

Certificate of Analysis




Verification Key: J72ZUC8KNVR5

PEPTIDE TEST



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For Informed Decisions
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Compound:	Tirzepatide	Analysis Date:	08-Aug-2024
CAS:	2023788-19-2	Client:	
Manufacturer:	Zhaobo Biotechnology		
Client Sample ID:	Red Smooth Opaque Cap, Silver Crimp		
Lot:	TZ 30mg 1 vial	Test Reference:	2408007
Photo of Sample:			

Sample Testing	Test Method	Range / Cutoff	Result
Vacuum Test	N/A	N/A	Vacuum Present
Sample Mass (mg)	TM-1001	N/A	37.41mg
Compound Purity	TM-1001	N/A	99.576%
Identification by Retention Time	TM-1001	0.98 - 1.02	1.01
Identification by UV Spectral Comparison to Reference Standard	TM-1001	≥ 950	999

- Sample Mass: This is the amount of the compound in the vial we tested determined by HPLC analysis.
- Compound Purity: This is purity of the sample, calculated including peaks around the compound that may be impurities.
- Identification by Retention Time: This is an identification test in which the retention time of the sample is compared to the average retention time of five reference standard injections.
- Identification by UV Spectral Comparison to Reference Standard: This is an identification test in which the UV spectrum of the sample is compared to the UV spectrum of the standard.

Certificate of Analysis

Testing System Suitability	Test Method	Acceptance Criteria	Result
HPLC Control Value	TM-1001	Standard Bracket Area RSD \leq 2.0%	0.1%
Coelution Control Value	TM-1001	> 950	999

- HPLC Control Value: This value shows that the HPLC system was running properly throughout your testing. The %RSD of the standard injections performed before your sample and the standard injection performed after your sample is calculated to ensure there were no system errors during your run. Although system errors such as leaks, a line running dry, air bubbles, etc. are rare, it's important that we demonstrate no errors occurred during analysis.
- Coelution Control Value: **NOTE:** This value is not purity of the compound - the peak is pure compound as it was separated out by the HPLC. This value demonstrates that there is no co-elution occurring during analysis. We receive samples from a multitude of manufacturers and each has their own recipe (stabilizers, solubilizers, fillers, etc) in their process. This measurement ensures that none of these other components interfere with the analysis. In short, this number confirms that the method is working properly and only analyzing the target compound.

Important Analytical Information Notice

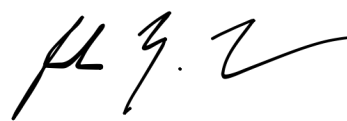
The analytical results detailed herein pertain solely to the presence of the specified compounds in the samples as submitted. These results are generated by our independent partner laboratory. It is acknowledged that all prepared lyophilized peptide products and any other tested material may include stabilizers, solubilizers, fillers, and other excipients and ingredients, which are not tested for unless explicitly noted in the testing agreement and this Certificate of Analysis (COA). The results provided do not imply suitability for any specific use or purpose, and testing is limited to the listed compounds unless noted herein. Clients and other users are advised that the responsibility for determining the applicability of these results for any use rests entirely with them. It is imperative that any users of this information consult with a physician prior to using any peptide or other compound. Peptides or other compounds sold for "research purposes" may not be suitable for human use. Any liability for the provided analytical results is confined to the procedural adherence of our partner laboratory to recognized professional standards during the testing process.

Created By:



Ashlee Lust 09-Aug-2024

Reviewed By:



