

## ANTI-OBESITY DRUGS

Recent advancements in obesity treatment have been marked by the introduction of drugs like semaglutide and tirzepatide (sold as Ozempic and Wegovy by the Danish company Novo Nordisk). These medications have shown remarkable results in clinical studies, with participants losing up to 21% of their body weight. Additionally, semaglutide has been recognized for its ability to significantly reduce the risk of serious heart issues, a development that experts have hailed as a major breakthrough. However, with the increasing popularity of these drugs, there is a heightened focus on examining their possible adverse effects. Early this month, researchers presented findings related to gastrointestinal issues and the reduction in muscle mass that may be associated with these treatments.

### Questions

1. Summary : describe the primary benefits and concerns associated with the new anti-obesity drugs semaglutide and tirzepatide. What are the potential side effects that researchers are investigating?

2. Production Method Exploration: How are complex drugs like semaglutide and tirzepatide likely produced, considering they aren't simple chemical compounds? Hint: Think about methods that involve living organisms.

3. Generic vs. Biosimilar Distinction: Given that these drugs are complex molecules, why might it be challenging to produce exact replicas (or "generics") of them once their patents expire? How do the alternative versions differ from traditional generic drugs?

4. Regulatory Approval: Considering the inherent variability in biological production systems, how might the approval process for complex drugs like these differ from that of traditional small-molecule drugs? What might the FDA focus on when evaluating these new versions compared to the originals?