



DALIAN HANDOM CHEMICALS CO.,LTD.

Add.: RM702, Unit 1, Building 21, Liuhe Road, Ganjingzi Dist, Dalian, Liaoning, China
E-mail: info@handom-chem.com Web.: www.handom-chem.com

Certificate of Analysis

Invoice Number: 23HDC/INV140

Date: Dec. 4th, 2023

Product Name		Semaglutide	CAS No.	910463-68-2
Molecular Formula		C ₁₈₇ H ₂₉₁ N ₄₅ O ₅₉	Molecular Weight	4113.58
Sequence		His-Aib-Glu-Gly-Thr-Phe-Thr-Ser-Asp-Val-Ser-Ser-Tyr-Leu-Glu-Gly-Gln-Ala-Ala-N6-[N-(17-carboxy-1-oxoheptadecyl-L-γ-glutamyl)[2-(2-aminoethoxy)ethoxy]acetyl[2-2-aminoethoxy)ethoxy]acetyl]-Lys-Glu-Phe-Ile-Ala-Trp-Leu-Val-Arg-Gly-Arg-Gly-OH		
Batch No.		HDC20231121	Batch Quantity	35.00g
Mfg. Date		Nov 21 st , 2023	Retest Date	Nov 20 th , 2026
Test Items		Specifications		Test Results
Appearance		White or off-white powder		White powder
Solubility		Freely soluble in water; Firstly, to add freshly boiled and cooled water to make a clear solution containing 0.15mg of semaglutide in 1ml. Then, to adjust the pH of the solution to 5.5 with 0.05M hydrochloric acid and keep for 30 seconds. Finally, to adjust the pH of the solution to 3.0 and keep 30 seconds. The solution should be turbid in the range of pH 3.0 to 5.5.		Conforms
Identification	HPLC	As obtained in the Assay, the difference between the retention time of the major peak of the sample solution and the reference solution should be less than 1 minute.		Conforms
	Peptide Mapping	Peptide mapping of sample solution is similar to that of reference solution.		Conforms
	N-terminal amino acid sequence	His-Aib-Glu-Gly-Thr-Phe-Thr-Ser-Asp-Val-Ser-Ser-Tyr-Leu-Glu		Conforms
pH Value		7.0 ~ 8.0		7.5
Water Content (K. F)		Not more than 8.0%		5.5%
Related Substances		Hydrophilic Impurities	NMT 1.5%	0.6%
		Hydrophobic Impurities 1	NMT 1.0%	0.5%
		Hydrophobic Impurities 2	NMT 0.2%	Not detected
		Total Impurities	NMT 2.0%	1.1%
High Molecular Weight Proteins		Not more than 0.2%		0.1%
Residual Solvents		Ethanol	NMT 0.5%	0.1%
		Acetonitrile	NMT 0.041%	0.026%
		Dichloromethane	NMT 0.06%	Not detected
Biological Activity		Should be 0.7U ~ 1.3U per 1mg		0.8U/mg
Residual Host Cell Protein		Not more than 100ng/mg		7ng/mg

Address: RM702, Unit 1, Building 21, Liuhe Road, Ganjingzi Dist, Dalian, Liaoning, China
E-mail: info@handom-chem.com

大连汉德姆精细化工有限公司
DALIAN HANDOM CHEMICALS CO., LTD.
Tel.: 86-411-8495 1600
Website: www.handom-chem.com

丁波



DALIAN HANDOM CHEMICALS CO.,LTD.

Add.: RM702, Unit 1, Building 21, Liuhe Road, Ganjingzi Dist, Dalian, Liaoning, China
E-mail: info@handom-chem.com Web.: www.handom-chem.com

Certificate of Analysis

Invoice Number: 23HDC/INV140

Date: Dec. 4th, 2023

Product Name	Semaglutide	CAS No.	910463-68-2
Molecular Formula	C ₁₈₇ H ₂₉₁ N ₄₅ O ₅₉	Molecular Weight	4113.58
Sequence	His-Aib-Glu-Gly-Thr-Phe-Thr-Ser-Asp-Val-Ser-Ser-Tyr-Leu-Glu-Gly-Gln-Ala-Ala-N ₆ -[N-(17-carboxy-1-oxoheptadecyl-L-γ-glutamyl[2-(2-aminoethoxy)ethoxy]acetyl[2-2-aminoethoxy]ethoxy]acetyl]-Lys-Glu-Phe-Ile-Ala-Trp-Leu-Val-Arg-Gly-Arg-Gly-OH		
Batch No.	HDC20231121	Batch Quantity	35.00g
Mfg. Date	Nov 21 st , 2023	Retest Date	Nov 20 th , 2026
Test Items	Specifications		Test Results
Residual Host Cell DNA	Not more than 10ng/mg		<1.25ng/mg
Bacterial Endotoxins	Not more than 10EU/mg		Conforms
Microbial Limits	Total Aerobic Microbial Count	NMT 100CFU/g	Conforms
	Total Yeasts and Moulds Count	NMT 100CFU/g	Conforms
Assay(C ₁₈₇ H ₂₉₁ N ₄₅ O ₅₉)	Containing Semaglutide 0.76mg ~ 1.00mg per 1mg		0.88mg/mg
Conclusion	The testing results of this batch are complied with the Enterprise Standard.		

Storage Conditions: Preserved in unopened original containers at a temperature of -20±5°C for long-term storage; kept away from direct sunlight, heat and moisture.

Remark: This product was prepared by chemical synthesis. For research and development use only, not for human use.

大连汉德姆精细化学品有限公司
DALIAN HANDOM CHEMICALS CO., LTD.

于淑江