Joshua Lust 09-Aug-2024

Sample Potency and ID Report



Sequence Name 1001_aml_080824

Sequence Acquired Date 2024-08-08 11:32:37-04:00

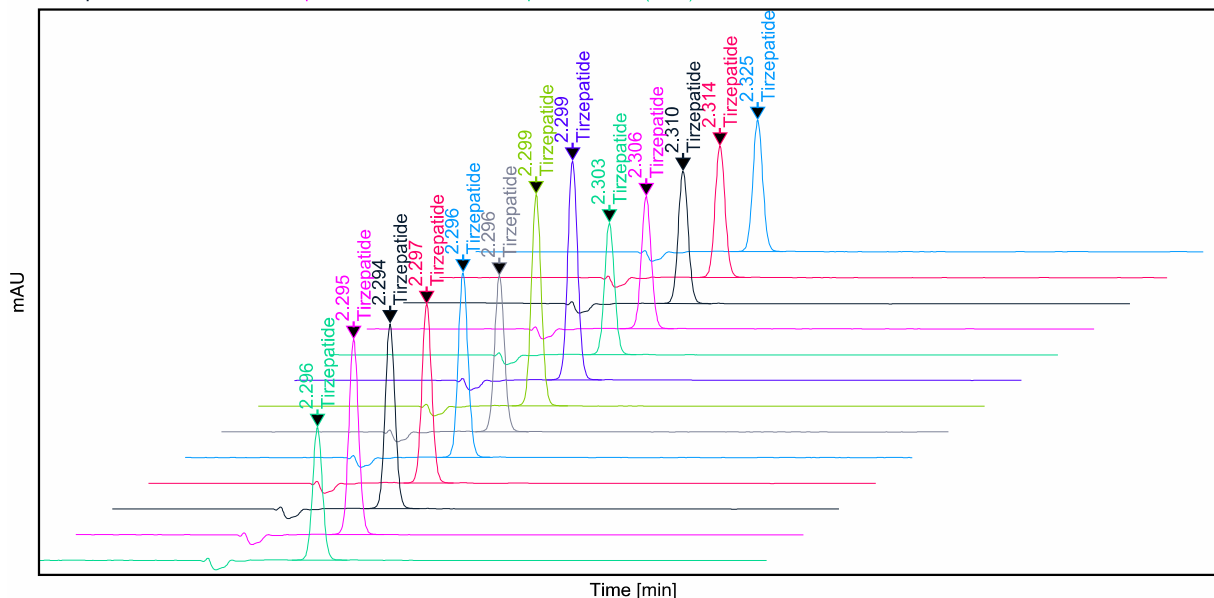
Tirzepatide Std - 1
Sample ID 2407058
Sample ID 2408019

Tirzepatide Std - 2
Sample ID 2408007
Sample ID 2408022

Tirzepatide Std - 3
Sample ID 2408010
Tirzepatide Std - 6 (SSC)

Tirzepatide Std - 4
Sample ID 2408012

Tirzepatide Std - 5
Sample ID 2408016



Sample Name	Name	RT	Area	Amount	Unit	Sample Multipliers	UV Match Factor	Peak Purity
Tirzepatide Std - 1	Tirzepatide	2.325	95.308	9.38	%	1;1;1;1;1	1000	1000
Tirzepatide Std - 2	Tirzepatide	2.314	95.602	9.40	%	1;1;1;1;1	1000	1000
Tirzepatide Std - 3	Tirzepatide	2.310	95.571	9.39	%	1;1;1;1;1	1000	1000
Tirzepatide Std - 4	Tirzepatide	2.306	95.611	9.39	%	1;1;1;1;1	1000	1000
Tirzepatide Std - 5	Tirzepatide	2.303	95.458	9.38	%	1;1;1;1;1	1000	1000
Sample ID 2407058	Tirzepatide	2.299	158.321	155.51	%	10;1;1;1;1	999	999
Sample ID 2408007	Tirzepatide	2.299	152.350	124.70	%	8.33333;1;1;1;1	999	999
Sample ID 2408010	Tirzepatide	2.296	112.335	91.95	%	8.33333;1;1;1;1	1000	1000
Sample ID 2408012	Tirzepatide	2.296	132.484	108.44	%	8.33333;1;1;1;1	1000	999
Sample ID 2408016	Tirzepatide	2.297	128.063	104.82	%	8.33333;1;1;1;1	1000	1000
Sample ID 2408019	Tirzepatide	2.294	133.190	109.02	%	8.33333;1;1;1;1	1000	1000
Sample ID 2408022	Tirzepatide	2.295	140.811	115.26	%	8.33333;1;1;1;1	1000	999
Tirzepatide Std - 6 (SSC)	Tirzepatide	2.296	95.607	9.39	%	1;1;1;1;1	1000	1000

