

PHYTOR

Consulting in Human Health, Toxicology & Regulatory Affairs

Phytor Ltd.

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Glabridin determination using UPLC

Client: The 123 diet

Instrument: Ultra-Performance Liquid Chromatography of Waters with PDA
and MS detector

Chromatographic conditions:

Column: ACQUITY UPLC BEH C18/(50 x 2.1 mm, 1.7 μ m),
Waters

Mobile phase: A: 0.1% formic acid in water
B: 0.1% formic acid in acetonitrile

Gradient conditions:

#	Time (mins)	A %	B %
1	0	90	10
2	10	20	80
3	11	0	100
4	14	0	100
5	15	90	10
6	18	90	10

Flow rate: 0.4 mL/min

Detection scanning from 210-500 nm using PDA
full-scan using electrospray ionization (+ ve & -ve),
range of 170-1100 Da.

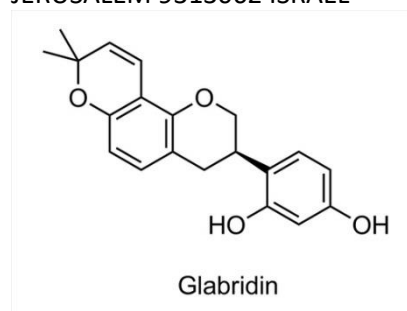
Injection volume 1 μ L

Column temperature: 40°C

Sample temperature 25°C

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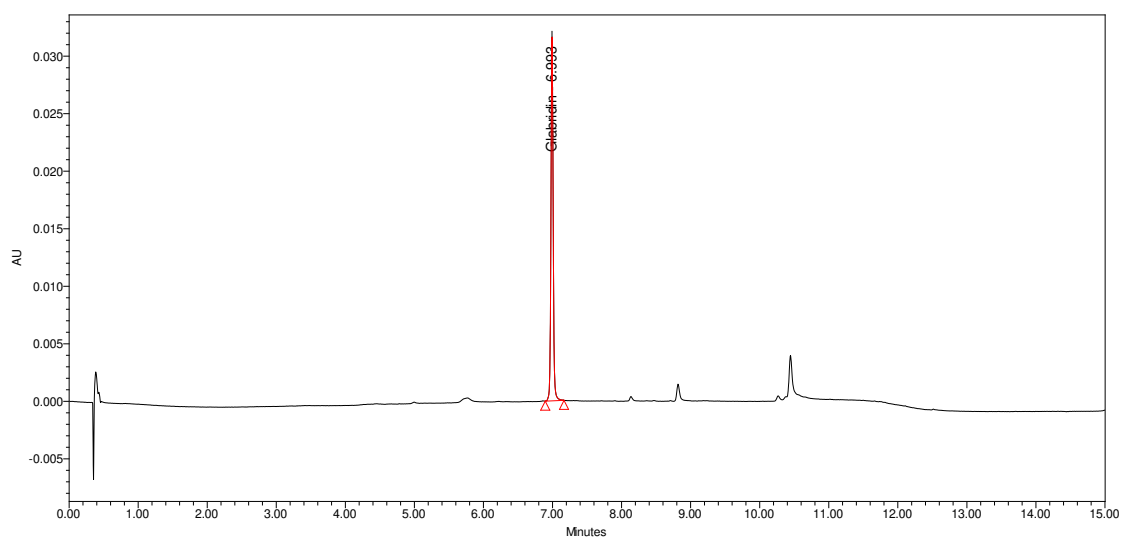
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Chemical formula: $C_{20}H_{20}O_4$
MW = 324.376 $g \cdot mol^{-1}$

