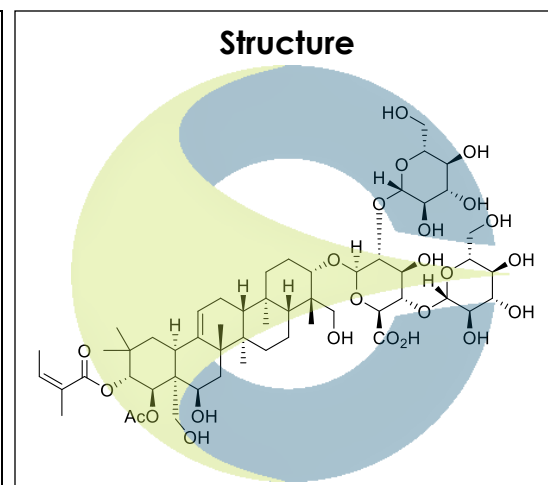


**Certificate of Analysis**

For Laboratory Use Only

|                              |  |
|------------------------------|--|
| <b>PRODUCT NAME</b>          | Aescin IB  |
| <b>PART NUMBER</b>           | 00001478   |
| <b>STANDARD TYPE</b>         | Analytical Standard (AS)                                     |
| <b>LOT NUMBER</b>            | 00001478-125   |
| <b>REPORT NUMBER</b>         | CDXA-RSS-5540-02   |
| <b>SAMPLE NUMBER</b>         | CDXA-13-2393   |
| <b>DATE OF SAMPLE</b>        | 04/09/2013   |
| <b>DATE OF RE-EVALUATION</b> | 08/13/2018 (1 <sup>st</sup> ); 07/07/2022 (2 <sup>nd</sup> ) |
| <b>DATE OF REPORT</b>        | 07/22/2022   |



|                              |  |
|------------------------------|--|
| <b>CHEMICAL NAMES</b>        | (3 $\beta$ ,4 $\beta$ ,16 $\alpha$ ,21 $\beta$ ,22 $\alpha$ )-22-(Acetyloxy)-16,23,28-trihydroxy-21-[[[(2Z)-2-methyl-1-oxo-2-buten-1-yl]oxy]olean-12-en-3-yl O- $\beta$ -D-glucopyranosyl-(1 $\rightarrow$ 2)-O-[ $\beta$ -D-glucopyranosyl-(1 $\rightarrow$ 4)]- $\beta$ -D-glucopyranosiduronic acid; Escin Ib |
| <b>CHEMICAL FORMULA</b>      | C <sub>55</sub> H <sub>86</sub> O <sub>24</sub>  |
| <b>MOLECULAR WEIGHT (MW)</b> | 1131.26  |
| <b>CHEMICAL FAMILY</b>       | Terpenes   |
| <b>CAS NUMBER</b>            | [26339-90-2]   |
| <b>EC#(EINECS)</b>           | 247-619-4  |
| <b>RTECS</b>                 | NA   |

**ANALYTICAL RESULTS**

| TEST          | METHOD                  | SPECIFICATION | RESULT       |
|---------------|-------------------------|---------------|--------------|
| HPLC          | 0.700.10.2.METH22       | $\geq 75\%$   | 91.5%        |
| Mass Spectrum | Direct Infusion (ESI -) | Conforms      | Conforms     |
| Appearance    | NA                      | NA            | White powder |

**STORAGE CONDITIONS**

|                        |                                     |
|------------------------|-------------------------------------|
| <b>STORAGE</b>         | +4 °C in a dry place.               |
| <b>EXPIRATION DATE</b> | 07/2027 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.