Sample Potency and ID Report



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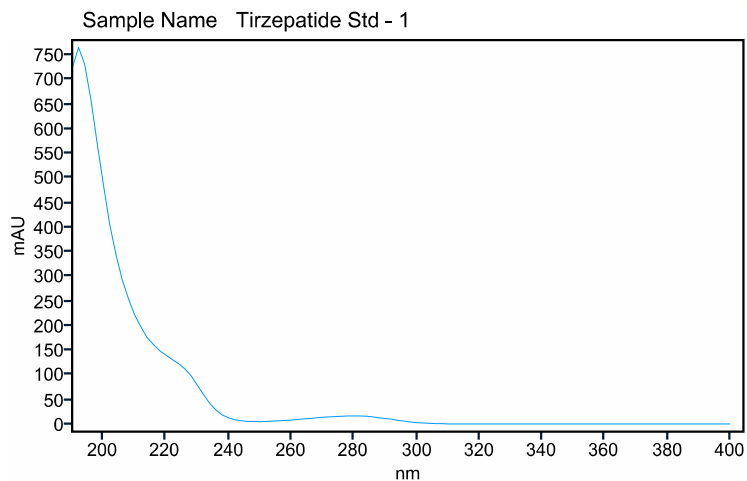
UV Match Spectra

RT:

2.325

Compound Name:

Tirzepatide



Compound Spectra Confirm Result Confirmed

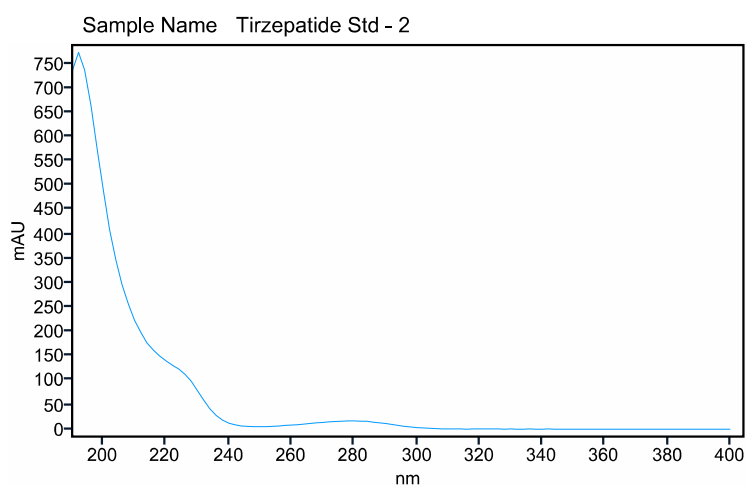
UV Match Spectra

RT:

2.314

Compound Name:

Tirzepatide



Compound Spectra Confirm Result Confirmed

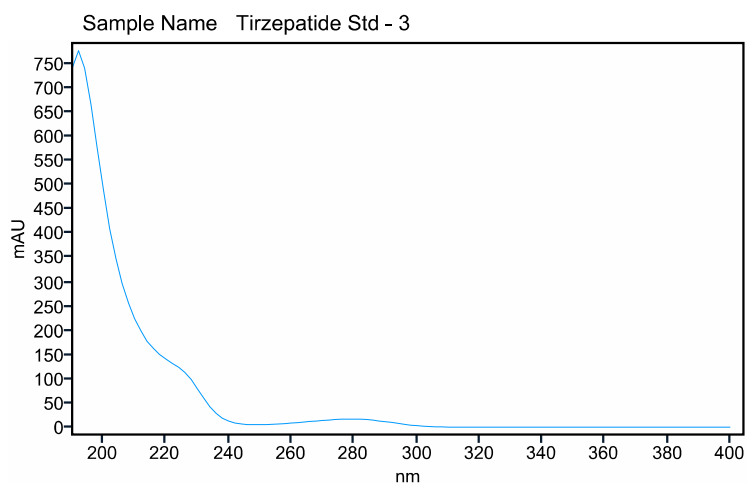
UV Match Spectra

RT:

