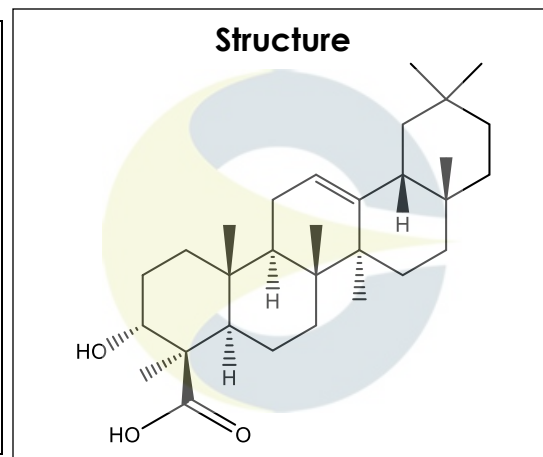


Certificate of Analysis
For Laboratory Use Only

PRODUCT NAME	alpha-Boswellic acid
PART NUMBER	00002550
STANDARD TYPE	Primary (P)
LOT NUMBER	00002550-007
REPORT NUMBER	CDXA-RSS-9128-00
SAMPLE NUMBER	CDXP-20-00629
DATE OF SAMPLE	08/26/2020
DATE OF REPORT	09/14/2020



CHEMICAL NAMES	(3 α ,4 β)-3-Hydroxy-olean-12-en-23-oic acid
CHEMICAL FORMULA	C ₃₀ H ₄₈ O ₃
MOLECULAR WEIGHT (MW)	456.70
CHEMICAL FAMILY	Triterpenes
CAS NUMBER	[471-66-9]
EC#(EINECS)	N/A
RTECS	RK0177963

ANALYTICAL RESULTS

TEST	METHOD	SPECIFICATION	RESULT
Adjusted Purity	NA	≥ 85%	89.2%
HPLC	0.700.10.2.METH22	≥ 90%	93.8%
NMR	0.700.12.4	Conforms to structure	Conforms to structure
Mass Spectrum	0.700.12.27	Conforms	Conforms
Residual Solvent*	USP <467>	NA	ND
Water	0.700.12.37	NA	4.9%
Appearance	NA	NA	White powder

*Testing performed at an ISO 17025 accredited subcontracted laboratory.

ADJUSTED PURITY: 89.2% IS BASED ON (100 - 0.0 SOLVENTS - 4.9 WATER) X 93.8% HPLC

STORAGE CONDITIONS

STORAGE	-20 °C in a dry place.
EXPIRATION DATE	08/2025 under the above conditions.

This document is the property of ChromaDex, Inc. and/or its relevant affiliates and contains confidential and proprietary material for the sole use of the intended recipient(s). Any review, use, distribution or disclosure by or to others is strictly prohibited.

