

Fat-targeting non-viral gene therapeutics for the treatment of obesity and obesity-induced metabolic syndrome

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METABOLIC	Lead
Product Type	Peptoplex : shRNA(plasmid DNA) with Peptide (ATS9R,18mer)
Indication	1st Indication : Obesity, Obesity-induced Type 2 Diabetes 2nd Indication : Obesity-induced Non-Alcoholic Fatty Liver Diseases
Target	White Adipocytes in Visceral Adipose Tissue and Fatty Acid Binding Protein (FABP4 & FABP5) Knockdown
MoA(Mechanism of Action)	Peptoplex targets white adipocytes → Prohibitin mediated endocytosis → Releasing plasmid DNA → Transcription of shRNA(sh(FABP4/5)) → FABP4 & FABP5 knockdown → Inhibition of Lipid Accumulation
Competitiveness	First-in-class 1. ATS9R, a peptide-based non-viral gene delivery system, exhibit excellent adipocyte-specific gene delivery efficiency without toxicity. 2. In obese mice model, continuous knockdown of FABP4 and FABP5 only in white adipose tissue reduces weight and insulin resistance.
Development Stage	Lead
Route of Administration	Parenteral - Subcutaneous (SC)