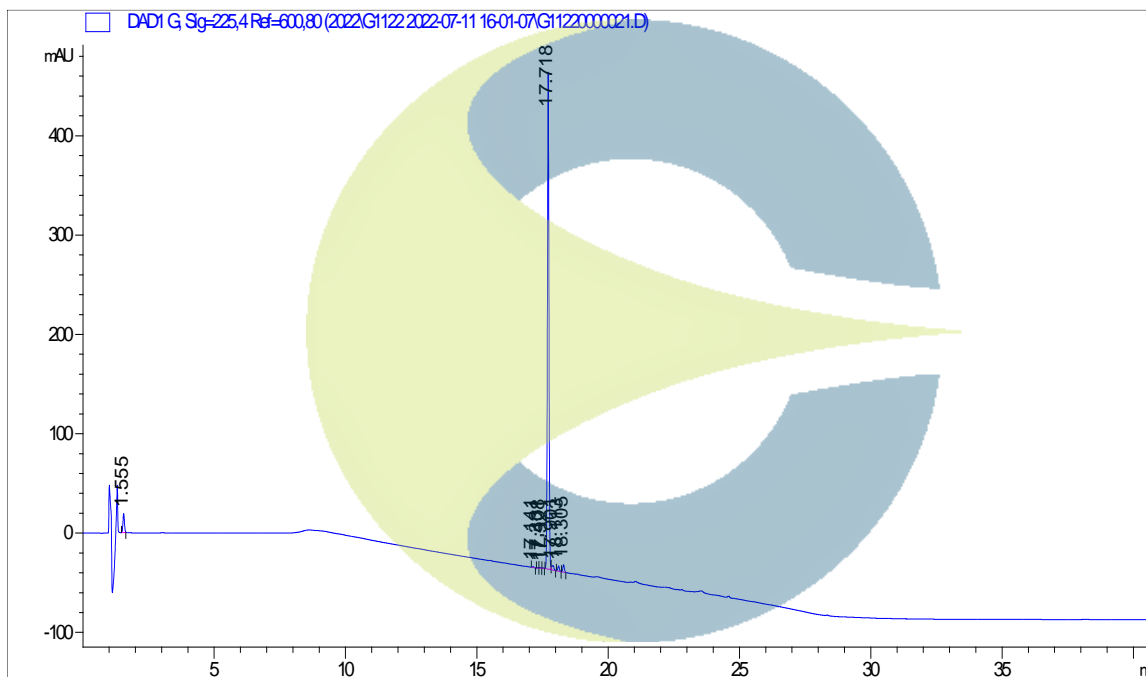
## Certificate of Analysis

*For Laboratory Use Only*

### ANALYTICAL CONDITIONS

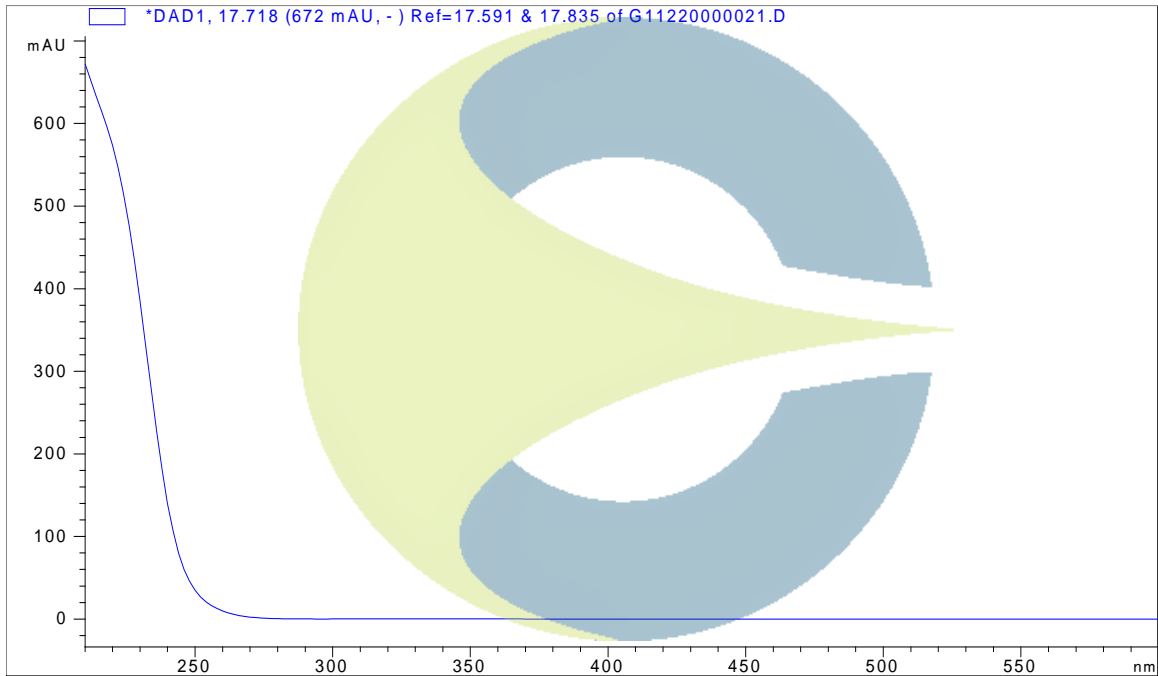
|                        |   |
|------------------------|---|
| <b>INSTRUMENT</b>      | AGILENT 1260 HPLC UV-VIS (DAD); AGILENT 6510 QTOF   |
| <b>COLUMN</b>          | Phenomenex Luna C18(2) 150 x 2.00 mm, 5 µm particle size  |
| <b>MOBILE PHASE</b>    | A - 0.1% Trifluoroacetic acid in Ultrapure water, B - Acetonitrile;<br>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. |
| <b>COLUMN TEMP.</b>    | 60 °C   |
| <b>FLOW RATE</b>       | 0.4 mL/minute   |
| <b>INJECTION VOL.</b>  | 2.0 µL  |
| <b>INJECTION CONC.</b> | 1.0 mg/mL in Methanol   |
| <b>DETECTION</b>       | 225 ± 2 nm  |