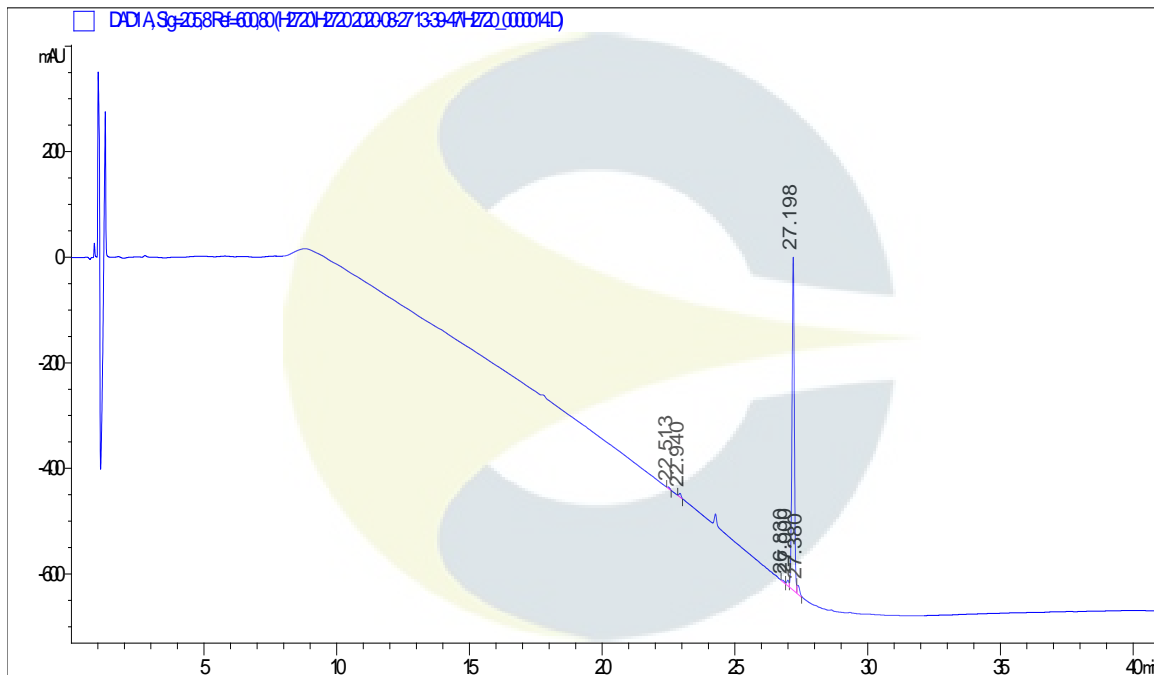
Certificate of Analysis

For Laboratory Use Only

ANALYTICAL CONDITIONS

INSTRUMENT	AGILENT 1260 HPLC UV-VIS (DAD); AB-SCIEX 6600 TRIPLE TOF
COLUMN	Phenomenex Luna C18(2) 150 x 2.00 mm, 5 µm particle size
MOBILE PHASE	A - 0.1% Trifluoroacetic acid in Ultrapure water, B - Acetonitrile; Isocratic 5% B for 5 minutes, then increasing to 95% B over 20 minutes. Hold at 95% B for 15 minutes, then decreasing to 5% B over 1 minute.
COLUMN TEMP.	60 °C
FLOW RATE	0.4 mL/minute
INJECTION VOL.	2.0 µL
INJECTION CONC.	1.1 mg/mL in Methanol
DETECTION	205 ± 4 nm

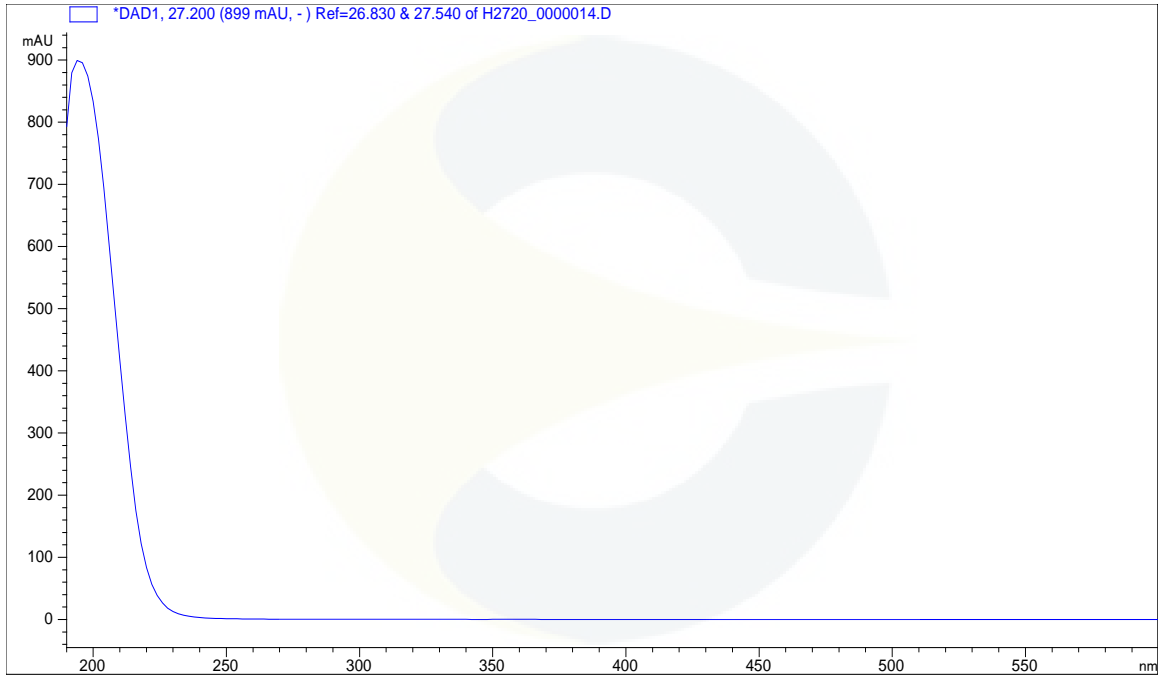
HPLC CHROMATOGRAM OF ALPHA-BOSWELLIC ACID (CDXP-20-00629)



