CONFIDENTIAL

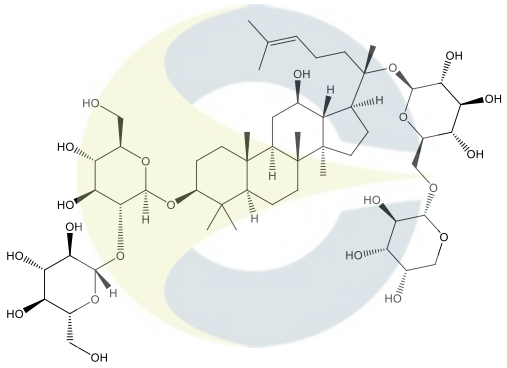
SPECIMEN

Certificate of Analysis

For Laboratory Use Only

PRODUCT NAME	Ginsenoside Rb2
PART NUMBER	00007196
STANDARD TYPE	Analytical Standard (AS)
LOT NUMBER	00007196-301
REPORT NUMBER	CDXA-RSS-4934-02
SAMPLE NUMBER	CDXA-12-2055
DATE OF SAMPLE	04/04/2012
DATE OF RE-EVALUATION	07/01/2016 (1st); 04/13/2020 (2nd)
DATE OF REPORT	06/01/2020

Structure



CHEMICAL NAMES	(3β,12β)-20-[(6-O-a-L-Arabinopyranosyl-β-D-glucopyranosyl)oxy]-12-hydroxydammar-24-en-3-yl 2-O-β-D-glucopyranosyl-β-D-glucopyranoside; Ginsenoside C
CHEMICAL FORMULA	$C_{53}H_{90}O_{22}$
MOLECULAR WEIGHT (MW)	1079.27
CHEMICAL FAMILY	Saponins
CAS NUMBER	[11021-13-9]
EC#(EINECS)	234-251-4
RTECS	LZ5779240

ANALYTICAL RESULTS

TEST	METHOD	SPECIFICATION	RESULT
HPLC	0.700.10.2.METH102	NA	96.2%
Mass Spectrum	Direct Infusion, ESI (+)	Conforms	Conforms
Appearance	NA	NA	White powder

STORAGE CONDITIONS

STORAGE	Room Temperature in a dry place.
EXPIRATION DATE	04/2025 under the above conditions.

Elizabeth Hughes
Quality Assurance Specialist Assistant
Designee of QA Management

Digitally signed by Elizabeth Hughes
Date: 2020.06.01 09:12:28 -06'00'

