

## CERTIFICATE OF ANALYSIS

Product Name	β-Endorphin 1-31 (bovine, camel, mouse), Cat.#: 307123 (TFA removed)
Lot No.	MTFA32190-1206
Sequence	YGGFMTSEKSQTPLVTLFKNAIIKNAHKKGQ (Acetate Salt)
Dissolution condition	100%H <sub>2</sub> O
Length	31AA
Modification	acetate salt
Molecular Weight (MW)	3437.99
Storage	-20°C

Test Items	Specifications	Results
MW by MS Purity	3438.60	Conforms
by HPLC Peptide	>95%	97.978%
content Moisture	N/A	N/A
content Acetic acid	N/A	N/A
content	N/A	N/A
Appearance	White to off-white lyophilized powder	Conforms
Quantity	10mg	5.0mg*2

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/10/2024

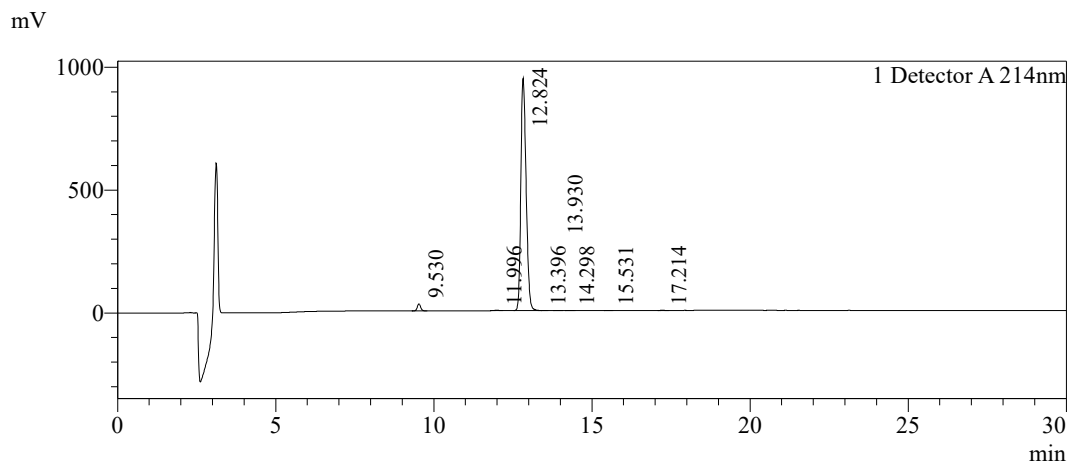


### Sample Information

Order ID :MTFA32190  
 Name : $\beta$ -Endorphin 1-31  
 Sequence :YGGFMTSEKSTPLVTLFKNAIIKNAHKKGQ (Acetate Salt)  
 Lot. No :MTFA32190-1206  
 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 :Kromasil 100-5-C18 (4.6\*250mm\*5  $\mu$ m)  
 Dissolution method :100%H<sub>2</sub>O  
 Inj. Volume : 25ul  

Time	Module	Action	Value
0.01	Pumps	B.Conc	25
30.00	Pumps	B.Conc	55
33.00	Pumps	B.Conc	100
38.00	Pumps	B.Conc	100
40.00	Pumps	B.Conc	25
50.00	Controller	Stop	

