

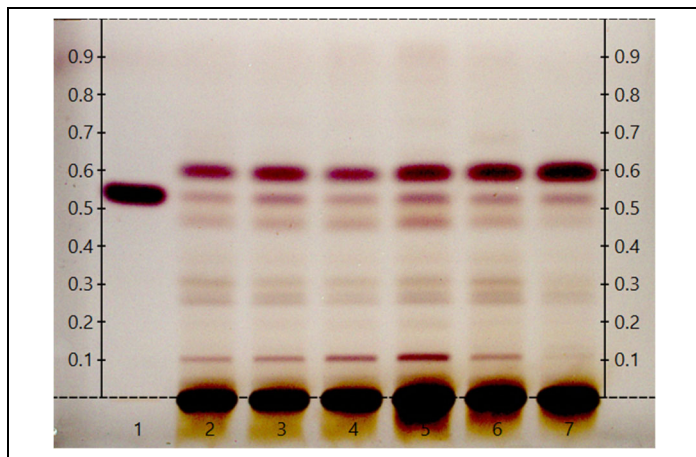
Certificate Issued To:  
**Lost Empire Herbs**  
8301 NW 101st Ter.  
Kansas City, MO 64153-2321  
United States



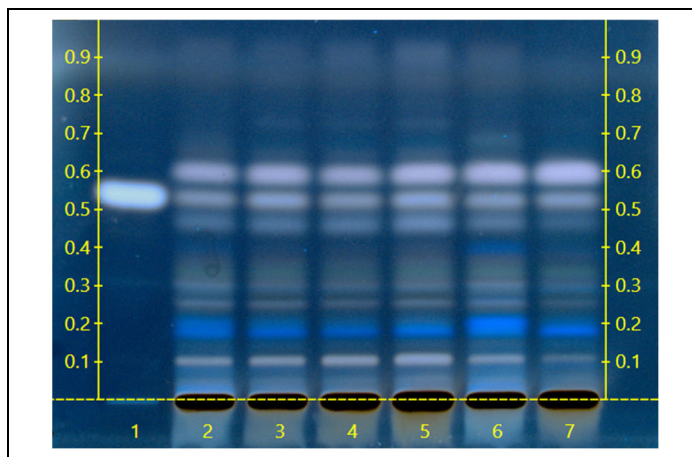
Work performed at:  
**Alkemist Labs**  
12661 Hoover Street  
Garden Grove, CA 92841  
714-754-HERB (4372)  
714-668-9972 (FAX)  
Sales@Alkemist.com  
www.Alkemist.com

**Certificate of Analysis: Maca (BMACA16AUG22)**  
High Performance Thin-Layer Chromatography with Photo-Documentation

1



2



Company Name: Lost Empire Herbs  
Title: Maca  
Plant Part: root  
Sample Received: 09/06/22  
Sample Packaging: Clear Reclosable Plastic Bag  
Form of Botanical: powder  
Appearance: Light tan powder  
Lot Number: (BMACA16AUG22) → Lanes 4(6µl), 5(10µl)  
Sample: 22249VBD\_1  
Latin Name: *Lepidium meyenii* Walp. [Brassicaceae]  
Reference Sample: Lane 2(6µl) (GC23809CRB), Lane 3(6µl) (20100MXG), Lane 6(6µl) (GC24509MRH) *Lepidium meyenii* (root); Lane 7(6µl) (19193UXK) *Lepidium meyenii* (tuber); held at Alkemist Labs, Garden Grove, CA.  
Analyst: J.Mares, K.Chopra, K.Montoya, K.Tran, M.Levine, N.Carson, N.Hoang, N.Afendikova, P.Hoang, S. Kabbaj, S.Sudberg, T.Louis, D.Robinson 184192  
Sample Preparation: 0.3g+3mL 70% grain Ethanol, sonicate/heat at 50° C for 30 min.  
Stationary Phase: Silica gel 60, HPTLC plates  
Mobile Phase: Toluene: Ethyl Acetate: Acetic acid [7/3.3/0.3]  
Detection: (1) 10% Sulfuric, 100°C, 2min, Vis (Reich, E., 2007)  
(2) 10% Sulfuric, 100°C, 2min, 366nm (Reich, E., 2007)  
Reference Standard: Lane 1(3µl) β-Sitosterol (0000120099, SigAl), Methanol (216546, FC)  
Reference Source: Method developed by Alkemist Labs  
IDT-SOP-72-01

**Comments & Conclusions:** Lanes 4, 5 are the test sample Maca (BMACA16AUG22). Lanes 2, 3, 6, 7, are the reference samples used for comparison. This test sample, Maca (BMACA16AUG22) is consistent with the chromatographic profile of the reference samples of *Lepidium meyenii*, used above. **This test sample Maca (BMACA16AUG22) has characteristics of *Lepidium meyenii* 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: 09/09/22

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 BMACA16AUG22. 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. © 2022 Alkemist Labs, Inc. All Rights Reserved