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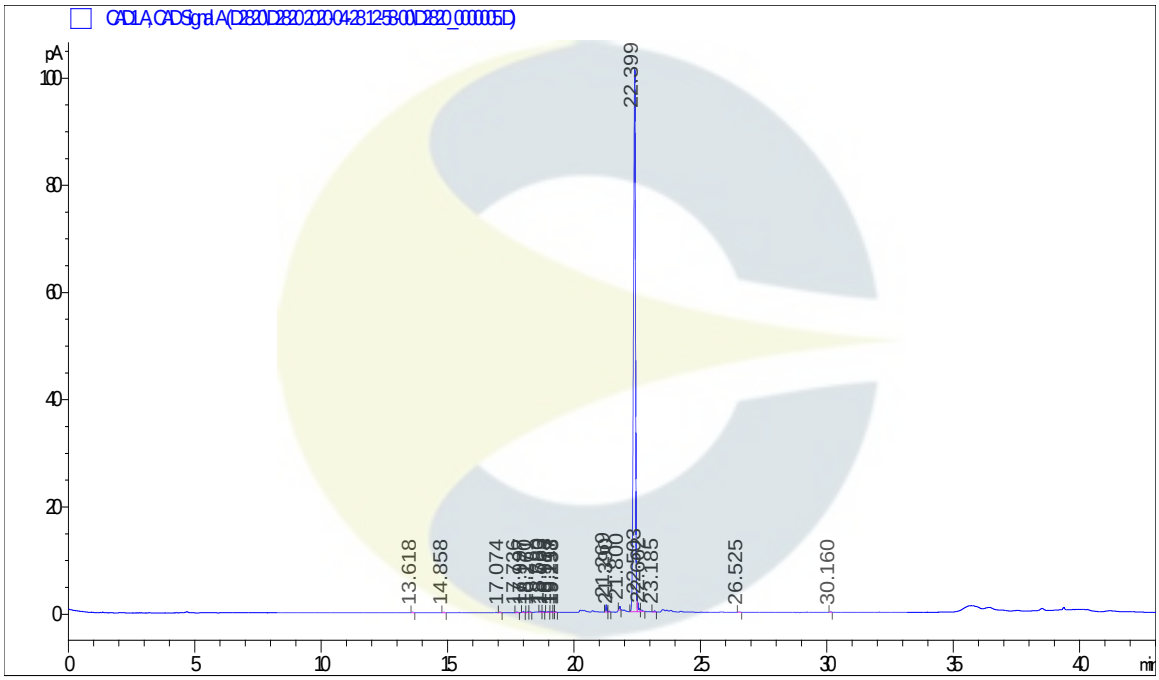
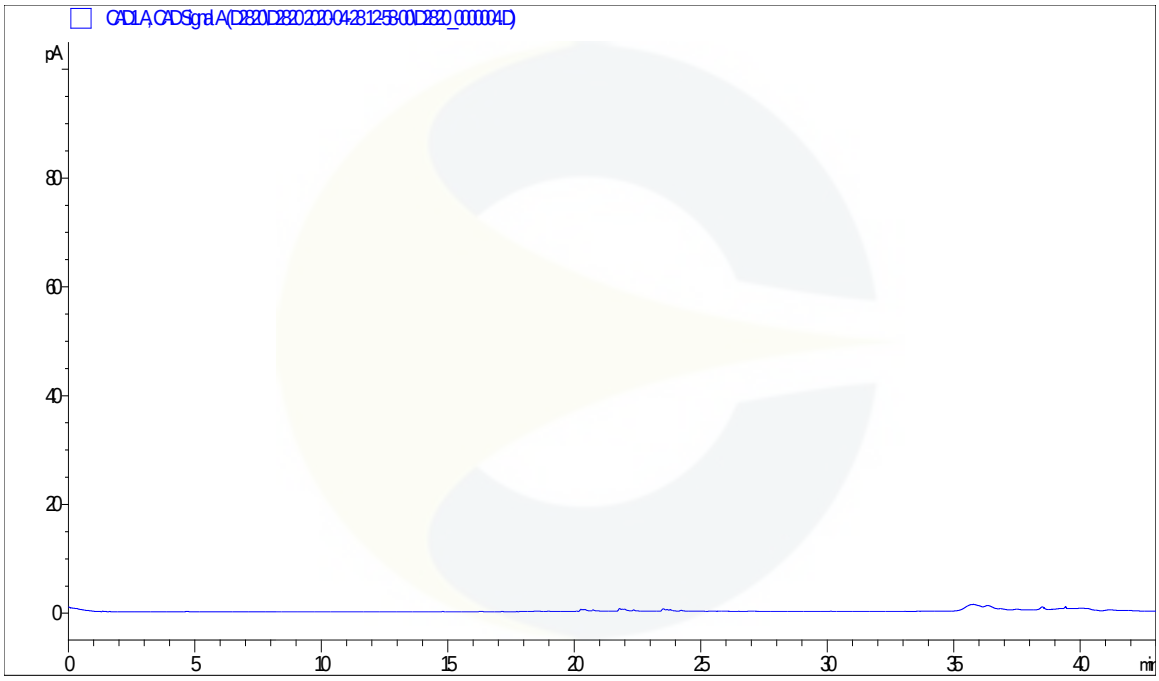
ANALYTICAL CONDITIONS

