

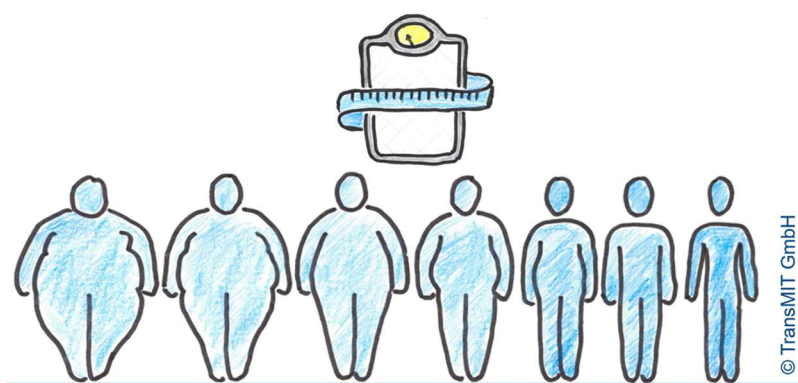
New Approaches to Metabolic Regulation: The Next Generation of GLP-1 Receptor Agonists

Prediabetes, diabetes, metabolic syndrome, obesity

DESCRIPTION OF TECHNOLOGY

GLP-1-based therapies have revolutionized the treatment of obesity and type 2 diabetes. The glucagon-like peptide-1 receptor (GLP-1R) is an established target molecule in this context. To date, nearly all approved therapies targeting this receptor are based on peptides; however, in addition to positive effects such as weight loss and improved blood glucose control, these peptides unfortunately also cause significant side effects, including a short duration of action, gastrointestinal side effects, and an unfavorable liver safety profile. Scientists at the University of Leipzig have developed novel small, non-peptide molecules and a new drug design concept. In particular, one compound undergoes controlled and sustained conversion into its active metabolite in human plasma, a finding confirmed by mass spectrometry and in vitro assays for GLP-1R activity.

This represents a promising approach for the next generation of metabolic therapies.



APPLICATION FIELDS

The areas of application include drug development for the treatment of type 2 diabetes mellitus (T2DM), prediabetes, nonalcoholic steatohepatitis (NASH), liver fibrosis, obesity and long-term chronic weight management, chronic kidney disease, central nervous system disorders - particularly Alzheimer's disease and depression - inflammation, obstructive pulmonary disease, substance use disorders (SUD), and sleep apnea.

AT A GLANCE ...

Application Fields

- Pharmaceuticals
- Medicine
- Therapy

Business

- Pharma
- Medicine
- Diabetology
- Neurology

USP

- New drug design concept
- Patented active ingredients
- Initial positive test results in GLP-1R in-vitro model
- Oral administration
- Fewer adverse side effects
- More favorable liver safety profile

Development Status

- Synthesis of active ingredients
- Published scientific basis
- Experimental evidence in assays

Patent Status

EP priority application, filed on 14.04.2026 at the European Patent Office
PCT-application is planned

ADVANTAGES OVER THE PRIOR ART

The new active ingredients are simple and inexpensive to manufacture; they are highly effective, can be administered orally, and have fewer side effects. They have a more favorable liver safety profile and cause less muscle wasting.

STATE OF THE PRODUCT DEVELOPMENT

Several drug candidates were developed and evaluated using mass spectrometry and the GLP-1R assay. A plan was established for their further development from hit to lead through to preclinical proof of concept. Further validation through in vivo pharmacokinetic and toxicological studies is planned.

MARKET POTENTIAL

The global market for GLP-1 agonists is currently undergoing rapid transformation, driven by several disruptive trends that are reshaping the treatment of diabetes and obesity.

The market for GLP-1 agonists is projected to grow from just under \$64.5 billion in 2025 to approximately \$170 billion in 2033, representing a compound annual growth rate of 13%.

Accounting for about three-quarters of the global market volume, the North American market will hold by far the largest market share in 2024. The high acceptance of GLP-1 medications, as well as the increasing focus of the pipeline on the development of GLP-1 therapies for obesity and diabetes, are key factors contributing to this market segment's significant share. The Asia-Pacific region has recently recorded the highest growth rate. This is attributable to the rapid rise in diabetes and obesity rates, as well as strong demand for effective treatments.

The next generation of metabolic therapies is therefore predicted to have very significant market potential.

COOPERATION OPPORTUNITIES

On behalf of the University of Leipzig, TransMIT GmbH is seeking partners from the pharmaceutical or biotech industries to jointly advance this promising therapeutic approach. The company is looking for partners for licensing, joint product development, clinical validation, or market launch in Germany, Europe, the U.S., and Asia.

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