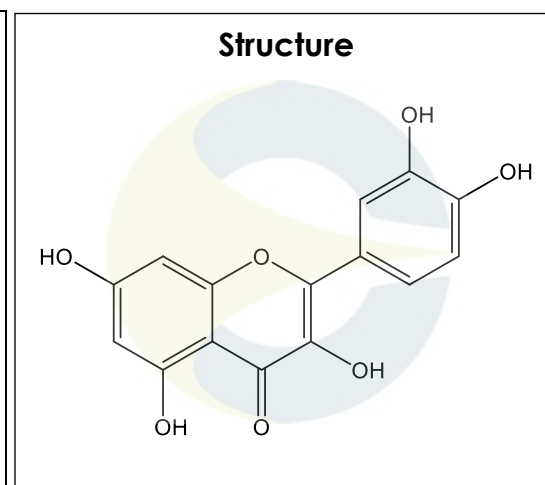


**Certificate of Analysis**
*For Laboratory Use Only*

|                              |  |
|------------------------------|--|
| <b>PRODUCT NAME</b>          | Quercetin  |
| <b>PART NUMBER</b>           | 00017030   |
| <b>STANDARD TYPE</b>         | Primary (P) – Compendial Traceable                         |
| <b>LOT NUMBER</b>            | 00017030-336   |
| <b>REPORT NUMBER</b>         | CDXA-RSS-7303-02   |
| <b>SAMPLE NUMBER</b>         | CDXA-16-012497   |
| <b>DATE OF SAMPLE</b>        | 09/29/2016   |
| <b>DATE OF RE-EVALUATION</b> | 01/27/2017(1 <sup>st</sup> ); 12/03/2020(2 <sup>nd</sup> ) |
| <b>DATE OF REPORT</b>        | 12/16/2020   |



|                              |  |
|------------------------------|--|
| <b>CHEMICAL NAMES</b>        | 3,3',4',5,7-Pentahydroxyflavone; Quercetine; Quercetol; Quertin; Quertine; Sophoretin; Xanthaurine |
| <b>CHEMICAL FORMULA</b>      | C <sub>15</sub> H <sub>10</sub> O <sub>7</sub>   |
| <b>MOLECULAR WEIGHT (MW)</b> | 302.24   |
| <b>CHEMICAL FAMILY</b>       | Flavonoids   |
| <b>CAS NUMBER</b>            | [117-39-5]   |
| <b>EC#(EINECS)</b>           | 204-187-1  |
| <b>RTECS</b>                 | LK8750000  |

**ANALYTICAL RESULTS**

| TEST             | METHOD               | SPECIFICATION         | RESULT                |
|------------------|----------------------|-----------------------|-----------------------|
| Adjusted Purity  | NA                   | ≥ 85%                 | 96.5%                 |
| HPLC             | 0.700.10.2.METH22    | ≥ 90%                 | 97.5%                 |
| NMR              | 4.5.3-CD-4.0-000338  | Conforms to structure | Conforms to structure |
| Mass Spectrum    | 99.1-CDXA-2.0-000126 | Conforms              | Conforms              |
| Residual Solvent | 99.1-CD-9.0-000115   | NA                    | ND                    |
| Water            | 0.700.12.37          | NA                    | 1.0%                  |
| Appearance       | NA                   | NA                    | Yellow powder         |

ADJUSTED PURITY: 96.5% IS BASED ON (100 - 1.0 WATER - 0.0 SOLVENTS) X 97.5% HPLC

| TRACEABLE SOURCE | LOT NUMBER | ASSAY RESULT (WEIGHT%) |
|------------------|------------|------------------------|
| USP              | R120F0     | 91.0%                  |

