

CERTIFICATE OF ANALYSIS

Product Name	Tirzepatide (LY3298176) peptide (TFA removed), Cat.#: 318942
Lot No.	GTA34823-1214
Sequence	Tyr- {Aib}-Glu-Gly-Thr-Phe-Thr-Ser-Asp-Tyr-Ser-Ile- {Aib}-Leu- Asp-Lys-Ile-Ala-Gln- {diacid-C20-gamma-Glu-(AEEA)2-Lys}-Ala- Phe-Val-Gln-Trp-Leu-Ile-Ala-Gly-Gly-Pro-Ser-Ser-Gly-Ala-Pro-Pro- Pro-Ser-NH2
Dissolution condition	15%ACN+85%H2O
Length	39AA
Modification	TFA removed
Molecular Weight (MW)	4813.45
Storage	-20°C

Test Items	Specifications	Results
MW by MS	4813.65	Conforms
Purity by HPLC	>95%	95.173%
Peptide Content	N/A	N/A
Moisture content	N/A	N/A
Acetic acid content	N/A	N/A
Appearance	White to off-white lyophilized powder	Conforms
Quantity	500mg	5.0mg*100

NovoPro Bioscience Inc. (hereafter NovoPro) warrants material of said quality at the time of sale. It is the sole responsibility of the customers to determine the adequacy of all materials for any intended or specific purpose or use. NovoPro's sole obligation is to replace the material up to the extent of the purchase price. This warranty applies only to products in original packaging and does not apply to a product which has been tampered with or altered in any way in or which has been misused or damaged by accident or negligence. All claims must be received writing (by fax or email) within 30 days from date when product arrive at the destination city and failure to do so shall constitute a waiver by customers for any and all such claims.

Certified by:



Quality Assurance Department

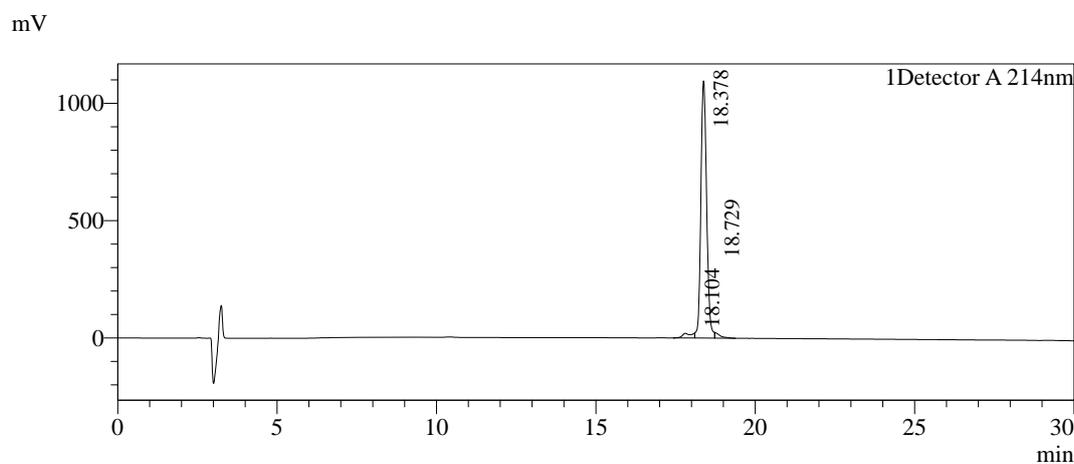
Dec/20/2022



Sample Information

Order ID :GTA34823
 Name :Tirzepatide
 Sequence :Tyr-{Aib}-Glu-Gly-Thr-Phe-Thr-Ser-Asp-Tyr-Ser-Ile
 -{Aib}-Leu-Asp-Lys-Ile-Ala-Gln-{diacid-C20-gamma-
 Glu-(AEEA)2-Lys}-Ala-Phe-Val-Gln-Trp-Leu-Ile-Ala-
 Gly-Gly-Pro-Ser-Ser-Gly-Ala-Pro-Pro-Pro-Ser-NH2
 Lot. No :GTA34823-1214
 Pump A :0.1% Trifluoroacetic in 100% water
 Pump B :0.1% Trifluoroacetic in 100% acetonitrile
 Total Flow :1ml/min
 Wavelength :214nm
 Analytical column type :YMC-Triart C18(4.6*250mm*5um)
 Dissolution method :15% ACN+85% H2O
 Inj. Volume : 25ul
 Time Module Action Value
 0.01 Pumps B.Conc 40
 30.00 Pumps B.Conc 70
 33.00 Pumps B.Conc 100
 38.00 Pumps B.Conc 100
 40.00 Pumps B.Conc 40
 50.00 Controller Stop

