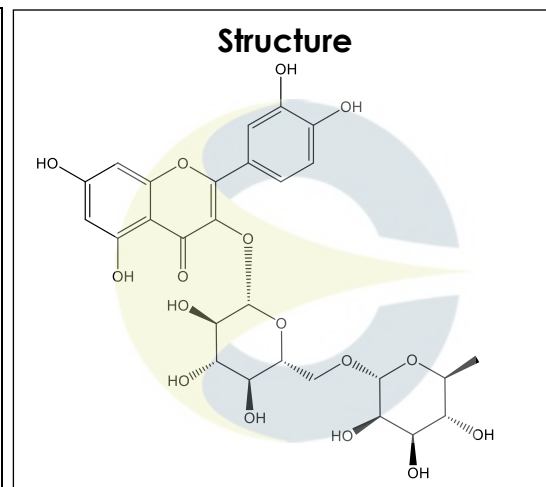


Certificate of Analysis

For Laboratory Use Only

PRODUCT NAME	Rutin
PART NUMBER	00018440
STANDARD TYPE	Analytical Standard (AS)
LOT NUMBER	00018440-002694
REPORT NUMBER	CDXA-RSS-7073-01
SAMPLE NUMBER	CDXA-16-002694
DATE OF SAMPLE	03/02/2016
DATE OF RE-EVALUATION	04/22/2020
DATE OF REPORT	05/13/2020



CHEMICAL NAMES	3,3',4',5,7-Pentahydroxyflavone-3-rutinoside; 3-Rutinosylquercetin; Quercetin-3-rhamnoglycoside; Rutine, Rutoside
CHEMICAL FORMULA	C ₂₇ H ₃₀ O ₁₆
MOLECULAR WEIGHT (MW)	610.52
CHEMICAL FAMILY	Flavanoids
CAS NUMBER	[153-18-4]
EC#(EINECS)	205-814-1
RTECS	VM2975000

ANALYTICAL RESULTS

TEST	METHOD	SPECIFICATION	RESULT
HPLC	0.700.10.2.METH22	NA	96.6%
Mass Spectrum	Direct Infusion: ESI (-)	Conforms	Conforms
Appearance	NA	NA	Yellow needles

STORAGE CONDITIONS

STORAGE	Room Temperature in a dry place.
EXPIRATION DATE	04/2025 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.

