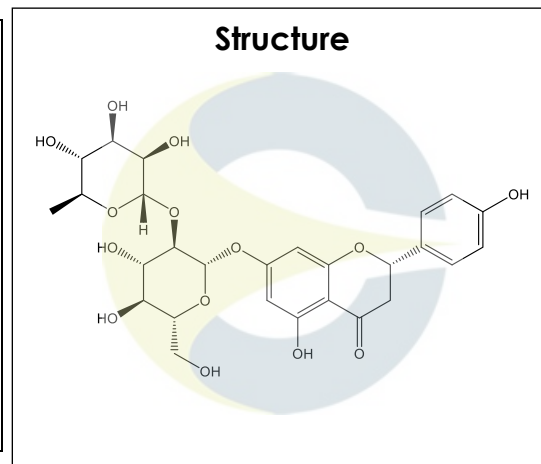


Certificate of Analysis
For Laboratory Use Only

PRODUCT NAME	Naringin
PART NUMBER	00014220
STANDARD TYPE	Primary (P)
LOT NUMBER	00014220-953
REPORT NUMBER	CDXA-RSS-9092-00
SAMPLE NUMBER	CDXP-20-00475
DATE OF SAMPLE	06/29/2020
DATE OF REPORT	08/06/2020



CHEMICAL NAMES	7-(2-O-(6-Deoxy- α -L-mannopyranosyl)- β -D-glucopyranosyloxy)-2,3-dihydro-4',5,7-trihydroxyflavone; Naringenin-7- β -neohesperidoside; Naringoside
CHEMICAL FORMULA	C ₂₇ H ₃₂ O ₁₄
MOLECULAR WEIGHT (MW)	580.53
CHEMICAL FAMILY	Flavonoids
CAS NUMBER	[10236-47-2]
EC#(EINECS)	233-566-4
RTECS	QN6340000

ANALYTICAL RESULTS

TEST	METHOD	SPECIFICATION	RESULT
Adjusted Purity	NA	NA	88.4%
HPLC	0.700.10.2.METH22	NA	96.4%
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	8.3%
Appearance	NA	NA	Off-white powder

*Testing performed at an ISO 17025 accredited subcontracted laboratory.
 ADJUSTED PURITY: 88.4% IS BASED ON (100 - 0.0 SOLVENTS - 8.3 WATER) X 96.4% HPLC

STORAGE CONDITIONS

STORAGE	Room Temperature in a dry place.
EXPIRATION DATE	06/2025 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.