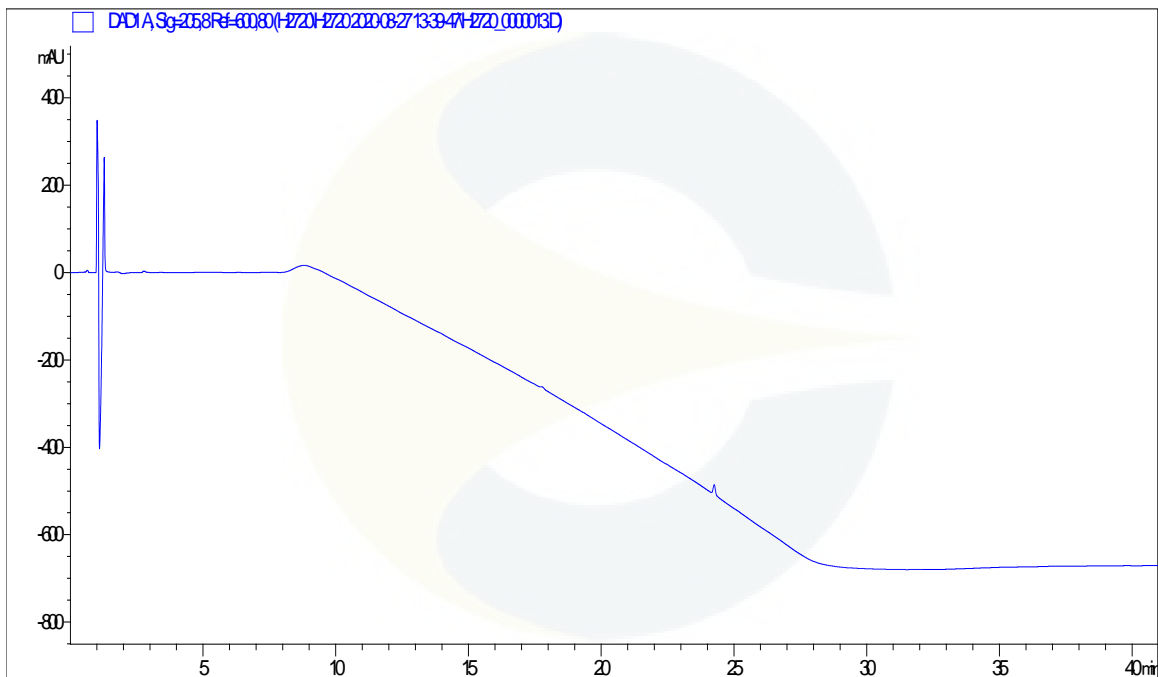
This document is the property of ChromaDex, Inc. and/or its relevant affiliates and contains confidential and proprietary material for the sole use of the intended recipient(s). Any review, use, distribution or disclosure by or to others is strictly prohibited.