2.31

Compound Name:

Tirzepatide



Compound Spectra Confirm Result Confirmed

Sample Potency and ID Report



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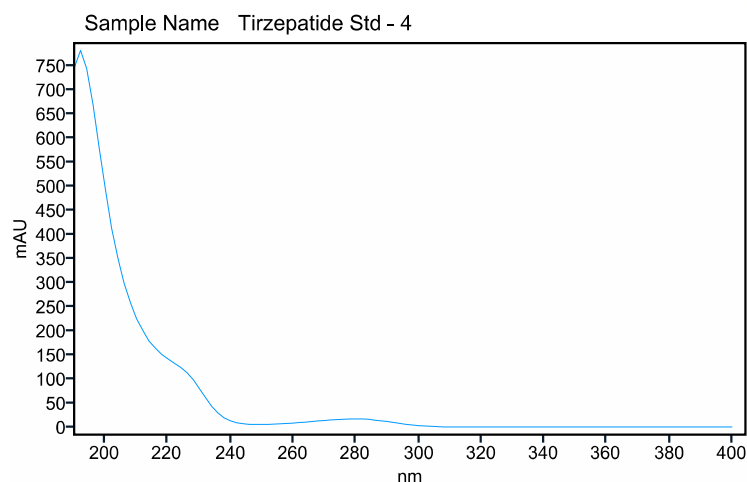
UV Match Spectra

RT:

2.306

Compound Name:

Tirzepatide



Compound Spectra Confirm Result Confirmed

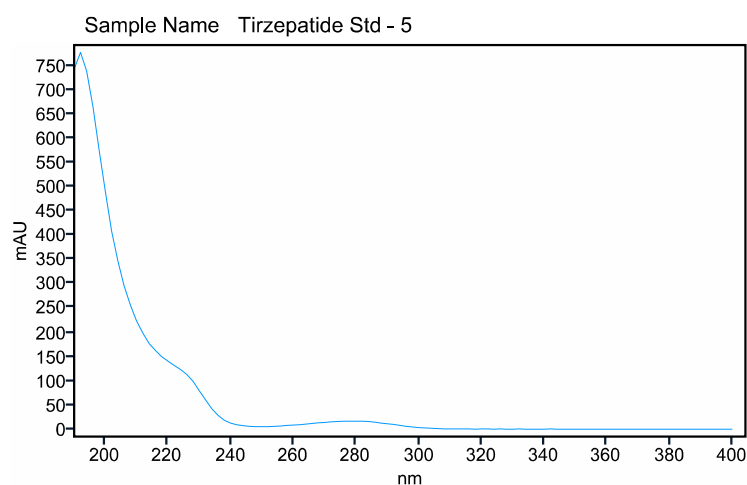
UV Match Spectra

RT:

2.303

Compound Name:

Tirzepatide



Compound Spectra Confirm Result Confirmed

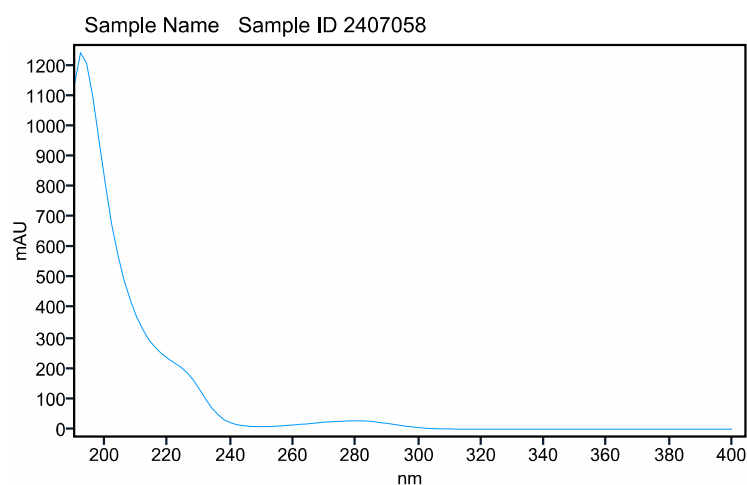
UV Match Spectra

RT:

