Technical Data Sheet

InVivoSIM GLP-1 Receptor Agonist (Semaglutide 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

Catalog Number:	**SIM0082**
Clone:	**N/A**
Recommended Dilution Buffer:	InVivoPure pH 7.0 Dilution Buffer
Reported Applications:	*in vitro* functional assays *in vivo* functional assays *in vitro* Organoids/Organ-On-Chip
Formulation:	PBS, pH 7.0 Contains no stabilizers or preservatives
Endotoxin:	≤1EU/mg (≤0.001EU/µg) Determined by LAL gel clotting assay
Purity:	≥95% Determined by SDS-PAGE
Sterility:	0.2 µm filtration
Production:	Purified from cell culture supernatant in an animal-free facility
Aggregation:	<5% Determined by SEC
RRID:	
Molecular Weight:	4.1

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

Semaglutide is a recombinant glucagon-like peptide-1 (GLP-1) analog useful for studies on metabolic disorders, especially type 2 diabetes mellitus (T2DM) and related conditions. Semaglutide is a 31-amino-acid polypeptide with 94% sequence homology to endogenous human GLP-1 (amino acids 7-37). The minor difference in amino acid sequence, along with other structural modifications, extends the half-life of this peptide by making it resistant to dipeptidyl peptidase 4 (DPP4)-mediated peptide degradation. Semaglutide has emerged as a novel long-acting agonist of the GLP-1 receptor (GLP-1R), a GPCR that plays a key role in regulating glucose homeostasis, insulin secretion, gastric emptying, and satiety. Binding of GLP-1 or its analogs to GLP-1R activates adenylyl cyclase, increasing intracellular cAMP levels and triggering insulin release in a glucose-dependent manner. Through this mechanism, semaglutide enhances insulin secretion when glucose levels are elevated, reduces glucagon secretion, and delays gastric emptying, thereby lowering postprandial glucose levels. Semaglutide exerts potent hypoglycemic effects, reduces glycosylated hemoglobin (HbA1c) levels, improves liver function, and offers anti-obesity activity. Moreover, semaglutide influences neural pathways to negatively regulate appetite and offers neuroprotection. The in vitro as well as in vivo use of semaglutide has been reported in several preclinical experiments,

especially in T2DM and metabolic syndrome.

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/sim0082?bxcs=9k1b3a#tab_references or scan the QR code below.

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