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

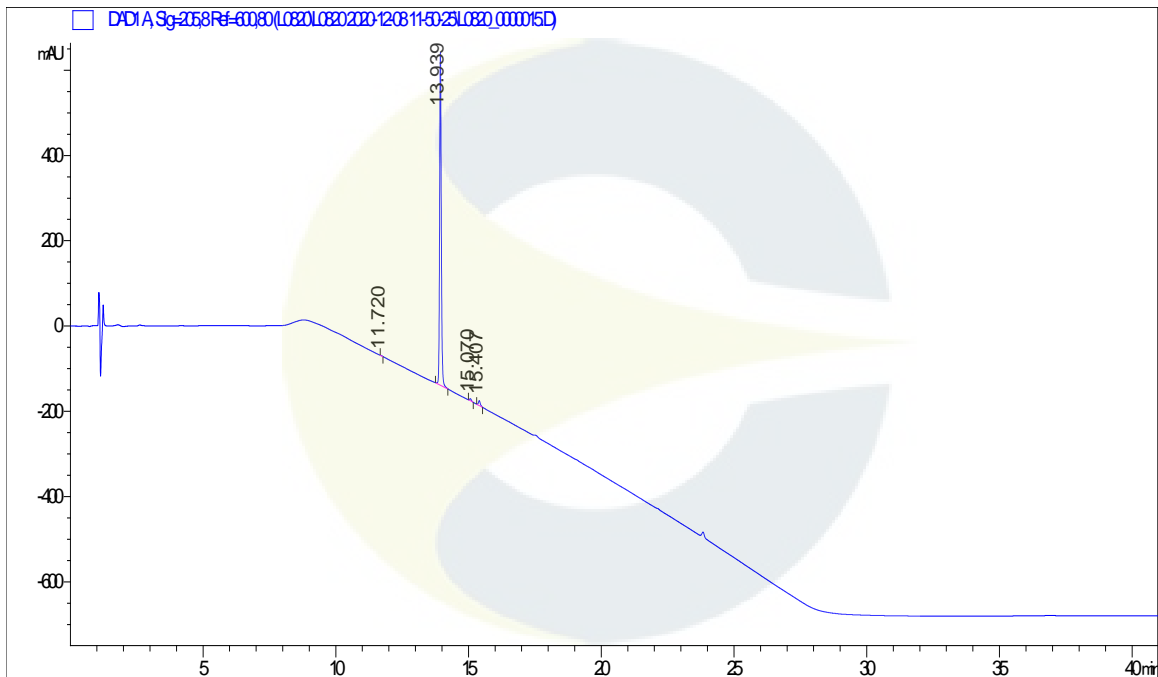
**STORAGE CONDITIONS**

**STORAGE** Room Temperature in a dry place.  
**EXPIRATION DATE** 12/2025 under the above conditions.

**ANALYTICAL CONDITIONS**

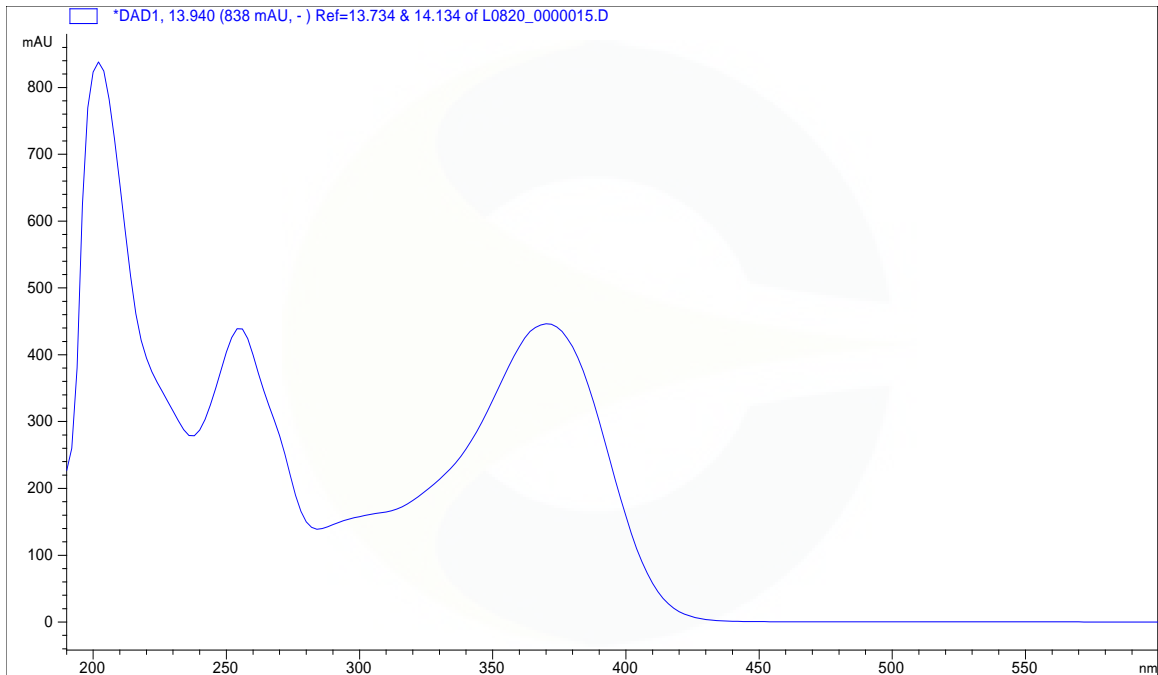
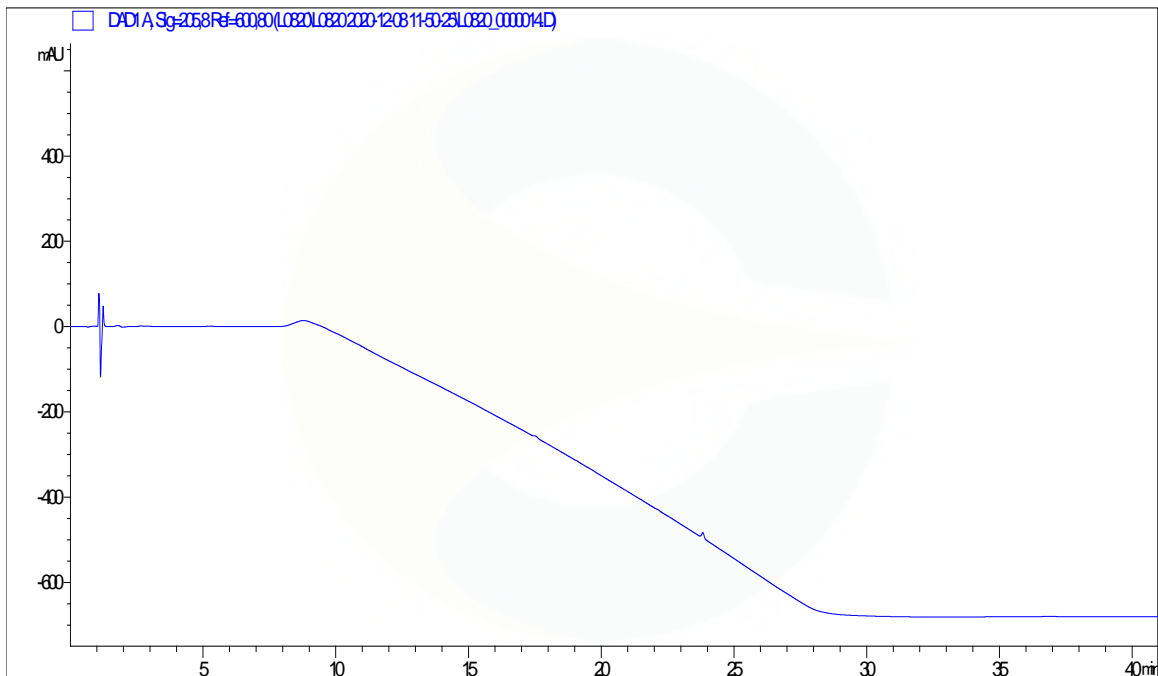
**INSTRUMENT** AGILENT 1260 HPLC UV-VIS (DAD); AGILENT 1100 ION TRAP  
**COLUMN** Phenomenex Luna C18(2) 150 x 2.00 mm, 5 µm particle size  
**MOBILE PHASE** A - 0.1% Trifluoroacetic acid in Milli-Q water, B - Acetonitrile;  
 Isocratic 5% B for 5 minutes, then increasing to 95% B over 20 minutes. Hold at 95% B for 15 minutes.  
**COLUMN TEMP.** 60 °C  
**FLOW RATE** 0.4 mL/minute  
**INJECTION VOL.** 0.2 µL  
**INJECTION CONC.** 1.0 mg/mL in Methanol  
**DETECTION** 205 ± 4 nm

**HPLC CHROMATOGRAM OF QUERCETIN (CDXA-16-012497)**



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.