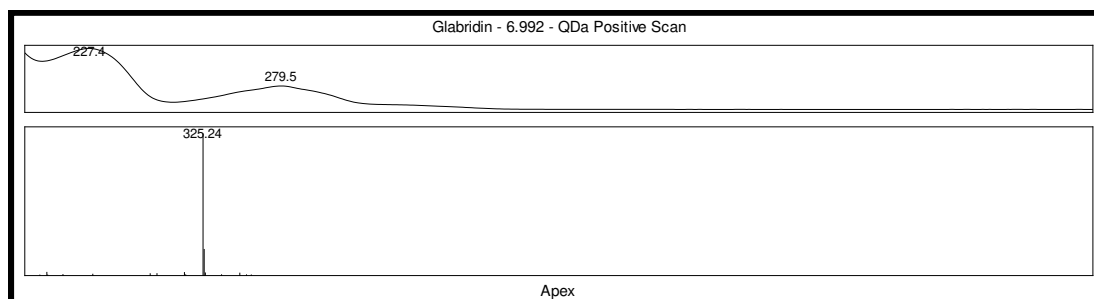
Calibration curve (at 4 levels)

Level 1 12.5 ppm Glabridin standard

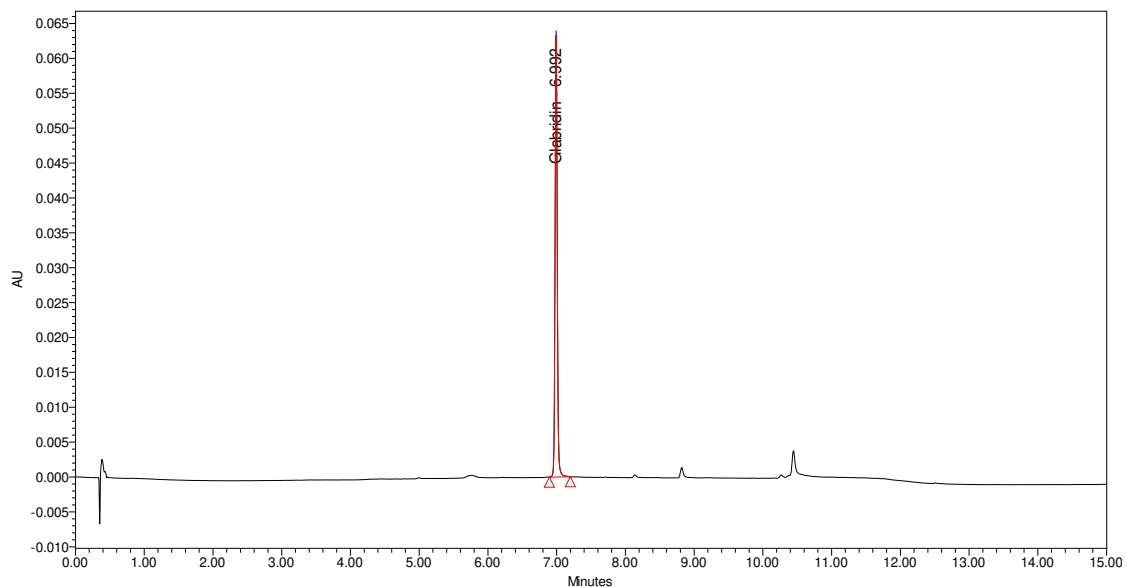


Name	Retention Time	Area	% Area	Amount	Units
1 Glabridin	6.993	70993	100.00	12.500	ppm

