induces bodyweight loss in DIO at thermoneutrality by switching metabolism from fat to carbohydrate oxidation*” by Xavier Jacq, Chief Scientific Officer of MitoRx Therapeutics.

In the study, MTRX31 led to a highly significant reduction in fat mass after two months of dosing, and decreased abnormal fat build-up in various tissues such as the liver and pancreas (ectopic fat). The degree of this effect was comparable to combinations of current modalities (GLP-1RA, GIP, ActR) while MTRX31 also improved circulating and tissue metabolic parameters as well as insulin sensitivity and glucose tolerance, indicating a broader positive effect on metabolic health than weight loss alone.

In terms of body weight loss, MTRX31 generated a 38.4% reduction in weight (versus vehicle control) while tirzepatide, the dual GLP-1RA/GIP agonist, generated only a 29.7% reduction. The combination of MTRX31 with tirzepatide generated 50.64% body weight loss. In terms of fat loss, MTRX31 is even more impressive and generated 62.2% fat loss versus vehicle as a monotherapy. MTRX31 did not affect calorie intake and did not demonstrate the habituation phenomenon observed with tirzepatide or bimagrumab, suggesting a long-lasting and durable impact on weight loss.

MTRX31 weight loss did not lead to any lean mass loss while tirzepatide displayed some previously reported slight decrease in lean mass. Furthermore, in an acute grip strength evaluation at the end of the two-month treatment period, MTRX31 demonstrated improvements in muscle strength while tirzepatide and bimagrumab did not.

**Xavier Jacq, PhD, Chief Scientific Officer, MitoRx Therapeutics commented:** *“These exciting data demonstrate the potential for MTRX31 to address multiple challenges faced by current obesity treatments. In this study, MTRX31 demonstrated a significant reduction in body weight and ectopic fat deposits, while improving circulating and tissue metabolic parameters, without the lean mass loss often seen with currently available treatments. Further evaluation is ongoing to characterize the benefits provided by MTRX31 and its use for the treatment of metabolically unhealthy obesity.”*

**Jon Rees, PhD, CEO of MitoRx Therapeutics added:** *“Mitochondrial dysfunction and loss of mitochondrial health in obesity is associated with progression into serious diseases such as type 2 diabetes, MAFLD/MASH and atherosclerotic cardiovascular disease. These data, generated in an industry-standard preclinical model, suggests that MTRX31 could provide an alternative mode-of-action to combat metabolically unhealthy obesity at root cause, generating fat-specific weight loss that preserves lean mass and helps prevent serious cardiometabolic comorbidities. We look forward to progressing the program into the clinic in due course.”*

During the course of the two-month study, no adverse effects were observed in monotherapy or in combination with tirzepatide. From a pathology perspective, no observations were detected in any organs examined (heart, liver, pancreas, muscles, white adipose tissue, brown adipose tissue beyond improvements in adiposity. Circulating levels of alanine aminotransferase and aspartate aminotransferase were significantly improved by treatment with MTRX31, reflecting less liver toxicity.

The poster with the full data from the ADA presentation is available on the MitoRx website in the News & Events section.

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### **About MitoRx Therapeutics**

MitoRx is a biotech company targeting the restoration of healthy mitochondrial metabolism in high-risk obesity. This is critical for the 30-40% of patients living with metabolically unhealthy obesity – characterized by visceral adiposity and insulin resistance involving mitochondrial dysfunction – who are at disproportionate risk of metabolic-associated fatty liver disease, metabolic-associated steatohepatitis, type 2 diabetes and atherosclerotic cardiovascular disease.

Our first-in-class small molecule asset, MTRX31, targets the elimination of ectopic fat from affected organs by resetting mitochondrial function rather than suppressing appetite. This has the potential to deliver durable and higher quality weight loss, with implications for lower risk of cardiovascular complications and other serious disease, as well as benefits for body composition and improved quality of life. Preclinical studies showed high-dose MTRX31 driving significant weight loss that outperformed tirzepatide in magnitude, quality and durability after two months of treatment.

Find out more about our work on [LinkedIn](#) or visit our website at [mitorxtherapeutics.com](http://mitorxtherapeutics.com).

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