

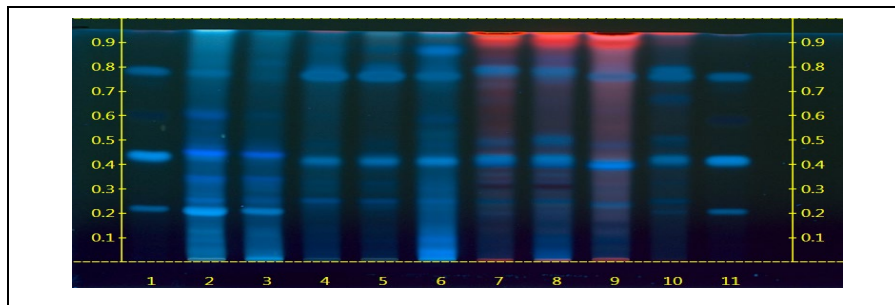
Certificate Issued To:
Trout Lake Farm
180 Airport St NE
Ephrata, WA 98823
USA



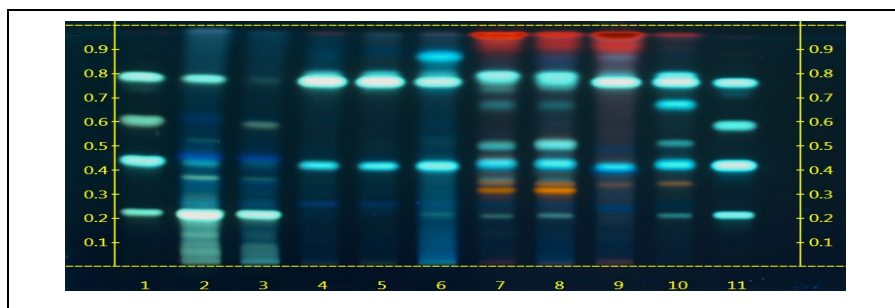
Work performed at:
Alkemist Labs
12661 Hoover Street
Garden Grove, CA 92841
714-754-HERB (4372)
714-668-9972 (FAX)
Sales@Alkemist.com
www.Alkemist.com

Certificate of Analysis: ECHINACEA ANGUSTIFOLIA HERB (EAH-E1 (2019))
High Performance Thin-Layer Chromatography with Photo-Documentation

1



2



Company Name: Trout Lake Farm
Title: ECHINACEA ANGUSTIFOLIA HERB
Plant Part: leaf
Appearance: Green cut and sifted leaves
Sample Packaging: Clear Whirl-Pak

Sample Received: 08/08/19
Form of Botanical: cut and sifted
Lot Number: (EAH-E1 (2019)) → Lane 7(6µl)
Sample: 19220RVX_1

Latin Name: *Echinacea angustifolia* DC. [Asteraceae]
Reference Sample: Lane 2(6µl) (OA20508AHP1) *Echinacea pallida* (root); Lane 3(6µl) (DG16714AHP1) *Echinacea angustifolia* (root); Lane 4(6µl) (KA14604PB) *Echinacea purpurea* (root); Lane 8(6µl) (DG34707TLF) *Echinacea angustifolia* (aerial part); Lane 9(6µl) (KA29612TLF1) *Echinacea purpurea* (aerial part); Lane 10(6µl) (OA21818HH2) *Echinacea pallida* (aerial part); held at Alkemist Labs, Garden Grove, CA.

Analyst: A. Davis, J. Kim, N. Afendikova, M. Edwards, S. Rodriguez, S. Kabbaj, M. Lababidi, N. Hoang, K. Tran 123469
Sample Preparation: 0.3g+3mL Methanol, sonicate/heat at 50°C for 30 min.

Stationary Phase: Silica gel 60, HPTLC plates
Mobile Phase: ethyl acetate: Acetic acid: Formic Acid: Water [10/1.1/1.1/1.2]
Detection: (1) UV 366 nm

Reference Standard: Lanes 1(6µl) and 11(6µl) Cynarin (0905/0, XSYN), Echinacoside (03, XSYN), Methanol (18B066508, BDH), Caftaric Acid (00003028-004, CHR), Methanol (080917B, VWR), Chicoric Acid (03 1017/0, XSYN), Methanol (18B066508, BDH)

Reference Source: Method Developed by Alkemist Labs
IDT-SOP-72-01

Comments & Conclusions: Lane 7 is the test sample ECHINACEA ANGUSTIFOLIA HERB (EAH-E1 (2019)). Lanes 2, 3, 4, 8, 9, 10, are the reference samples used for comparison. This test sample, ECHINACEA ANGUSTIFOLIA HERB (EAH-E1 (2019)) is consistent with the chromatographic profile of the reference samples of *Echinacea angustifolia*, used above. **This test sample ECHINACEA ANGUSTIFOLIA HERB (EAH-E1 (2019)) has characteristics of *Echinacea angustifolia* leaf.**

NOTE: The above conclusion may be a function of the natural variance found in botanicals &/or the extraction process used to create specific extracts. The growing and drying conditions, age, seasonal variations, geographic location, extraction solvents, etc. all play a role in the phytochemical fingerprint of botanicals as well as their extracts; hence, chromatographic variations are expected.

Examined, Reviewed & Authorized by: Khanh N Tran, HPTLC, R&D Supervisor, Alkemist Labs

Report Date: 08/14/19



Note: Any unidentified lanes in the above chromatograms are confidential and may represent internal studies or other test samples not related to EAH-E1 (2019).
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