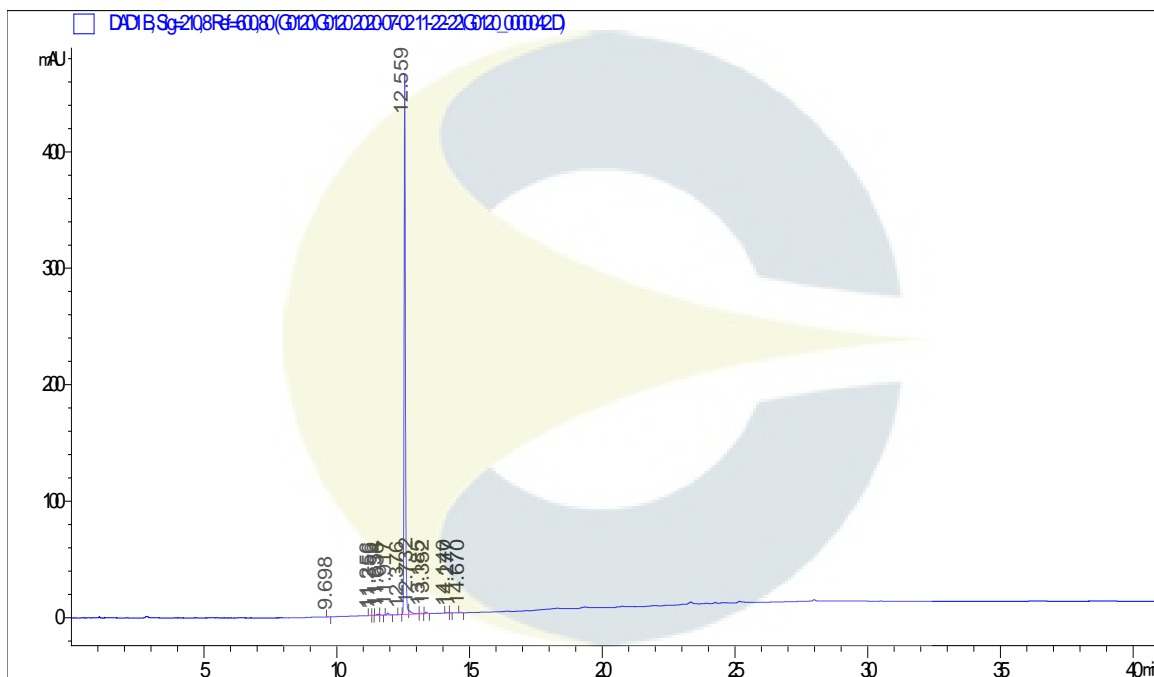
Certificate of Analysis

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 – High-purity 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.	0.2 µL
INJECTION CONC.	1.3 mg/mL in Methanol
DETECTION	210 ± 4 nm

HPLC CHROMATOGRAM OF NARINGIN (CDXP-20-00475)



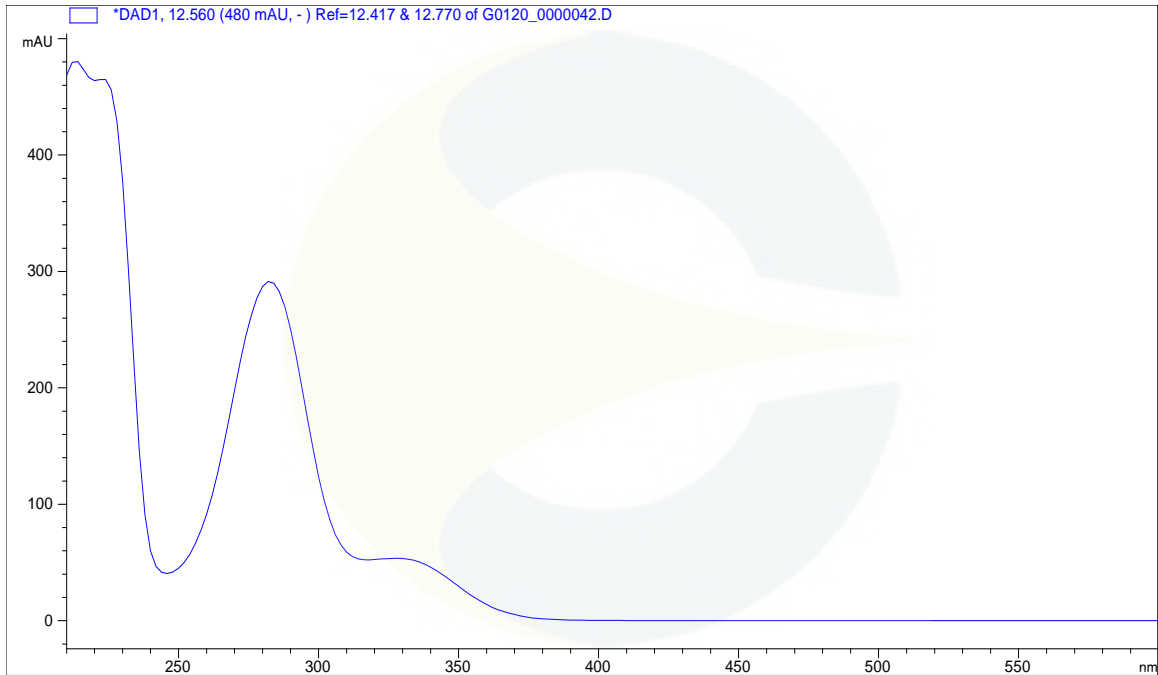
This document is the property of ChromaDex, Inc. and/or its relevant affiliates and contains confidential and proprietary material for the sole use of the intended recipient(s). Any review, use, distribution or disclosure by or to others is strictly prohibited.