Certificate of Analysis For Laboratory Use Only

UV SPECTRUM AT RT 27.2 MINUTES



HPLC CHROMATOGRAM OF DILUENT BLANK

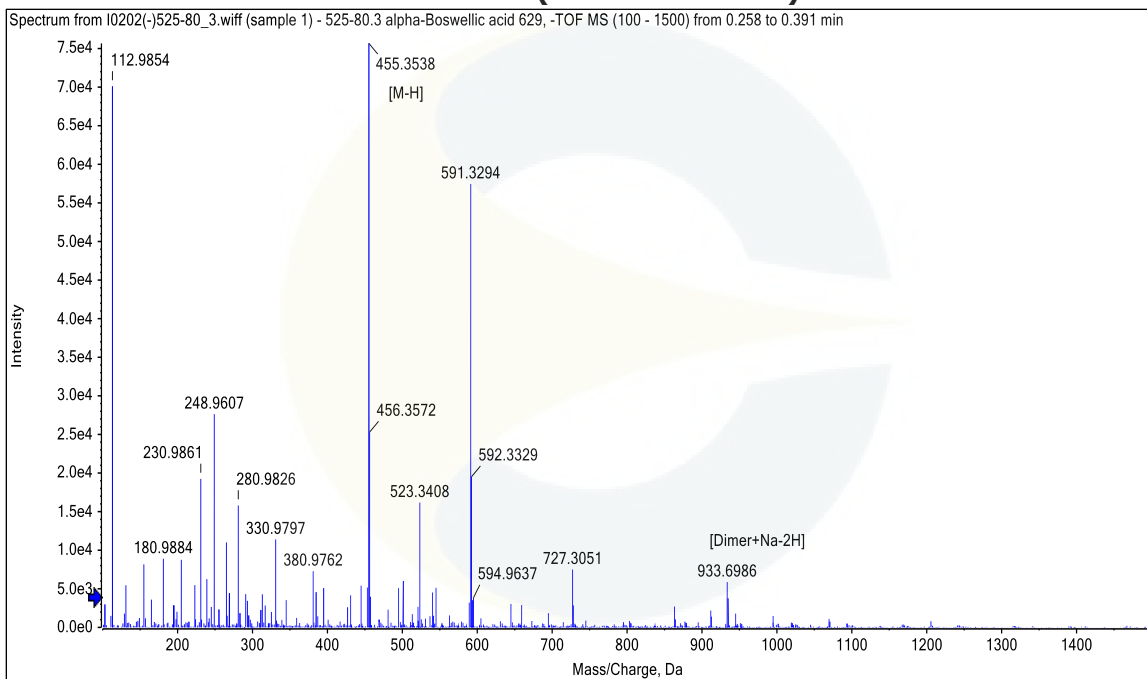


This document is the property of ChromaDex, Inc. and/or its relevant affiliates and contains confidential and proprietary material for the sole use of the intended recipient(s). Any review, use, distribution or disclosure by or to others is strictly prohibited.