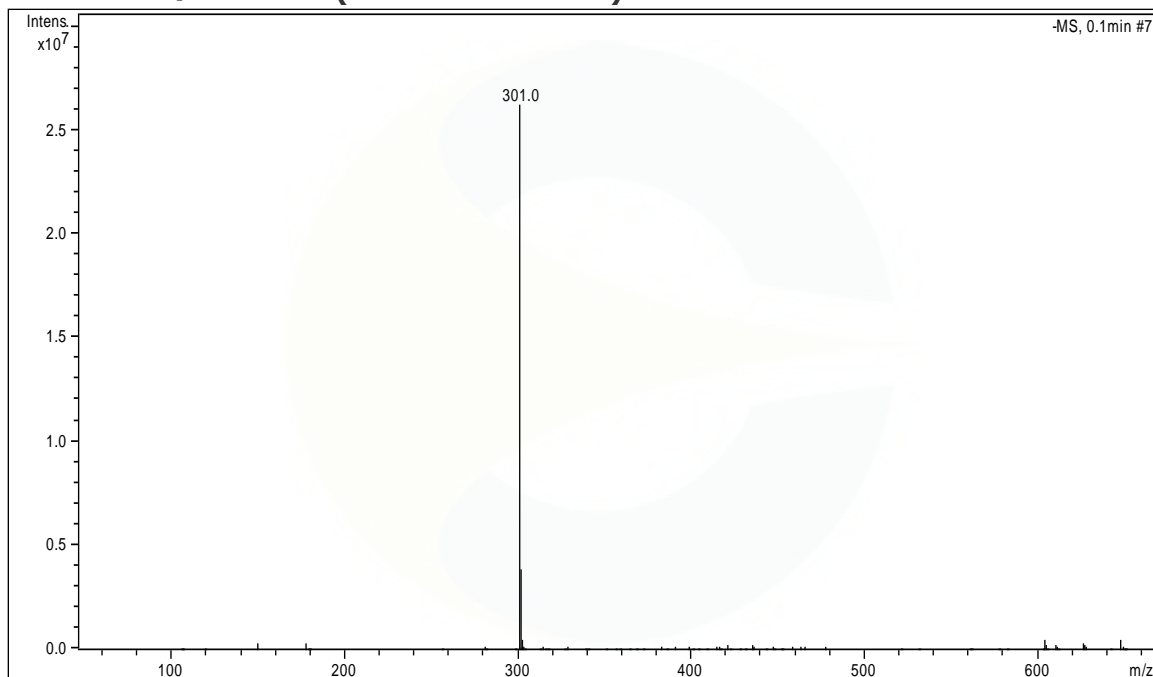
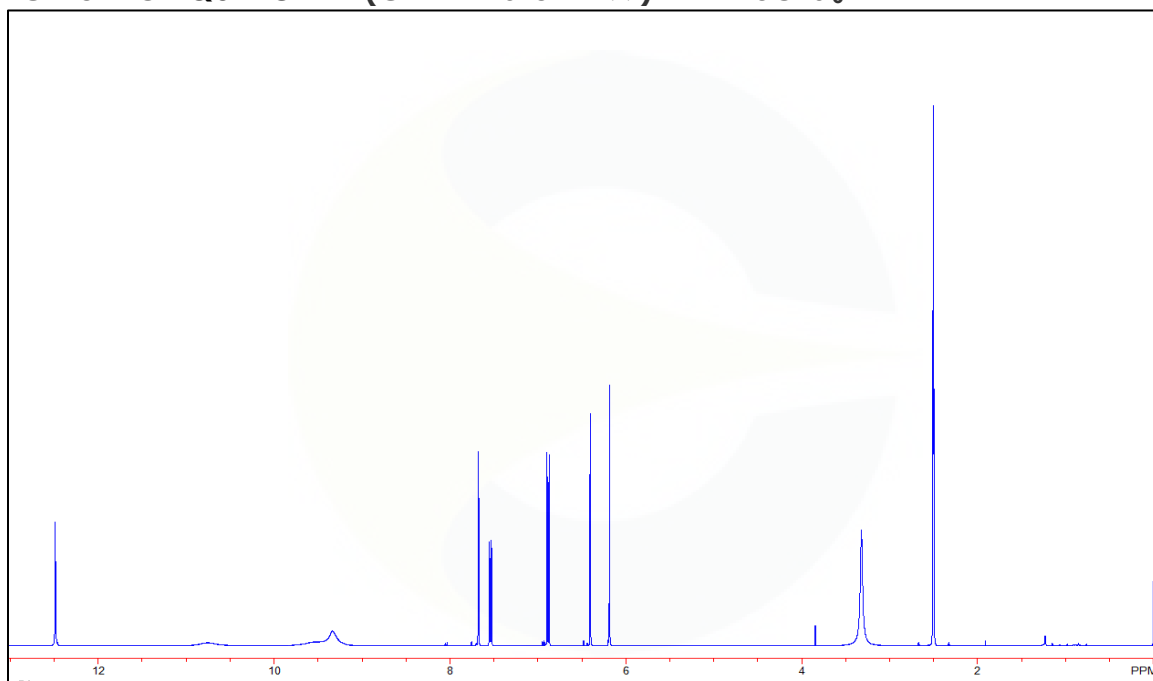
10900 Wilshire Blvd., Suite 600, Los Angeles, CA 90024 | T: +1 949-419-0288 | F: +1 949-419-0294 | www.chromadex.com  
 Laboratory address: 1751 S. Fordham St., Suite 350, Longmont, CO 80503