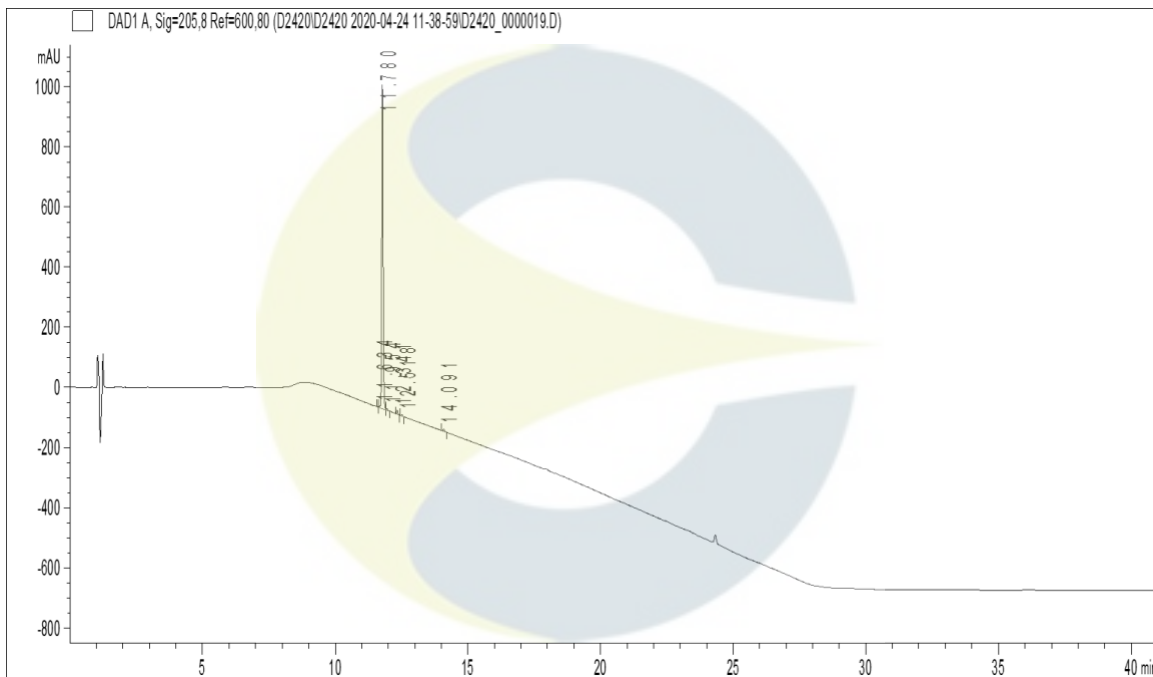
Certificate of Analysis

For Laboratory Use Only

ANALYTICAL CONDITIONS

INSTRUMENT	AGILENT 1260 HPLC UV-VIS (DAD); AGILENT 6510 QTOF
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.
COLUMN TEMP.	60 °C
FLOW RATE	0.4 mL/minute
INJECTION VOL.	0.4 µL
INJECTION CONC.	1.1 mg/mL in Methanol
DETECTION	205 ± 4 nm

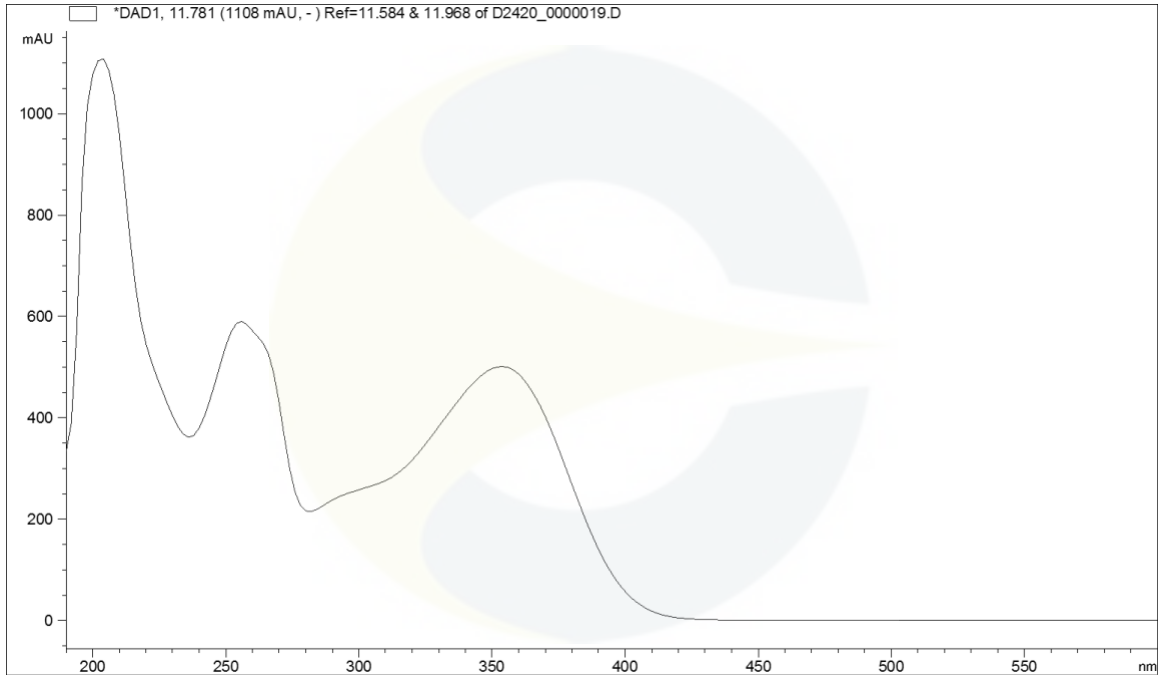
HPLC CHROMATOGRAM OF RUTIN (CDXA-16-002694)