### HPLC CHROMATOGRAM OF AESCIN IB (CDXA-13-2393)

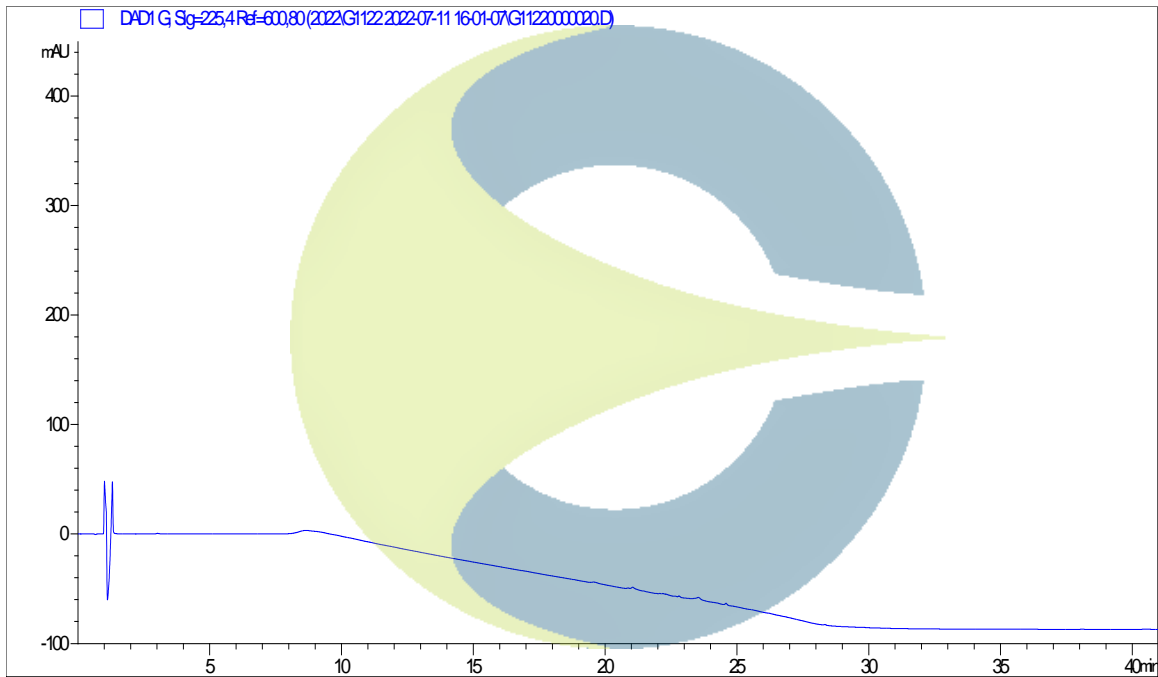


This document is the property of ChromaDex, Inc. and/or its relevant affiliates and contains confidential and proprietary material for the sole use of the intended recipient(s). Any review, use, distribution or disclosure by or to others is strictly prohibited.

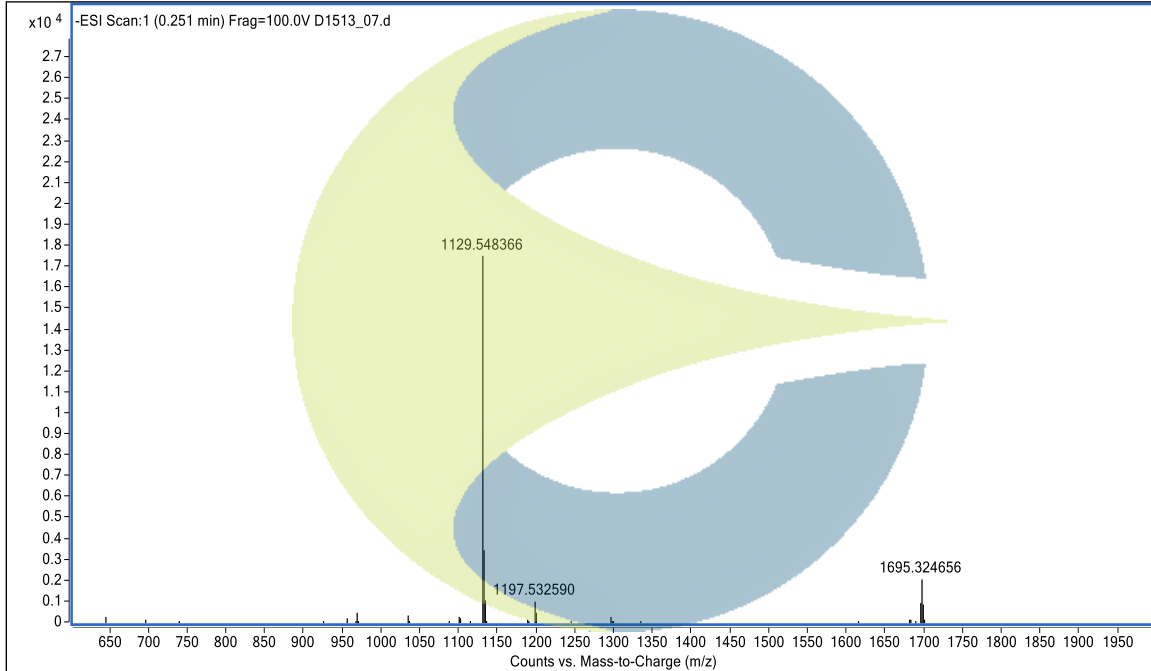
**UV SPECTRUM AT RT = 17.7 MINUTES**



**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 AESCIN IB (CDXA-13-2393)**

**REVISION HISTORY**

| <u>Revision History</u> | <u>Date of Revision</u> | <u>Document/Changes</u>  |
|-------------------------|-------------------------|--|
| 00                      | 05/03/2013              | New report   |
| 01                      | 10/10/2018              | Passed reevaluation by HPLC. Updated expiration date, chemical structure, analytical results, analytical conditions, and chromatograms. Removed melting point. |
| 02                      | 07/22/2022              | Passed second reevaluation by HPLC. Updated expiration date, analytical results, analytical conditions, and chromatograms.                                     |

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.