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

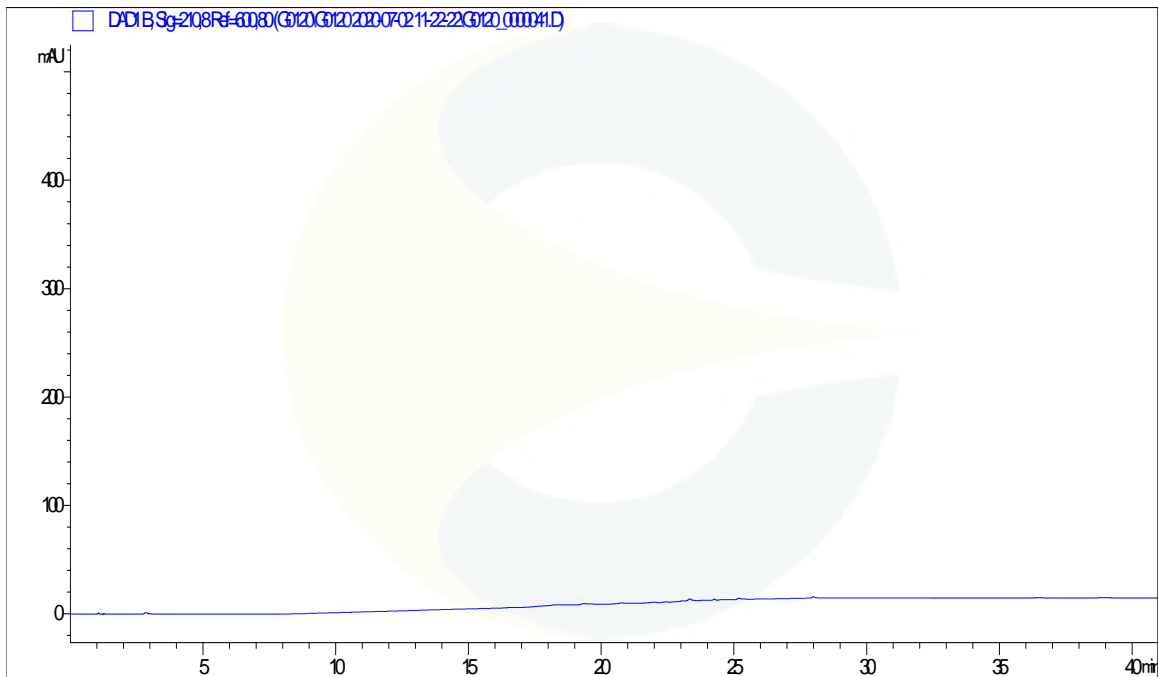
India Contact:
 Life Technologies (India) Pvt. Ltd.
 306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444
 Email: customerservice@lifetechindia.com Website: www.lifetechindia.com