**Certificate of Analysis**
*For Laboratory Use Only*
**UV SPECTRUM AT 13.9 MINUTES**

**HPLC CHROMATOGRAM OF 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

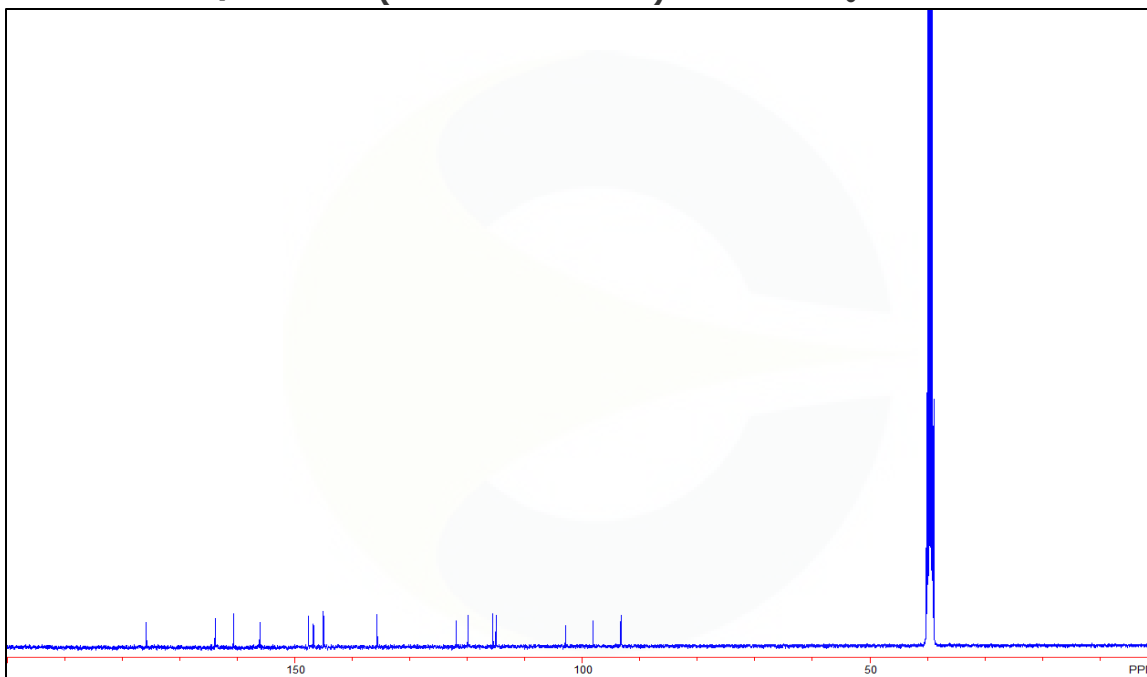
**MASS SPECTRUM OF QUERCETIN (CDXA-16-012497)****<sup>1</sup>H-NMR SPECTRUM OF QUERCETIN (CDXA-16-012497) IN DMSO-d<sub>6</sub>**

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](http://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](mailto:customerservice@lifetechindia.com) Website: [www.lifetechindia.com](http://www.lifetechindia.com)