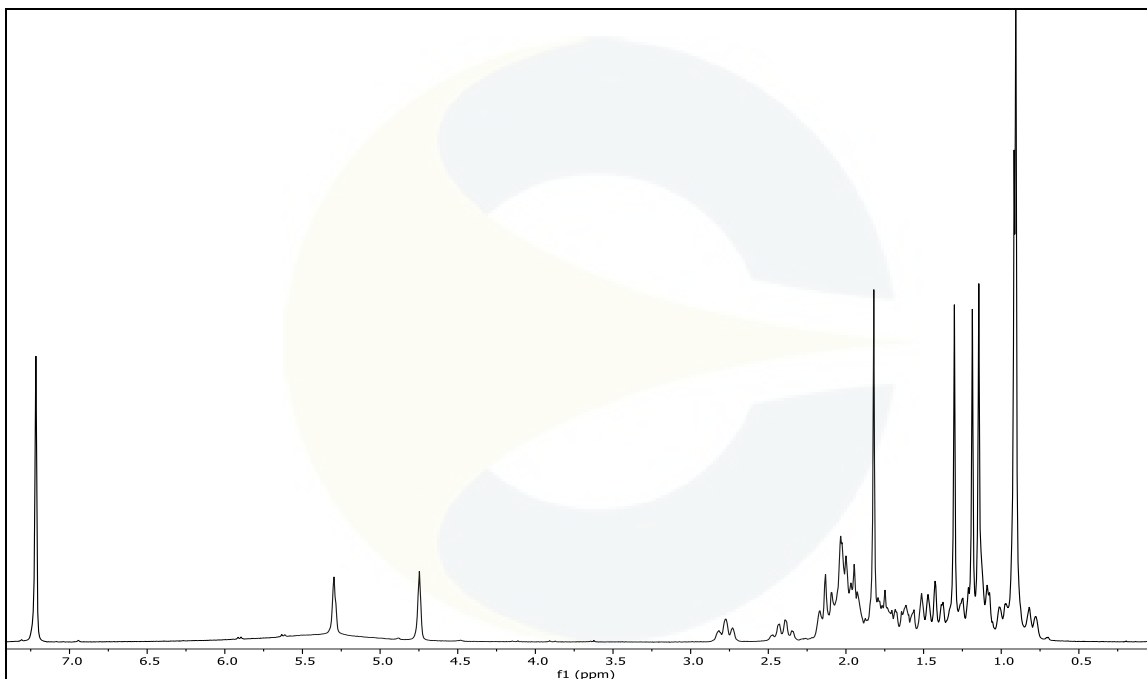
10900 Wilshire Blvd., Suite 600, Los Angeles, CA 90024 | T: +1 949-419-0288 | F: +1 949-419-0294 | www.chromadex.com
Laboratory address: 1751 S. Fordham St., Suite 350, Longmont, CO 80503

India Contact:
Life Technologies (India) Pvt. Ltd.
306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444
Email: customerservice@lifetechindia.com Website: www.lifetechindia.com

MASS SPECTRUM OF ALPHA-BOSWELLIC ACID (CDXP-20-00629)