Certificate of Analysis For Laboratory Use Only

UV SPECTRUM AT RT 12.6 MINUTES



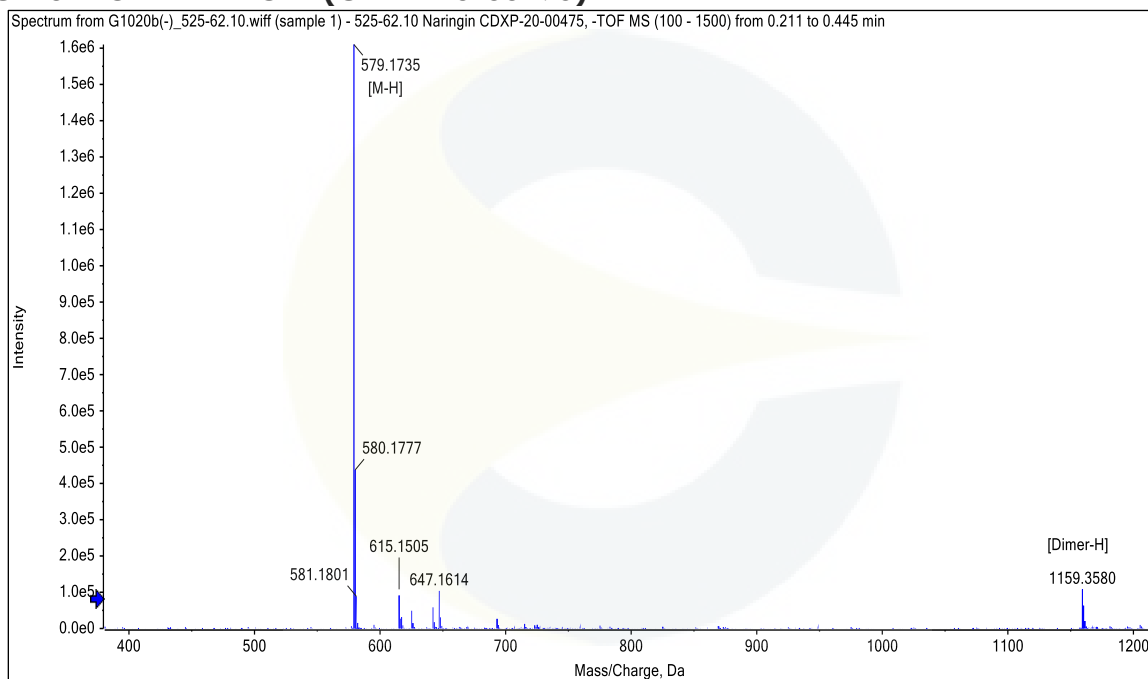
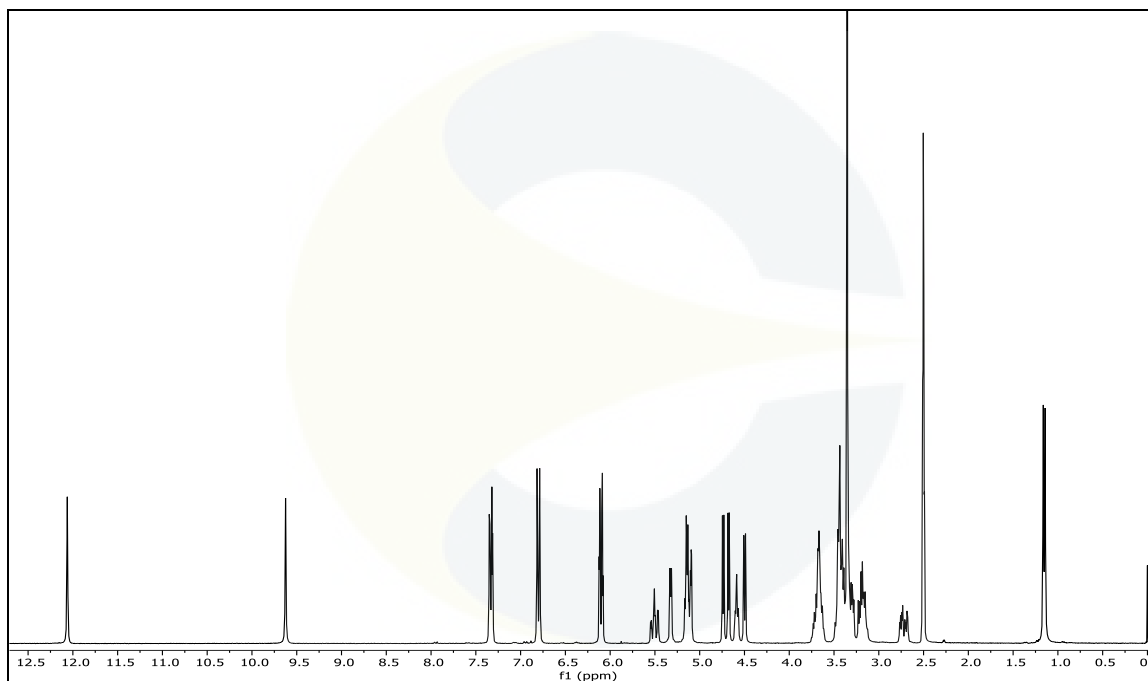
HPLC CHROMATOGRAM OF DILUENT BLANK