The pseudo protonated ion m/z gave $[M+H]^+$ of 325 Da using (+)-ESI mode

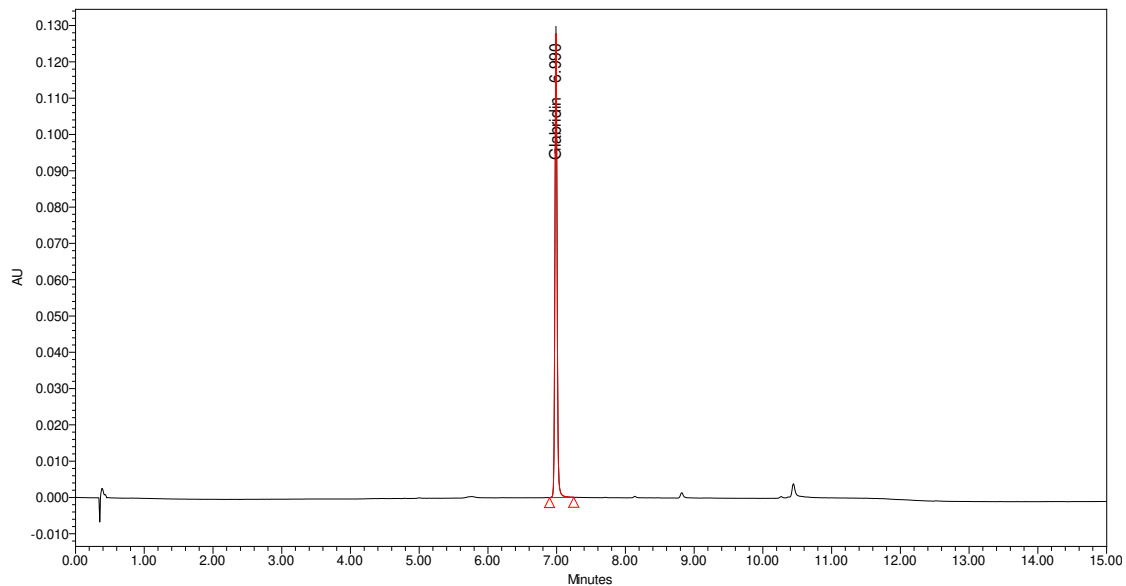


Level2 **25 ppm**



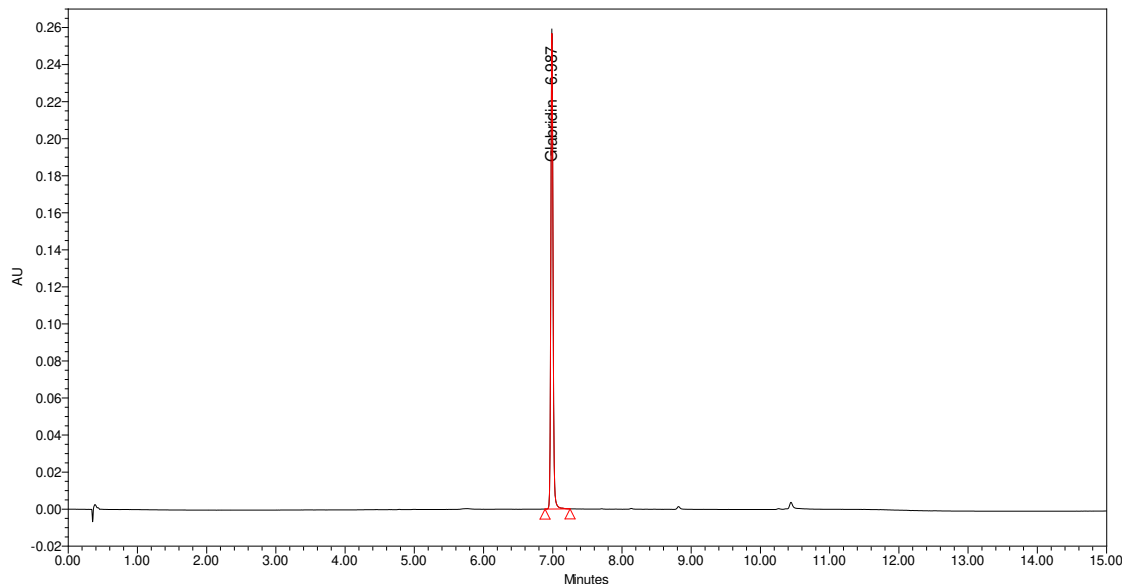
	Name	Retention Time	Area	% Area	Amount	Units
1	Glabridin	6.992	140334	100.00	25.000	ppm

Level3 **50 ppm**



	Name	Retention Time	Area	% Area	Amount	Units
1	Glabridin	6.990	281118	100.00	50.000	ppm