¹H-NMR SPECTRUM OF ALPHA-BOSWELLIC ACID (CDXP-20-00629) IN PYRIDINE-d₅ + TMS

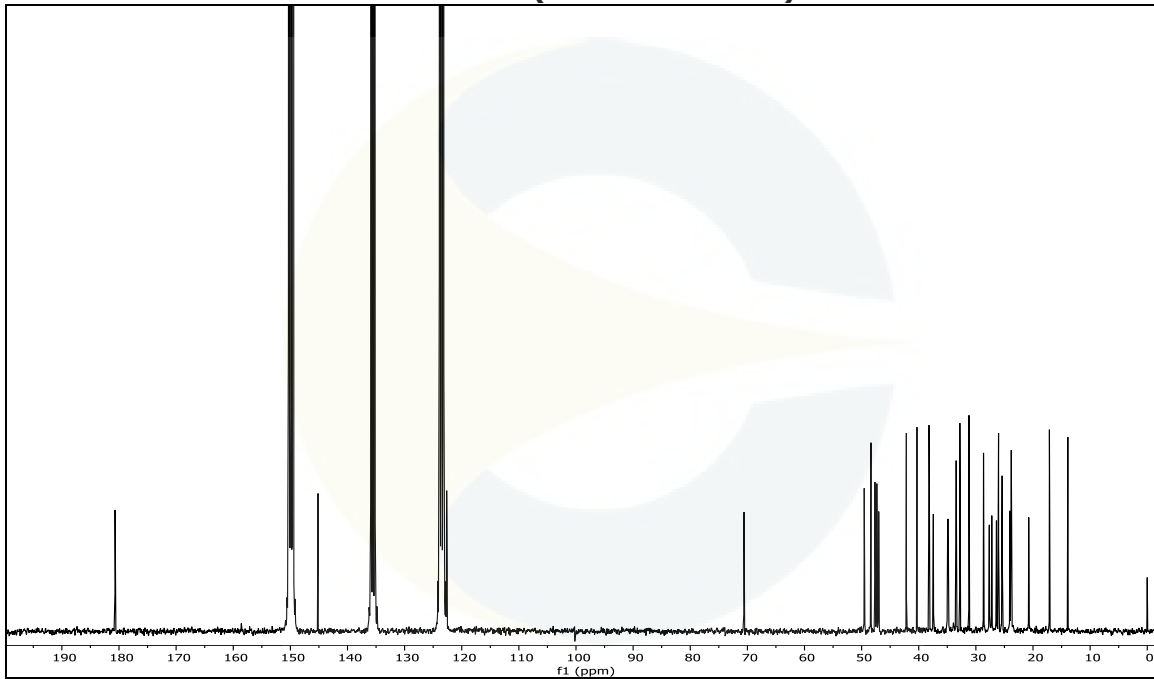


This document is the property of ChromaDex, Inc. and/or its relevant affiliates and contains confidential and proprietary material for the sole use of the intended recipient(s). Any review, use, distribution or disclosure by or to others is strictly prohibited.

10900 Wilshire Blvd., Suite 600, Los Angeles, CA 90024 | T: +1 949-419-0288 | F: +1 949-419-0294 | www.chromadex.com
Laboratory address: 1751 S. Fordham St., Suite 350, Longmont, CO 80503

India Contact:
Life Technologies (India) Pvt. Ltd.
306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444
Email: customerservice@lifetechindia.com Website: www.lifetechindia.com