2.299

Compound Name:

Tirzepatide



Compound Spectra Confirm Result Confirmed

Sample Potency and ID Report



PEPTIDE TEST



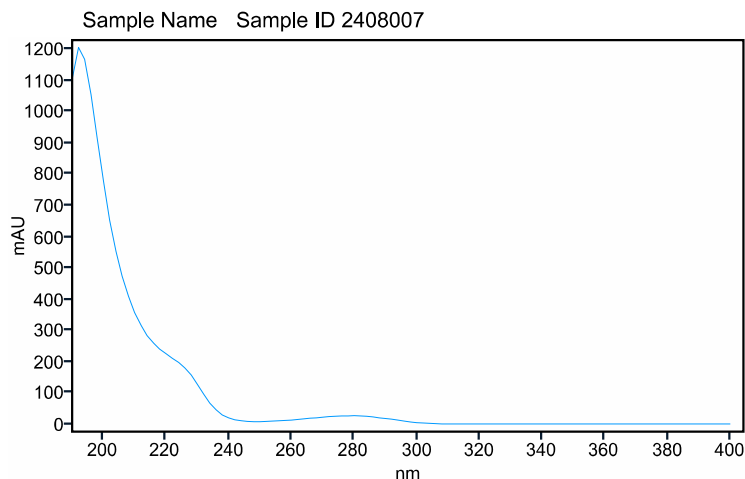
UV Match Spectra

RT:

2.299

Compound Name:

Tirzepatide



Compound Spectra Confirm Result Confirmed

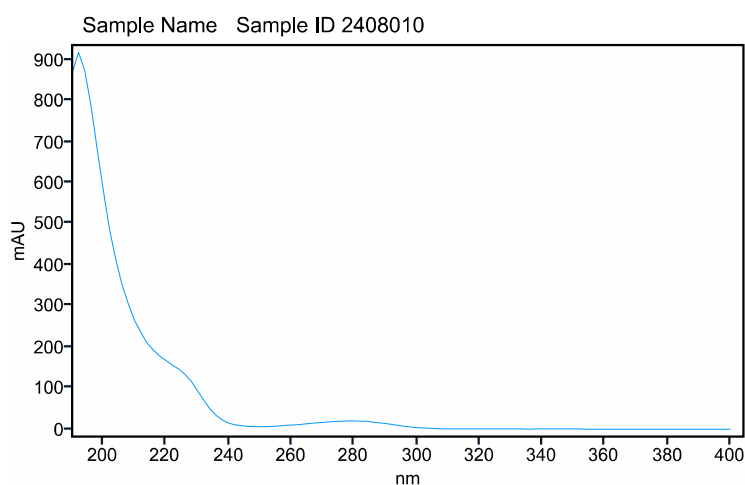
UV Match Spectra

RT:

2.296

Compound Name:

Tirzepatide



Compound Spectra Confirm Result Confirmed

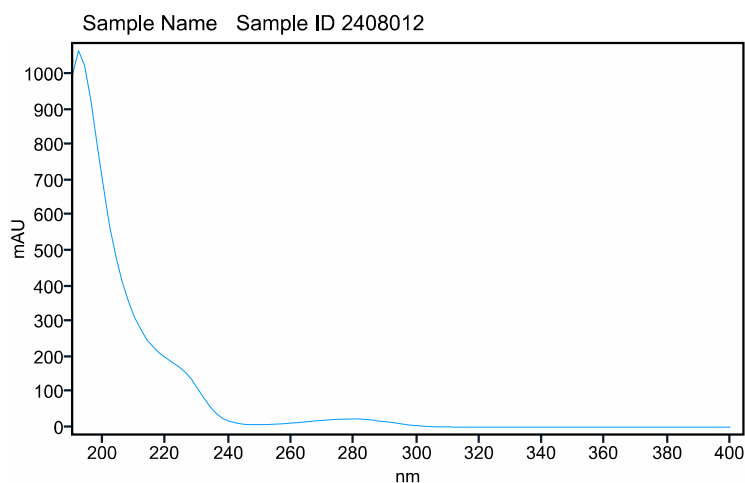
UV Match Spectra

RT:

2.296

Compound Name:

Tirzepatide



Compound Spectra Confirm Result Confirmed

Sample Potency and ID Report



PEPTIDE TEST



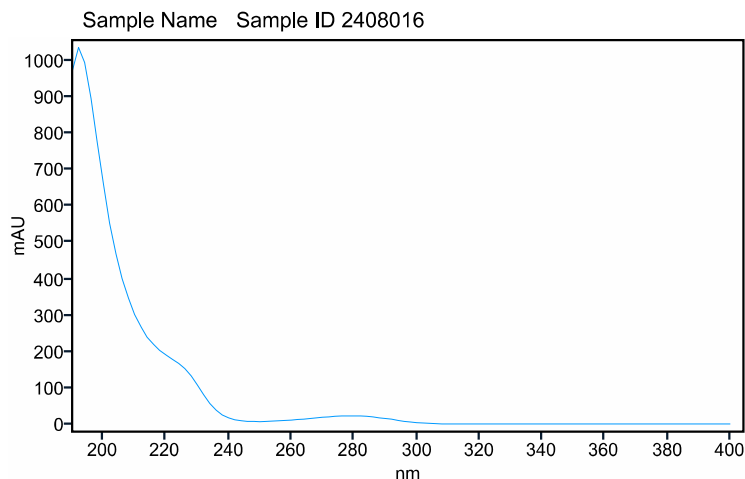
UV Match Spectra

RT:

2.297

Compound Name:

Tirzepatide



Compound Spectra Confirm Result Confirmed

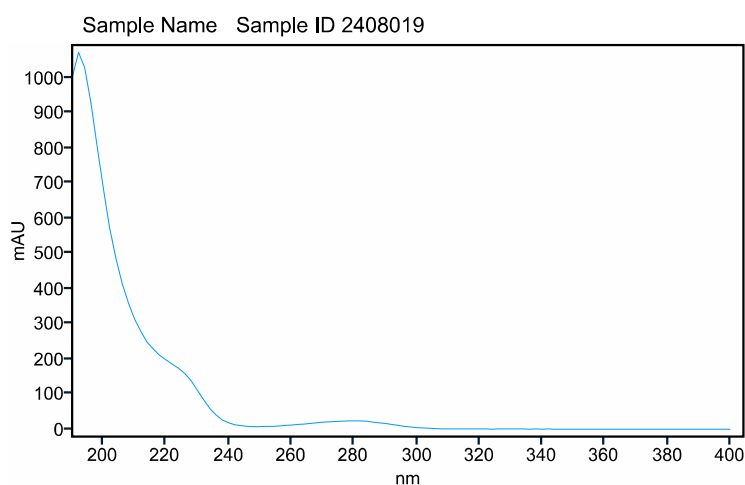
UV Match Spectra

RT:

2.294

Compound Name:

Tirzepatide



Compound Spectra Confirm Result Confirmed

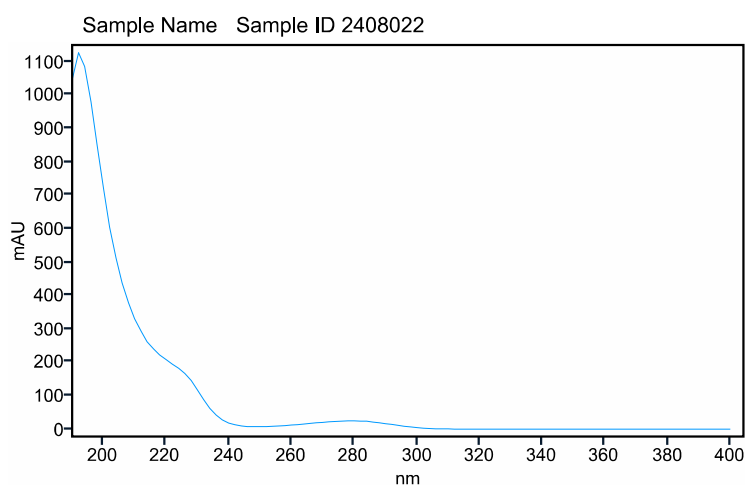
UV Match Spectra

RT:

2.295

Compound Name:

Tirzepatide



Compound Spectra Confirm Result Confirmed

Sample Potency and ID Report



PEPTIDE TEST



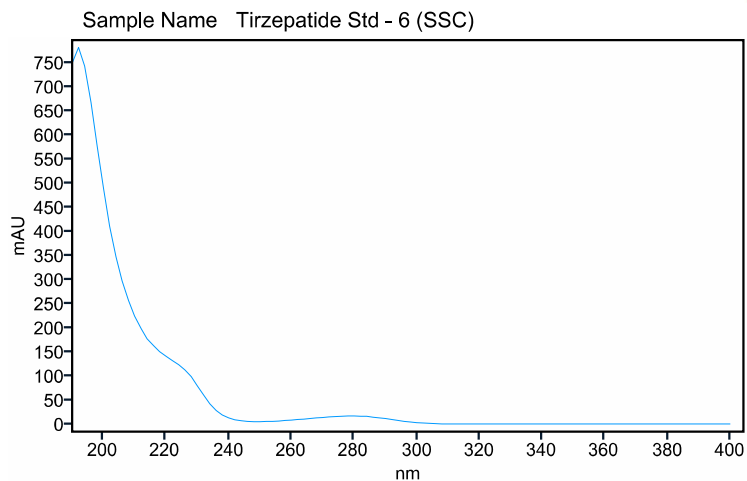
UV Match Spectra

RT:

2.296

Compound Name:

Tirzepatide



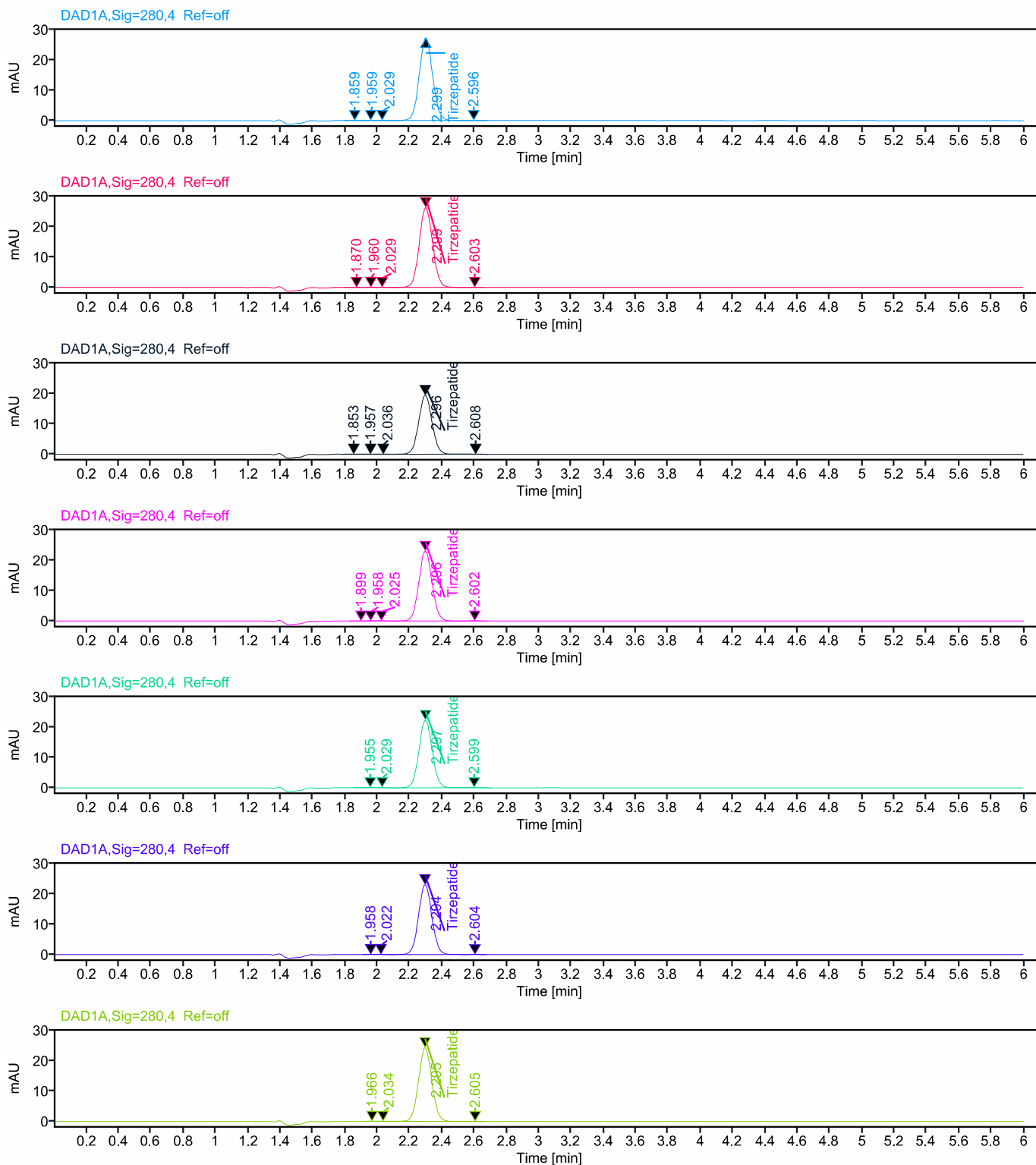
Compound Spectra Confirm Result Confirmed

