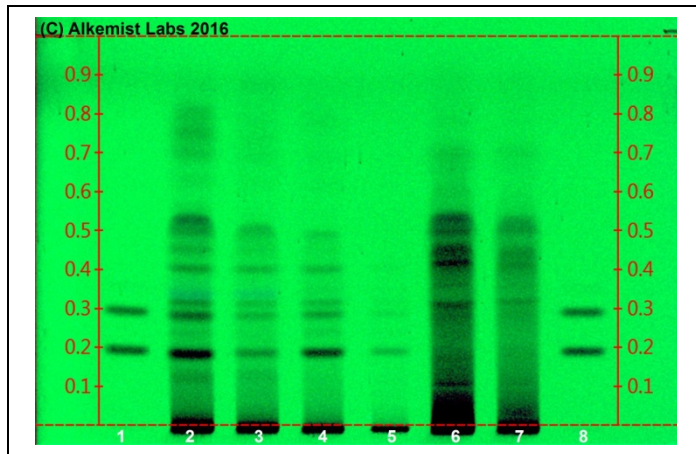


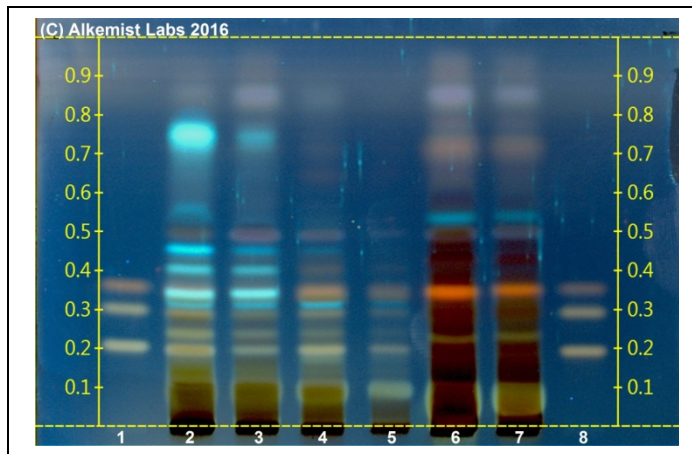


Certificate of Analysis: Rhodiola (RMRR1-091214)
High Performance Thin-Layer Chromatography with Photo-Documentation

1



2



Company Name: Superman Herbs
Title: Rhodiola
Plant Part: root
Sample Received: 03/16/16
Sample Description: Foil Pouch
Form of Botanical: powdered extract
Appearance: Foil Pouch
Lot : (RMRR1-091214) → Lanes 4(0.5µl), 5(0.1µl)
Sample : PO07616SUP1_1
Latin Name: Rhodiola rosea L. [Crassulaceae]
Reference Sample : Lane 2(3µl) (PO17403CHR1) Rhodiola rosea (root); Lane 3(3µl) (PO00213AP1) Rhodiola rosea (root); Lane 6(4µl) (AVQ09811SWH1) Rhodiola crenulata (root); Lane 7(2µl) (AVQ09811SWH1) Rhodiola crenulata (root); held at Alkemist Labs, Costa Mesa, CA.
Analyst: N. Hoang, L. Scott, P. Fast, T. Collins 67420
Sample Prep: 0.3g+3mL 70% grain EtOH sonicate/heat @-50° C ~ 1/2 hr
Stationary Phase: Silica gel 60, F₂₅₄, HPTLC plates
Mobile Phase: ethyl acetate: CH₃OH: water [7.7/1.3/1]
Detection: (1) UV 254 nm
(2) Vanillin/H₂SO₄ Reagent → 120° C 10 min → UV 365 nm
Reference Std: Lanes 1(3µl) and 8(3µl) Rosarin (00018366-4922, CHR), Salidroside (19550-114, CHR), Rosavin (052M4721V, SigAl), Methanol (031313A, VWR) ~0.1%
Reference Source: BTM 715-0003
IDT-SOP-72-01

Comments & Conclusions: Lanes 4, 5 are the test sample Rhodiola (RMRR1-091214). Lanes 2, 3, 6, 7 are the reference samples used for comparison. This test sample, Rhodiola (RMRR1-091214), is consistent with the chromatographic profile of the reference samples of Rhodiola rosea L. [Crassulaceae], used above. **This test sample, Rhodiola (RMRR1-091214) has characteristics of an extract derived from Rhodiola rosea L. [Crassulaceae] 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: Sandy Sudberg, Senior Data Analyst, Alkemist Labs

Report Date: 03/23/16

ISO/IEC 17025



Note: Any unidentified lanes in the above chromatograms are confidential and may represent internal studies or other test samples not related to RMRR1-091214. 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. © 2016 Alkemist Labs, Inc. All Rights Reserved