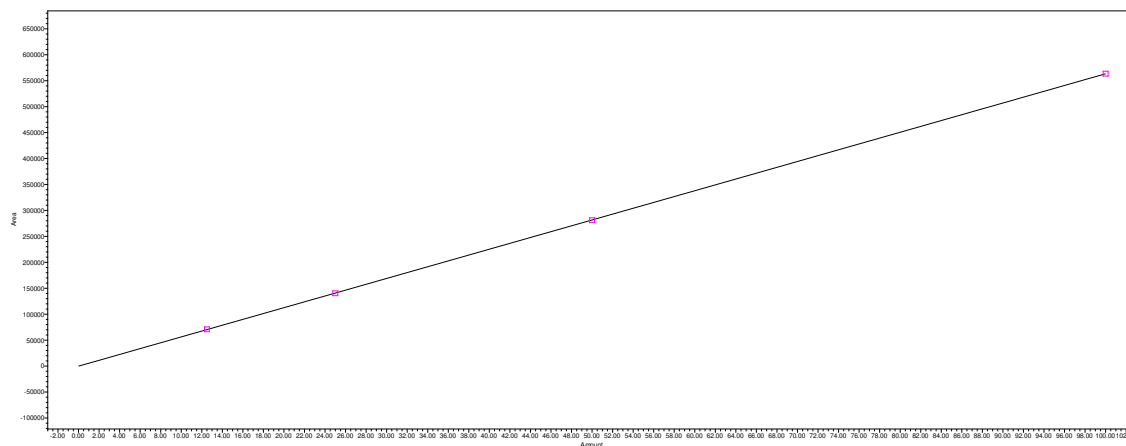
Level4 **100 ppm**



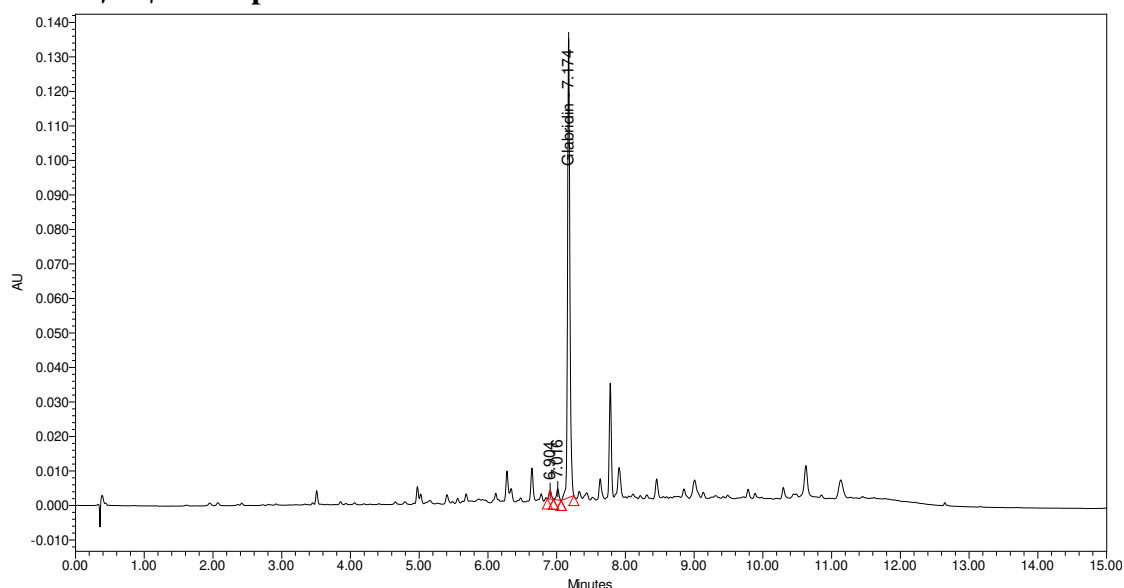
	Name	Retention Time	Area	% Area	Amount	Units
1	Glabridin	6.987	563626	100.00	100.000	ppm

The statistical parameters are as in the table below:

	Name	Channel	R	R^2	Equation
1	Glabridin	280.0nm	0.999997	0.999993	$Y = 5.63e+003 X - 9.63e+001$



123 sample ליקוריץ פלוס:



	Name	Retention Time	Area	% Area	Amount	Units
3	Glabridin	7.174	311776	95.78	55.351	ppm

Sample	Glabridin (% w/w)	Glycyrrhizin
ליקוריץ פלוס 123 אצווה B100319	5.54	Negligible

Sample	Glabridin (per capsule)	Glycyrrhizin (per capsule)
ליקוריץ פלוס 123 אצווה B100319	11.08 mg	Negligible

ד"ר יהושע מאור, PhD

יועץ בכיר בטוקסיקולוגיה ופרמקולוגיה

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