### Chromatogram

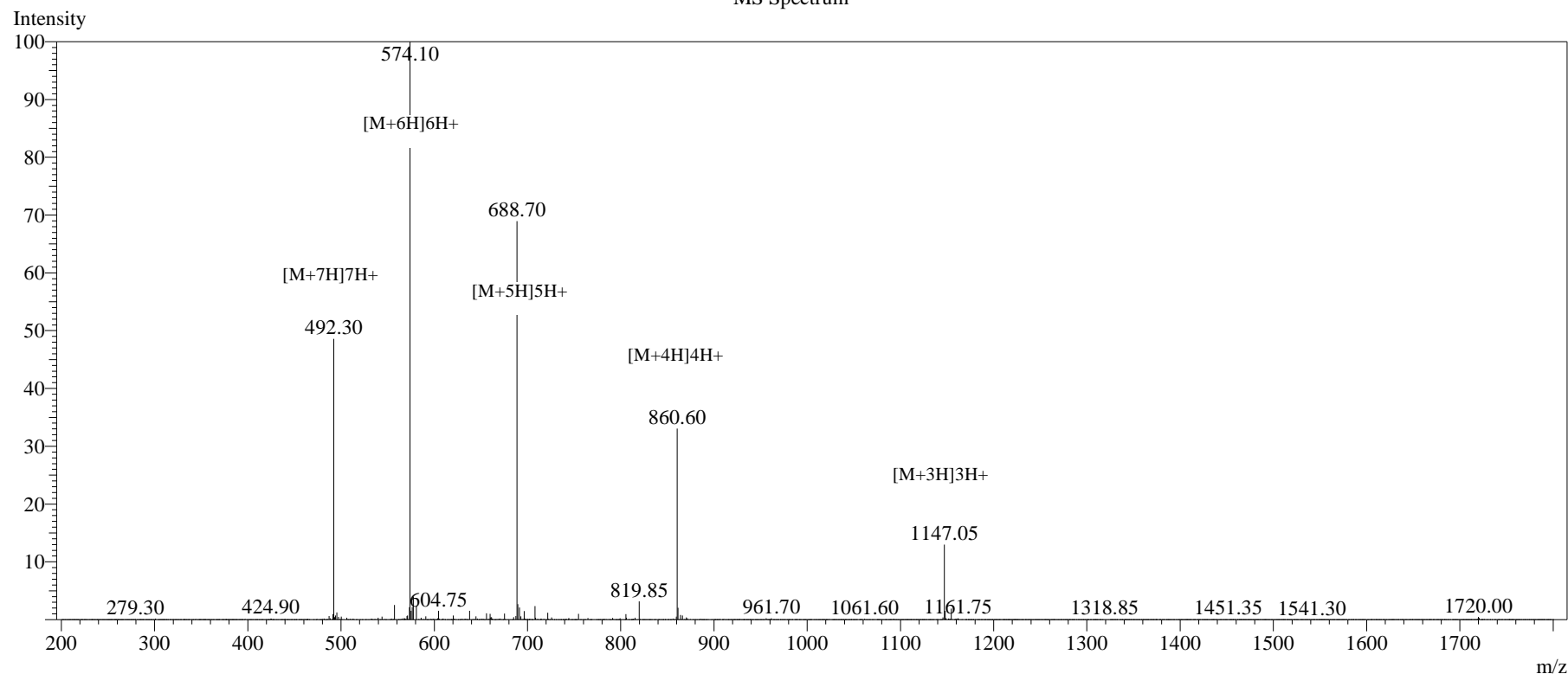


### Peak Table

Detector A 214nm

Peak#	Ret. Time	Area	Height	Area%
1	9.530	202413	28217	1.809
2	11.996	15093	1512	0.135
3	12.824	10964550	945332	97.978
4	13.396	1655	300	0.015
5	13.930	1892	199	0.017
6	14.298	2509	292	0.022
7	15.531	1092	117	0.010
8	17.214	1669	141	0.015
Total		11190872	976110	100.000

# MS Spectrum



## Sample Information

Dissolution method	:15% ACN+85% H <sub>2</sub> O	Interface	:ESI	Prerod Bias	:+4.5kv
Date Acquired	:2024/12/09 11:03:43	Nebulizing Gas Flow	:1.50L/min	Detector	:-0.2kv
Injection Volume	:0.2ul	CDL Temp	:250°C	T.Flow	:0.2ml/min
Block Temp	:200	CDL Volt	:0v	B.conc	:50% H <sub>2</sub> O/50% ME OH
Order ID	:MTFA32190				
Name	:β-Endorphin 1-31				
Sequence	:YGGFMTSEKSQTPLVTLFKNAIIKNAHKKGQ (Acetate Salt)				
Lot.No	:MTFA32190-1206				
Theoretical	:3437.99				
Observed	:3438.60				