Sample Purity Report



Sequence Name 1001_aml_080824

Sequence Acquired Date 2024-08-08 11:32:37-04:00



Sample Purity Report



Sample Name	Name	RT	Area	Peak Area Percent
Sample ID 2407058	Tirzepatide	1.859	0.080	0.051
Sample ID 2407058		1.959	0.201	0.127
Sample ID 2407058		2.029	0.148	0.093
Sample ID 2407058		2.299	158.321	99.643
Sample ID 2407058		2.596	0.138	0.087
Sample ID 2408007	Tirzepatide	1.870	0.113	0.074
Sample ID 2408007		1.960	0.274	0.179
Sample ID 2408007		2.029	0.186	0.122
Sample ID 2408007		2.299	152.350	99.576
Sample ID 2408007		2.603	0.076	0.050
Sample ID 2408010	Tirzepatide	1.853	0.170	0.150
Sample ID 2408010		1.957	0.202	0.179
Sample ID 2408010		2.036	0.231	0.204
Sample ID 2408010		2.296	112.335	99.318
Sample ID 2408010		2.608	0.168	0.148
Sample ID 2408012	Tirzepatide	1.899	0.053	0.040
Sample ID 2408012		1.958	0.259	0.194
Sample ID 2408012		2.025	0.231	0.173
Sample ID 2408012		2.296	132.484	99.402
Sample ID 2408012		2.602	0.254	0.191
Sample ID 2408016	Tirzepatide	1.955	0.423	0.328
Sample ID 2408016		2.029	0.278	0.215
Sample ID 2408016		2.297	128.063	99.243
Sample ID 2408016		2.599	0.276	0.214
Sample ID 2408019		1.958	0.168	0.126
Sample ID 2408019	Tirzepatide	2.022	0.166	0.124
Sample ID 2408019		2.294	133.190	99.652
Sample ID 2408019		2.604	0.130	0.098
Sample ID 2408022	Tirzepatide	1.966	0.142	0.101
Sample ID 2408022		2.034	0.152	0.108
Sample ID 2408022		2.295	140.811	99.708
Sample ID 2408022		2.605	0.118	0.084