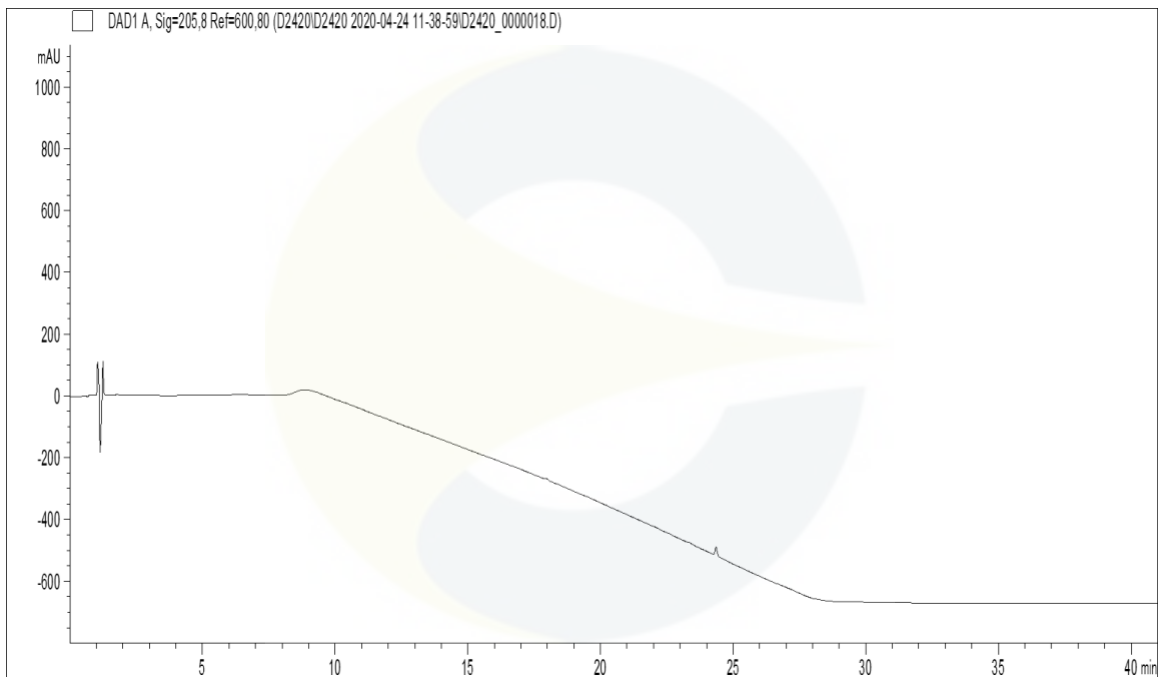
This document is the property of ChromaDex, Inc. and/or its relevant affiliates and contains confidential and proprietary material for the sole use of the intended recipient(s). Any review, use, distribution or disclosure by or to others is strictly prohibited.

Certificate of Analysis For Laboratory Use Only

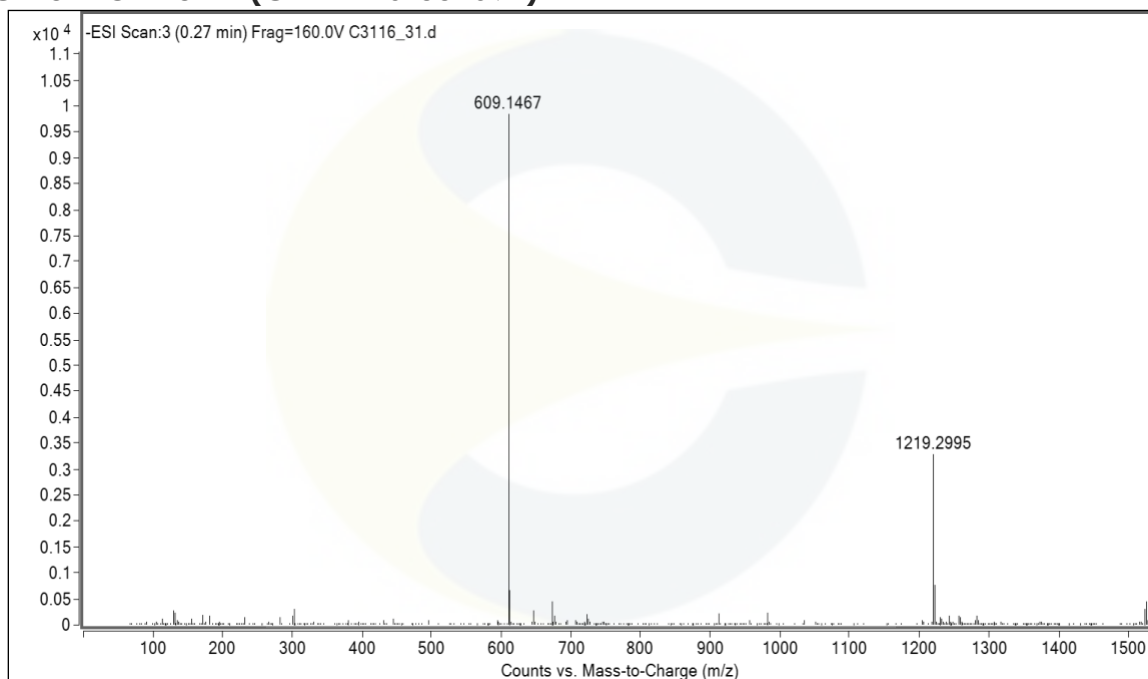
UV SPECTRUM AT RT 11.8 MINUTES



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.

MASS SPECTRUM OF RUTIN (CDXA-16-002694)

REVISION HISTORY

Revision History	Date of Revision	Document/Changes
00	04/04/2016	New report
01	05/13/2020	Passed re-evaluation by HPLC. Updated purity, analytical conditions, expiration date, results and removed melting point.

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.