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

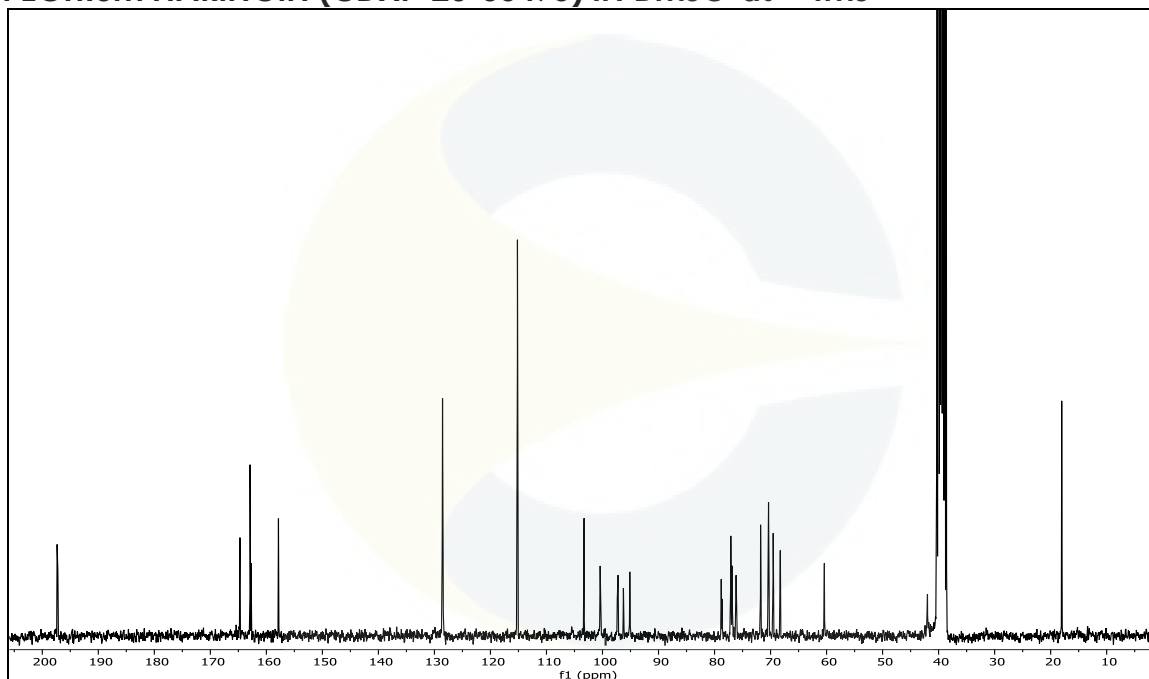
MASS SPECTRUM OF NARINGIN (CDXP-20-00475)

¹H-NMR SPECTRUM OF NARINGIN (CDXP-20-00475) IN DMSO-d₆ + 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 NARINGIN (CDXP-20-00475) IN DMSO-d₆ + TMS