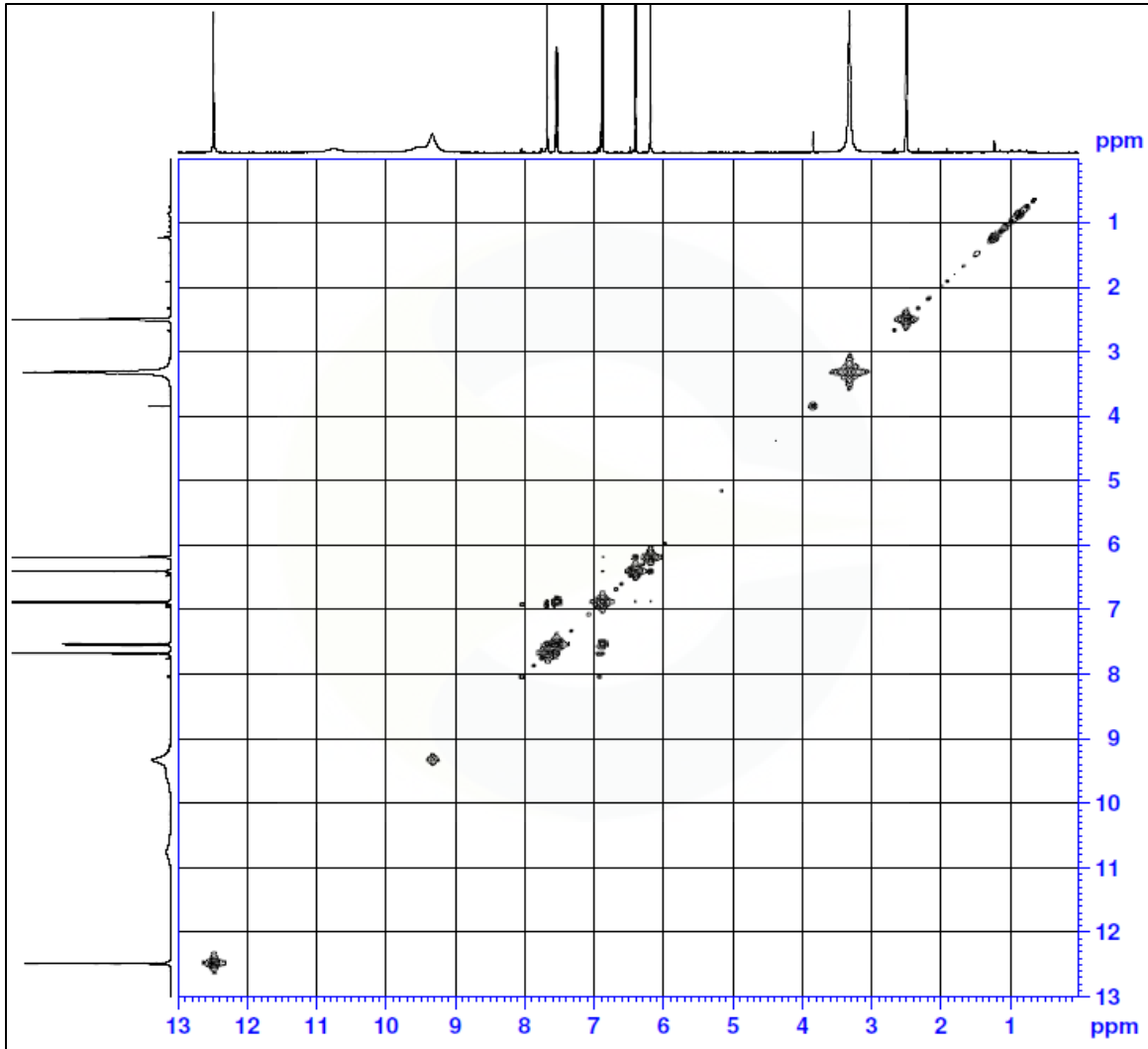
**<sup>13</sup>C-NMR SPECTRUM OF QUERCETIN (CDXA-16-012497) IN DMSO-d<sub>6</sub>**



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](http://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](mailto:customerservice@lifetechindia.com) Website: [www.lifetechindia.com](http://www.lifetechindia.com)

**COSY-NMR SPECTRUM OF QUERCETIN (CDXA-16-012497) IN DMSO-d<sub>6</sub>**

**REVISION HISTORY**

| <u>Revision History</u> | <u>Date of Revision</u> | <u>Document/Changes</u>  |
|-------------------------|-------------------------|--|
| 00                      | 10/20/2016              | New report   |
| 01                      | 03/03/2017              | Passed re-evaluation for CT grade. Updated analytical conditions and analytical results.   |
| 02                      | 12/16/2020              | Passed re-evaluation by HPLC and KF. Updated analytical results, analytical conditions, chromatograms, and expiration date. 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.