# Technical Data Sheet

## InVivoSIM GIPR/GLP-1R Dual Agonist (Tirzepatide Biosimilar)

**Attention: Use of this product constitutes an agreement to Bio X Cell's Terms and Conditions which are included with this product in print and can also be found at https://bioxcell.com/terms-and-conditions.**

## Lot Specific Information

**Lot Number:** **Lot Specific***
**Volume:** **Lot Specific***
**Concentration:** **Lot Specific* (generally 4 to 11 mg/ml) ***
**Total Protein:** **Lot Specific***

*This information will be noted on the certificate of analysis that ships with this product.

## Product Information

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|---|---|
| **Catalog Number:** | **SIM0083** |
| **Clone:** | **N/A** |
| **Recommended Dilution Buffer:** | InVivoPure pH 7.0 Dilution Buffer |
| **Reported Applications:** | *in vitro* functional assays<br>*in vivo* functional assays<br>*ex vivo* functional assays |
| **Formulation:** | PBS, pH 7.0<br>Contains no stabilizers or preservatives |
| **Endotoxin:** | <0.5EU/mg (<0.0005EU/µg)<br>Determined by LAL gel clotting assay |
| **Purity:** | >95%<br>Determined by HPLC |
| **Sterility:** | 0.2 µm filtration |
| **Production:** | Purified from cell culture supernatant in an animal-free facility |
| **Aggregation:** | <5%<br>Determined by SEC |
| **RRID:** | |
| **Molecular Weight:** | 4.81 |

## Murine Pathogen Test Results

Mouse Norovirus: Negative, Mouse Parvovirus: Negative, Mouse Minute Virus: Negative, Mouse Hepatitis Virus: Negative, Reovirus Screen: Negative, Lymphocytic Choriomeningitis virus: Negative, Lactate Dehydrogenase-Elevating Virus: Negative, Mouse Rotavirus: Negative, Theiler's Murine Encephalomyelitis: Negative, Ectromelia/Mousepox Virus: Negative, Hantavirus: Negative, Polyoma Virus: Negative, Mouse Adenovirus: Negative, Sendai Virus: Negative, Mycoplasma Pulmonis: Negative, Pneumonia Virus of Mice: Negative, Mouse Cytomegalovirus: Negative, K Virus: Negative

## Description

This research-grade Tirzepatide biosimilar is a long-acting dual agonist of the glucose-dependent insulinotropic polypeptide receptor (GIPR) and the glucagon-like peptide-1 receptor (GLP-1R). Tirzepatide is a synthetic 39-amino acid peptide designed to mimic the native GIP hormone but chemically modified with a C20 fatty diacid moiety to enhance half-life and stability. By selectively activating both GIP and GLP-1 receptors, key incretin receptors expressed on pancreatic beta cells and hypothalamic neurons, tirzepatide stimulates insulin secretion, suppresses glucagon, slows gastric emptying, and reduces appetite, resulting in lower blood glucose and body weight. In experimental research, tirzepatide has demonstrated potent glucose-lowering activity, enhanced insulin sensitivity, and appetite regulation. It has been used in models of type 2 diabetes (T2D) and is also being studied for its effects on cardiovascular health, chronic kidney disease (CKD), Alzheimer's disease, metabolic dysfunction-associated nonalcoholic steatohepatitis disease (MASLD), and obstructive sleep apnea (OSA). This tirzepatide biosimilar is ideal for investigating GIPR/GLP-1R signaling, metabolic hormone synergy, and incretin biology in disease-relevant models.

## Storage

Store at the stock concentration at 4°C . **Do not freeze.**
It is not uncommon for a floccule or precipitate to appear during storage. The floccule is typically buffer salts precipitating out of solution or a small bit of protein aggregation. For information on how to remove floccules or precipitates see our FAQ's at https://bioxcell.com/faqs.

## Protocol Information

Since applications vary, each investigator should use the application references as a guide to help estimate the appropriate dose or concentration. The dose or concentration can be further optimized experimentally in a dose response or titration experiment.

## Application References

For a complete list of references, visit https://bioxcell.com/sim0083?bxcs=9k1b3a#tab_references or scan the QR code below.

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