MZ Biolabs
2102 N Country Club Rd
Tucson, AZ 85716
contact@mzbiolabs.com
www.mzbiolabs.com

Certificate of Analysis

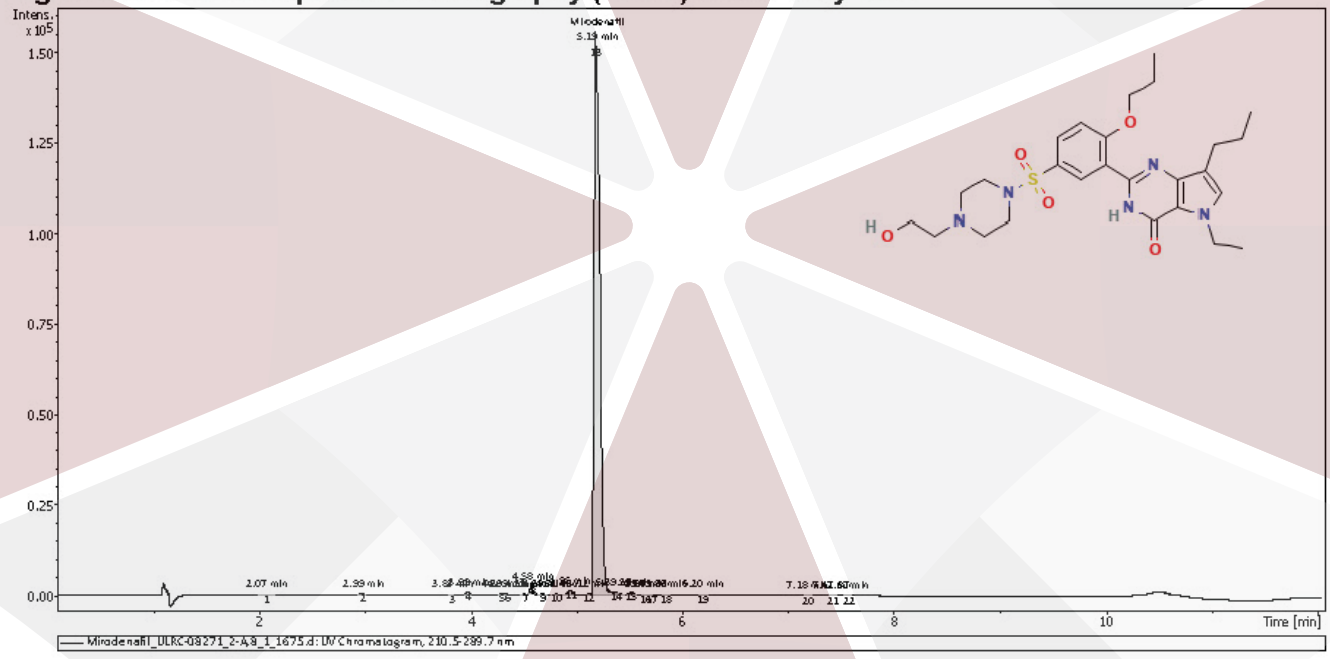
Mirodenafil

5-ethyl-2-[5-[4-(2-hydroxyethyl)piperazin-1-yl]sulfonyl-2-propoxyphenyl]-7-propyl-3H-pyrrolo[3,2-d]pyrimidin-4-one

Compound	: **Mirodenafil**	**Client :**	**UMBRELLA.us**
Lot number	: **ULRC-08271**		**3280 E Hemisphere Loop**
Analysis date	: **2024-12-31**		**Tucson, Arizona 85706**
Purity %	: **99.00%**		
Method	: **HPLC-UV-MS**		

PubChem CID: 135497803
https://pubchem.ncbi.nlm.nih.gov/compound/135497803

High Performance Liquid Chromatography (HPLC) UV – Purity Test



Number of detected peaks: 22

Analysis Performed by
Ken Pendarvis, ChE
Analytical Chemist
MZ Biolabs
contact@mzbiolabs.com

2025-01-06

Note: Injectable peptides may contain salts and sugars to aid in solubility and act as pH buffers. These are not normally detected using UV and are not considered impurities.

MZ Biolabs
2102 N Country Club Rd
Tucson, AZ 85716
contact@mzbiolabs.com
www.mzbiolabs.com

Mirodenafil

5-ethyl-2-[5-[4-(2-hydroxyethyl)piperazin-1-yl]sulfonyl-2-propoxyphenyl]-7-propyl-3H-pyrrolo[3,2-d]pyrimidin-4-one

