

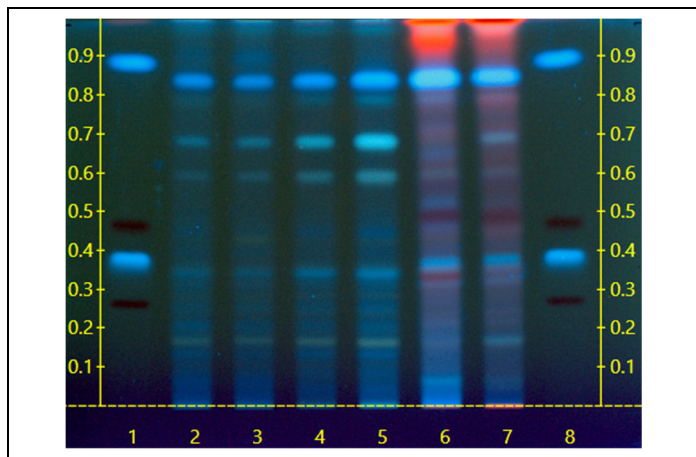
Certificate Issued To:
Mountain Rose Herbs
12661 Hoover St
Garden Grove, CA 92841
USA



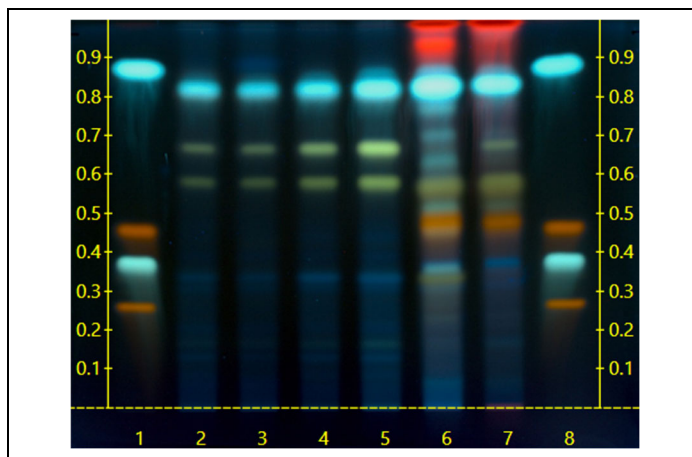
Work performed at:
Alkemist Labs
12661 Hoover Street
Garden Grove, CA 92841
714-754-HERB (4372)
714-668-9972 (FAX)
Sales@Alkemist.com
www.Alkemist.com

Certificate of Analysis: Comfrey Root (25639)
High Performance Thin-Layer Chromatography with Photo-Documentation

1



2



Company Name: Mountain Rose Herbs
Title: Comfrey Root
Plant Part: root
Sample Received: 04/28/21
Sample Packaging: Clear Reclosable Plastic Bag
Form of Botanical: cut and sifted
Appearance: Brown and tan cut and sifted root pieces
Source Location: Mountain Rose Herbs
Lot Number: (25639) → Lanes 4(3µl), 5(6µl)
Sample: 21118EWE_2
Latin Name: *Symphytum officinale* L. [Boraginaceae]
Reference Sample: Lane 2(3µl) (UC33404HEC), Lane 3(3µl) (UC30403HC) *Symphytum officinale* (root); Lane 6(3µl) (UC35009FRNT) *Symphytum officinale* (herb (leaf, stem)); Lane 7(3µl) (UC24817AHP1) *Symphytum officinale* (leaf); held at Alkemist Labs, Garden Grove, CA.
Analyst: A. Davis, N. Afendikova, M. Edwards, S. Kabbaj, N. Hoang, K. Tran, J. Lopez, J. Mares 154791
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 [10/0.9/0.9/2]
Detection: (1) UV 366 nm
(2) Natural Product + Polyethylene Glycol, 366nm (Reich, E., 2007)
Reference Standard: Lanes 1(2µl) and 8(2µl) Chlorogenic Acid (11 1026/0, XSYN), Caffeic acid (1117/0, XSYN), Hyperoside (28 0702/0, XSYN), Rutin (A0348926, ACR), Methanol (0000206697, BDH)
Reference Source: Herbal Drugs and Phytopharmaceuticals, Max Wichtl, 3rd ed., 2004
IDT-SOP-72-01

Comments & Conclusions: Lanes 4, 5 are the test sample Comfrey Root (25639). Lanes 2, 3, 6, 7, are the reference samples used for comparison. This test sample, Comfrey Root (25639) is consistent with the chromatographic profile of the reference samples of *Symphytum officinale*, used above. **This test sample Comfrey Root (25639) has characteristics of *Symphytum officinale* root.**

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: 05/04/21

ISO/IEC 17025



ACCREDITED
CERTIFICATE #3851.01

Note: Any unidentified lanes in the above chromatograms are confidential and may represent internal studies or other test samples not related to 25639. This report applies to the sample investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. This report is for the exclusive use of the party who requested the report and not for public dissemination or use by third parties, including for promotional purposes, without the prior written permission of Alkemist Labs, Inc. This report provides technical results for a specific sample and the report shall not be altered, modified, supplemented or abstracted in any manner. Any violation of these conditions renders the report and its results void. © 2021 Alkemist Labs, Inc. All Rights Reserved