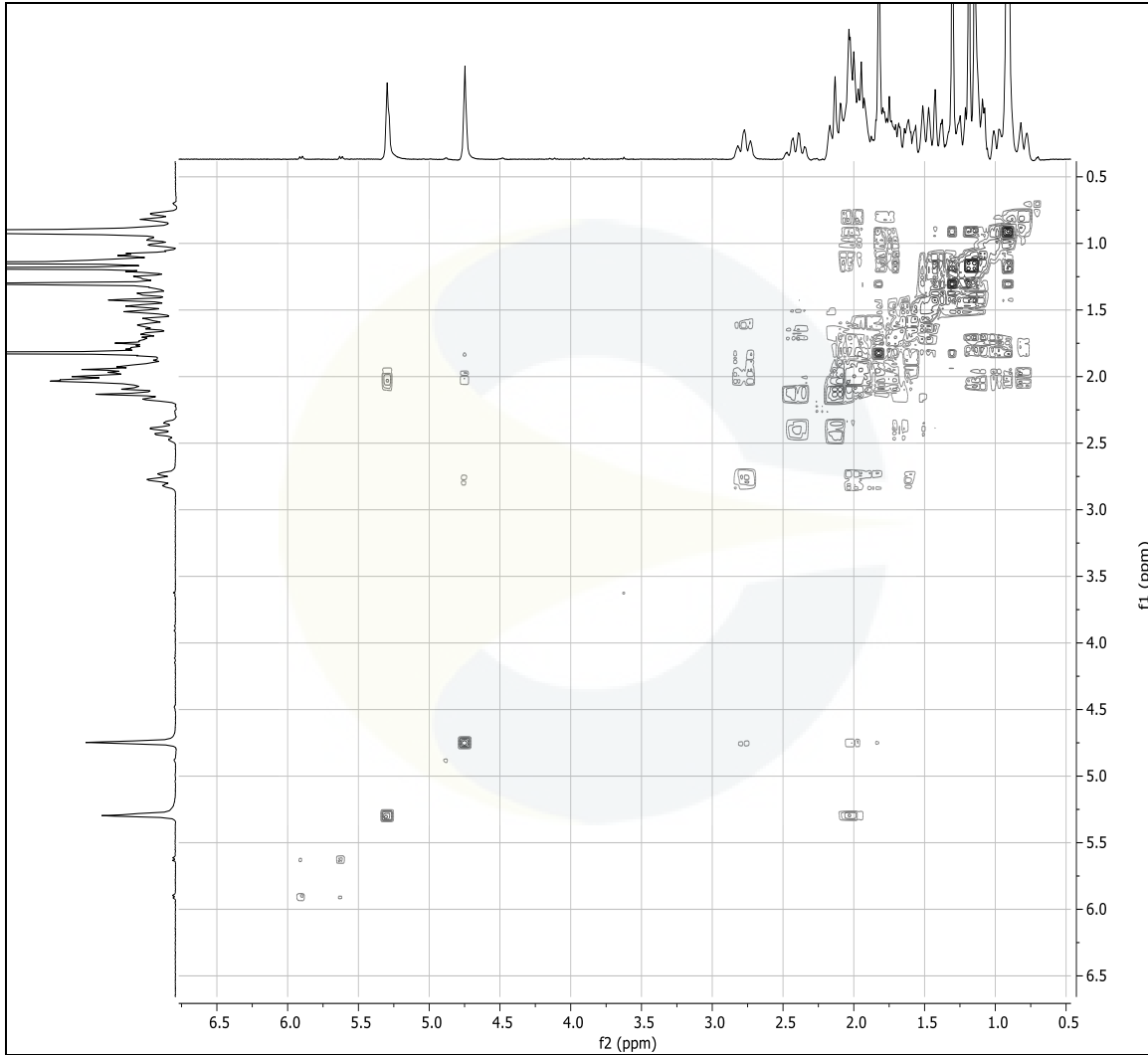
¹³C-NMR SPECTRUM ALPHA-BOSWELLIC ACID (CDXP-20-00629) IN PYRIDINE-d₅ + TMS



This document is the property of ChromaDex, Inc. and/or its relevant affiliates and contains confidential and proprietary material for the sole use of the intended recipient(s). Any review, use, distribution or disclosure by or to others is strictly prohibited.

10900 Wilshire Blvd., Suite 600, Los Angeles, CA 90024 | T: +1 949-419-0288 | F: +1 949-419-0294 | www.chromadex.com
Laboratory address: 1751 S. Fordham St., Suite 350, Longmont, CO 80503

India Contact:
Life Technologies (India) Pvt. Ltd.
306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444
Email: customerservice@lifetechindia.com Website: www.lifetechindia.com

Certificate of Analysis
For Laboratory Use Only
COSY-NMR SPECTRUM OF ALPHA-BOSWELLIC ACID (CDXP-20-00629) IN PYRIDINE-*d*₅ + TMS

REVISION HISTORY

<u>Revision History</u>	<u>Date of Revision</u>	<u>Document/Changes</u>
00	09/14/2020	New report

This document is the property of ChromaDex, Inc. and/or its relevant affiliates and contains confidential and proprietary material for the sole use of the intended recipient(s). Any review, use, distribution or disclosure by or to others is strictly prohibited.

10900 Wilshire Blvd., Suite 600, Los Angeles, CA 90024 | T: +1 949-419-0288 | F: +1 949-419-0294 | www.chromadex.com
 Laboratory address: 1751 S. Fordham St., Suite 350, Longmont, CO 80503

India Contact:
 Life Technologies (India) Pvt. Ltd.
 306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi - 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444
 Email: customerservice@lifetechindia.com Website: www.lifetechindia.com