PubChem CID: 135497803
https://pubchem.ncbi.nlm.nih.gov/compound/135497803

High Performance Liquid Chromatography (HPLC) UV – Purity Test

PEAK LIST	Time (min)	Number of detected peaks: 22 Area	%Area	
1	2.07	3.21E+02	0.05	
2	2.99	4.38E+02	0.07	
3	3.83	6.23E+01	0.01	
4	3.99	7.89E+02	0.13	
5	4.30	1.40E+02	0.02	
6	4.35	5.03E+01	0.01	
7	4.52	6.98E+01	0.01	
8	4.58	3.39E+03	0.54	
9	4.68	1.40E+02	0.02	
10	4.82	1.33E+02	0.02	
11	4.95	1.73E+03	0.28	
12	5.12	1.81E+02	0.03	
13	**5.19**	**6.16E+05**	**99.00**	**Mirodenafil**
14	5.39	3.51E+02	0.06	
15	5.53	1.11E+03	0.18	
16	5.66	5.87E+01	0.01	
17	5.71	6.05E+01	0.01	
18	5.86	8.99E+01	0.01	
19	6.20	2.47E+02	0.04	
20	7.18	1.23E+02	0.02	
21	7.42	1.06E+02	0.02	
22	7.57	1.24E+02	0.02	

Analysis Performed by
Ken Pendarvis, ChE
Analytical Chemist
MZ Biolabs
contact@mzbiolabs.com

2025-01-06

MZ Biolabs
2102 N Country Club Rd
Tucson, AZ 85716
contact@mzbiolabs.com
www.mzbiolabs.com

Mirodenafil

5-ethyl-2-[5-[4-(2-hydroxyethyl)piperazin-1-yl]sulfonyl-2-propoxyphenyl]-7-propyl-3H-pyrrolo[3,2-d]pyrimidin-4-one

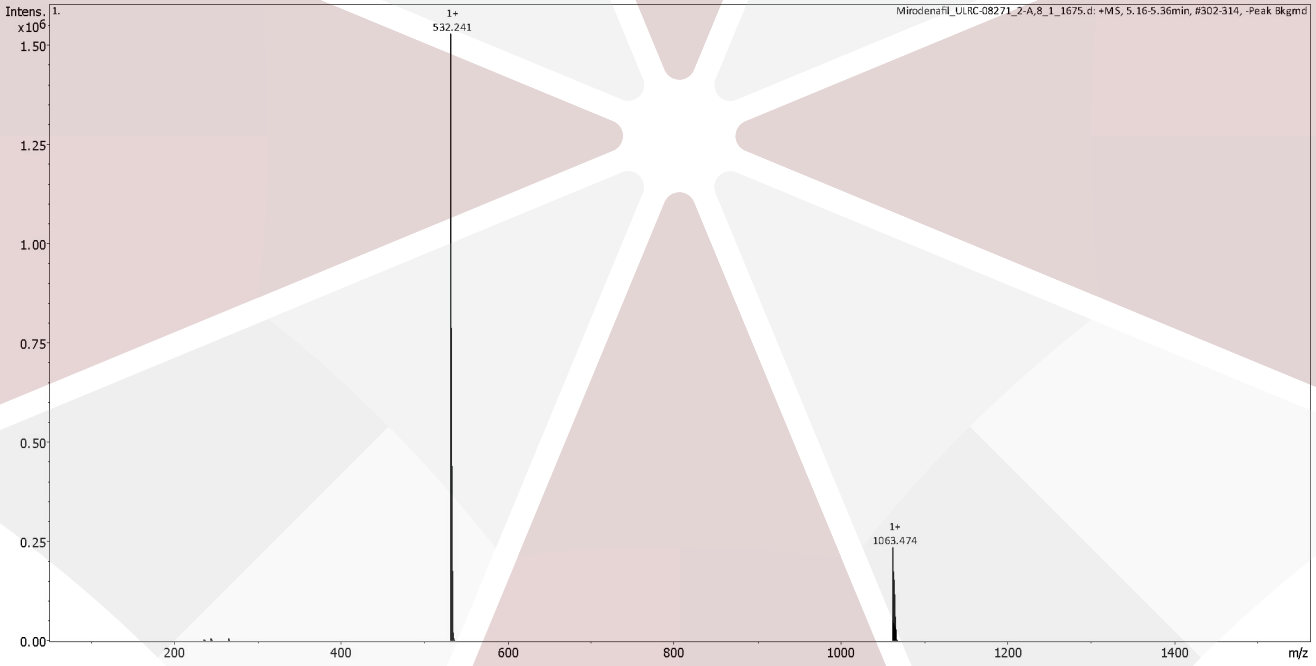
PubChem CID: 135497803
https://pubchem.ncbi.nlm.nih.gov/compound/135497803

Mass Spectrometry (MS) – Identity Test

Identity confirmed using HPLC-MS
Molecular weight calculated using monoisotopic m/z values from mass spectrum
Expected monoisotopic mass : 531.25 Da
Measured monoisotopic mass : 531.24 Da
Molecular weight confirmed

Note : Monoisotopic m/z values are not easily seen in full spectrum view for larger molecules and peptides. The dominant isotopic peak (base peak) shown in the spectrum below can be used to approximate the average molecular weight frequently reported by vendors and databases as a secondary means of confirmation.

Recorded MS spectrum



Analysis Performed by
Ken Pendarvis, ChE
Analytical Chemist
MZ Biolabs
contact@mzbiolabs.com

2025-01-06