INSTRUMENT	AGILENT 1260 HPLC UV-VIS (DAD) CONNECTED TO DIONEX CORONA VEO CHARGED AEROSOL DETECTOR (CAD); AGILENT 6510 QTOF
COLUMN	Phenomenex Kinetex 2.6 µm particle size; 150 x 4.6 mm
MOBILE PHASE	A - Ultrapure water, B - Acetonitrile; Start at 15% B then increasing to 30% B over 15 minutes, then increasing to 32% B over one minute, then increasing to 38% B over 3 minutes, then increasing to 43% B over 5 minutes, then increasing to 55% B over 3 minutes, then increasing to 65% B over 4 minutes, then increasing to 70% B over 4 minutes and then increasing to 90% B over 3 minutes. Decrease to 15% B over one minute and then hold for 4 minutes.
COLUMN TEMP.	40 °C
FLOW RATE	1.0 mL/minute
INJECTION VOL.	5.0 µL
INJECTION CONC.	1.2 mg/mL in Methanol
DETECTION	CAD

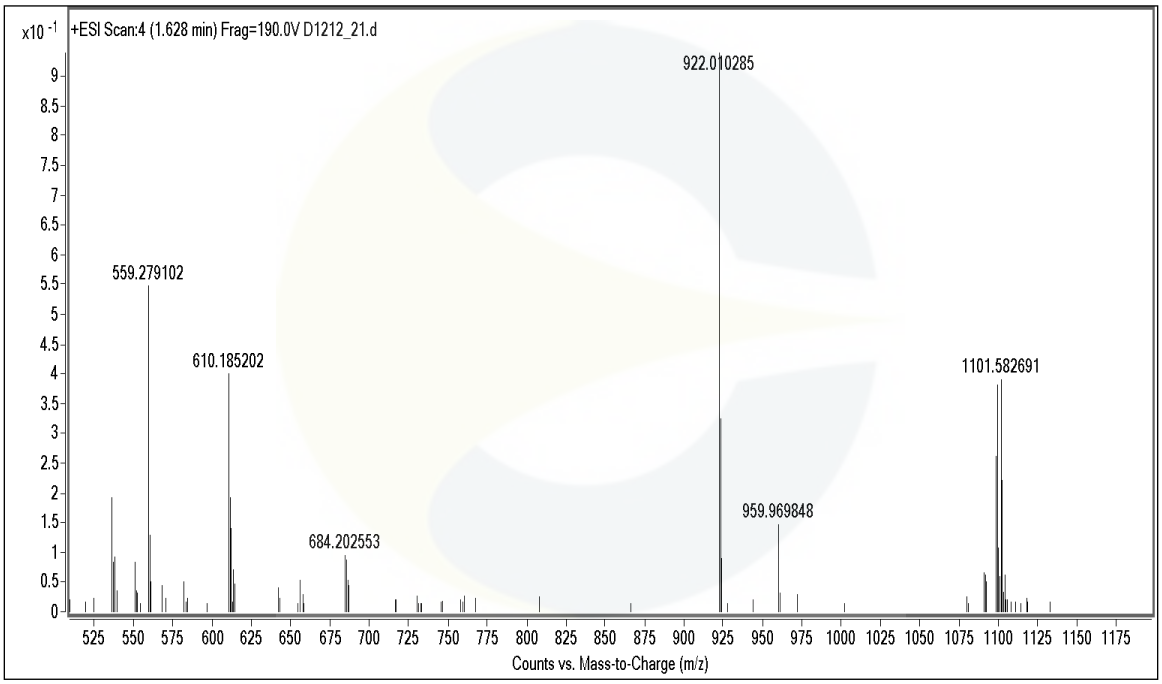
HPLC CHROMATOGRAM OF GINSENOSIDE RB2 (CDXA-12-2055)



HPLC CHROMATOGRAM OF DILUENT BLANK



MASS SPECTRUM OF GINSENOSIDE RB2 (CDXA-12-2055)



REVISION HISTORY

Revision History	Date of Revision	Document/Changes
00	04/23/2012	New report
01	07/01/2016	Updated expiration date, updated standard type
02	06/01/2020	Passed second re-evaluation by HPLC. Updated the structure, chemical names, expiration date, analytical results, analytical conditions, and chromatograms. Removed the melting point.