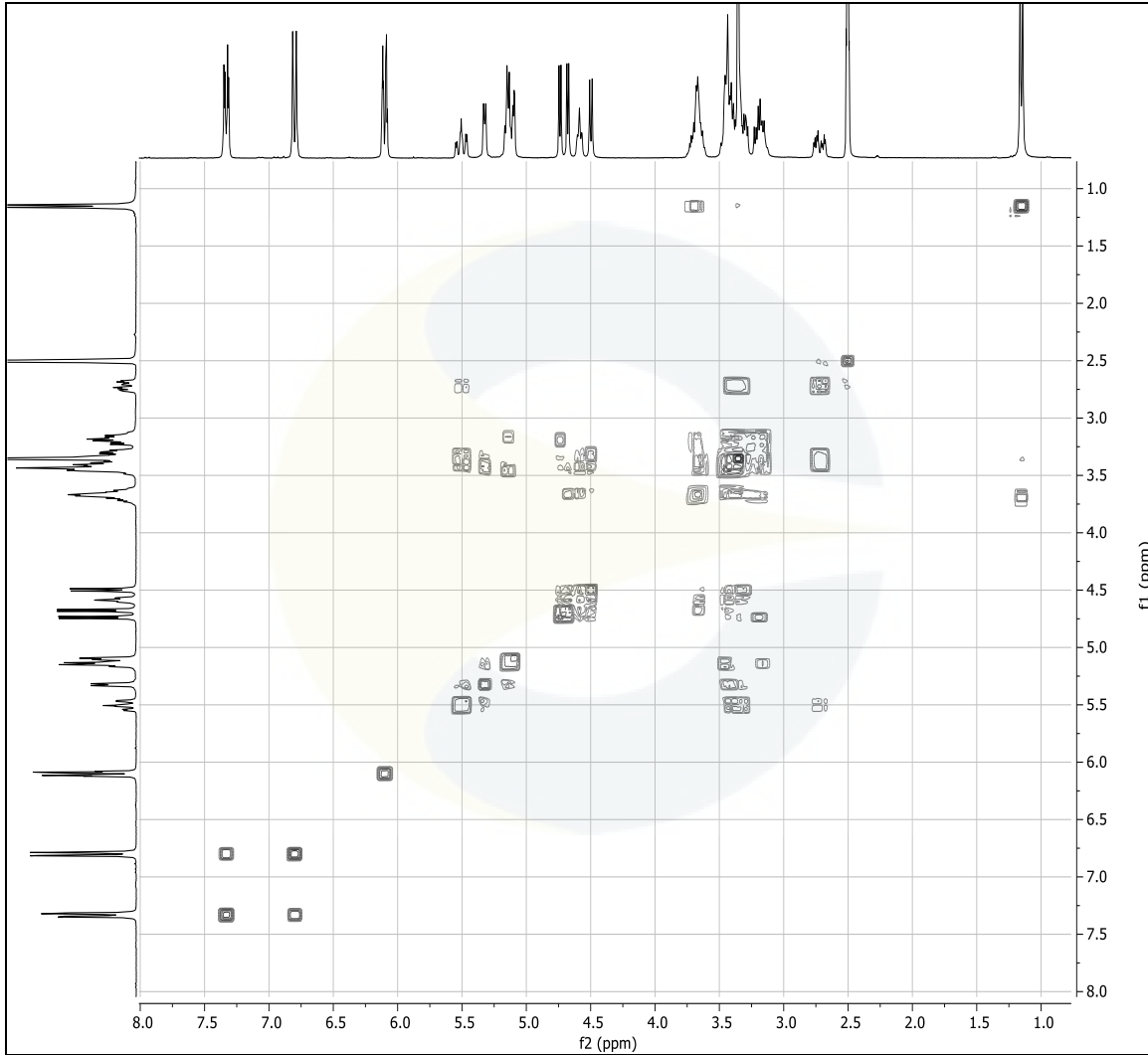


This document is the property of ChromaDex, Inc. and/or its relevant affiliates and contains confidential and proprietary material for the sole use of the intended recipient(s). Any review, use, distribution or disclosure by or to others is strictly prohibited.

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 NARINGIN (CDXP-20-00475) IN DMSO-*d*₆ + TMS

REVISION HISTORY

Revision History	Date of Revision	Document/Changes
00	08/06/2020	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