Chromatogram

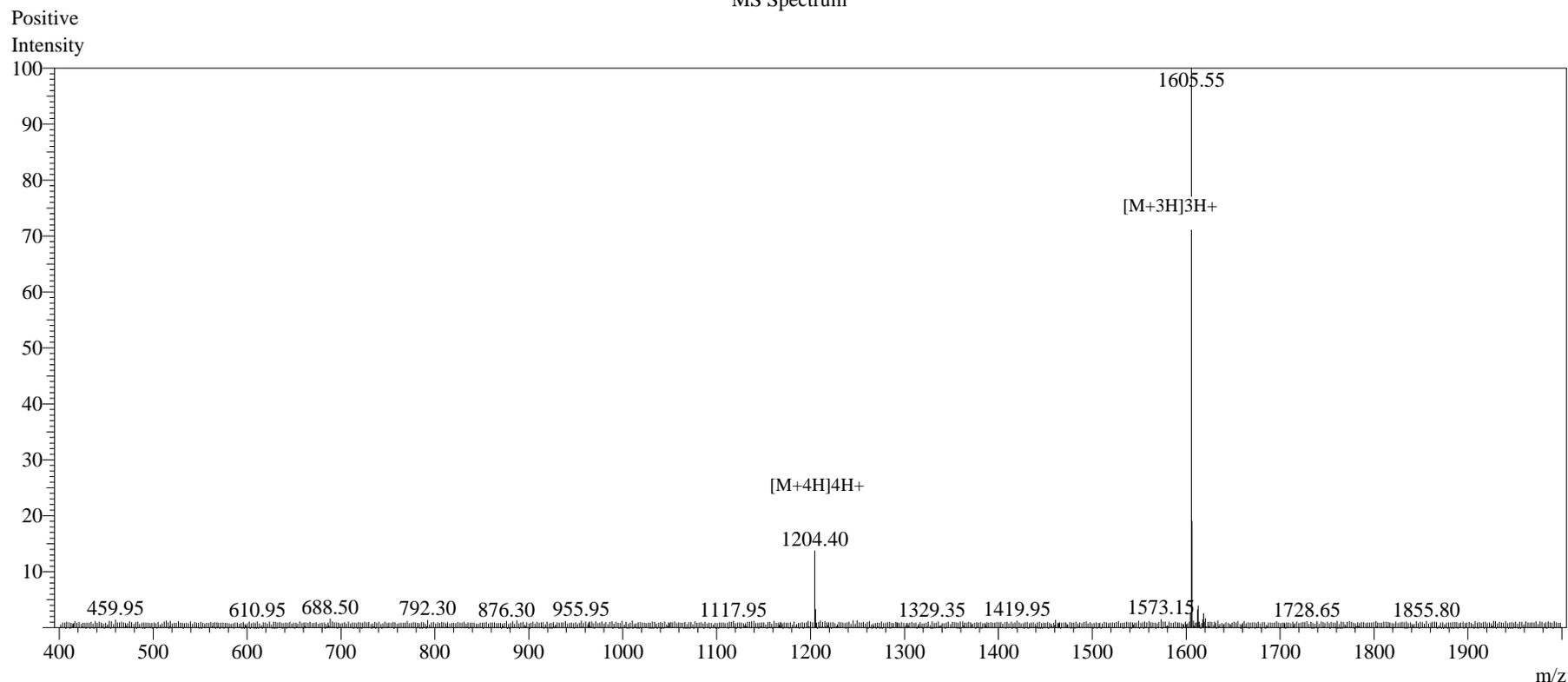


Peak Table

Detector A 214nm

Peak#	Ret. Time	Area	Height	Area%
1	18.104	428175	21488	2.956
2	18.378	13783584	1096549	95.173
3	18.729	270968	24169	1.871
Total		14482727	1142206	100.000

MS Spectrum



Sample Information

Dissolution method	:15% ACN+85% H2O	Interface	:ESI	Prerod Bias	:+4.5kv
Date Acquired	:2022/12/19 16:28:48	Nebulizing Gas Flow	:1.50L/min	Detector	:-0.2kv
Injection Volume	:0.2ul	CDL Temp	:250C	T.Flow	:0.2ml/min
Block Temp	:200	CDL Volt	:0v	B.conc	:50% H2O/50% MEOH

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Lot.No	:GTA34823-1214
Theoretical	:4813.45
Observed	:4813.65

Instructions for dissolving tirzepatide peptide

The best solution for tirzepatide is acetonitrile (ACN), NovoPro suggests applying 15% ACN and 85% ultrapure water to reach a concentration of 5 mg/ml. The steps are as below:

1. Add 150 ul ACN to the 5 mg tube of tirzepatide;
2. Pipette the solution a few times until it is fully dissolved;
3. Slowly add 850 ul ultrapure water to the 150 ul ACN solution;
4. Use a sterile 0.22 μ m membrane filter for particulate-free and bacteria-free tirzepatide solution.

If ACN is not applicable, the tirzepatide is also soluble in 100% H₂O or 1xPBS. The maximum concentration is 0.5 mg/ml. The steps are as below:

1. Adding 1.0 ml ultrapure water to the 5 mg tube of tirzepatide;
2. Pipette the solution a few times, and transfer solution to a larger tube, such as a 15 ml one. Then add 9.0 ml ultrapure to make a 10.0 ml solution. It should be unclear at this stage;
3. Wait about 2 hours at room temperature until the solution is clear, which indicates the peptide is fully dissolved;
4. Use a sterile 0.22 μ m membrane filter for particulate-free and bacteria-free tirzepatide solution.