

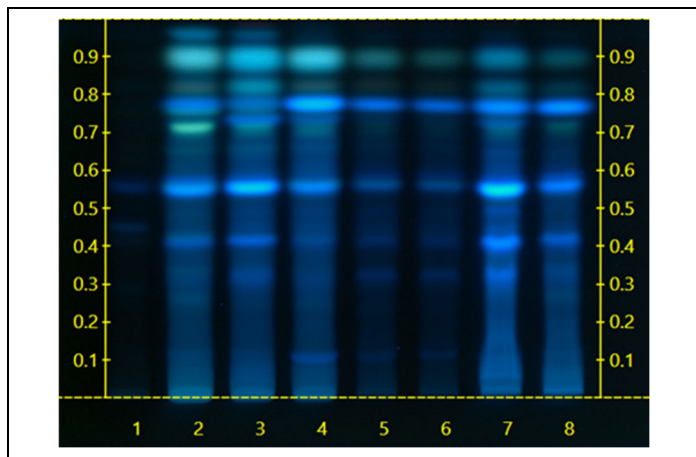
Certificate Issued To:  
**Lost Empire Herbs**  
8301 NW 101st Ter.  
Kansas City, MO 64153-2321  
United States



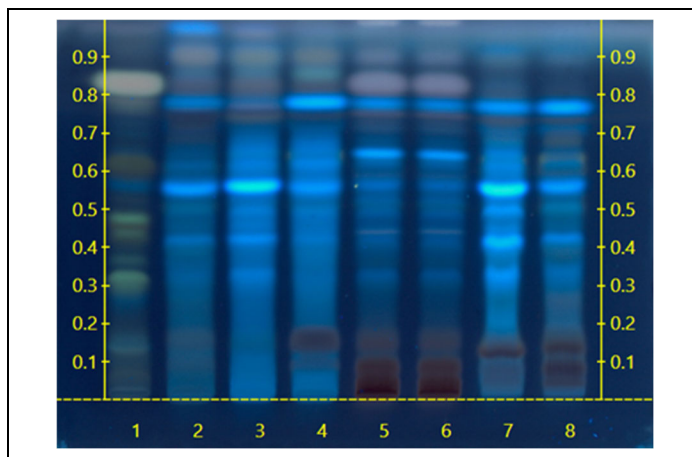
Work performed at:  
**Alkemist Labs**  
12661 Hoover Street  
Garden Grove, CA 92841  
714-754-HERB (4372)  
714-668-9972 (FAX)  
Sales@Alkemist.com  
www.Alkemist.com

**Certificate of Analysis: Tongkat Ali (22799)**  
High Performance Thin-Layer Chromatography with Photo-Documentation

1



2



Company Name: Lost Empire Herbs  
Title: Tongkat Ali  
Plant Part: root  
Sample Received: 09/07/22  
Sample Packaging: Light Sensitive Plastic Bottle or Jar  
Form of Botanical: capsule powder  
Appearance: Black bottle, black cap  
Lot Number: (22799) → Lane 5(12µl)  
Sample: 22250RQE\_1  
Latin Name: *Eurycoma longifolia*  
Reference Sample: Lane 2(10µl) (XY23215NTX3), Lane 8(10µl) (XY23215NTX3) *Eurycoma longifolia* (bark); Lane 3(10µl) (XY23215NTX2), Lane 7(10µl) (XY23215NTX2) *Eurycoma longifolia* (root); 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 184321  
Sample Preparation: 0.3g+3mL Methanol, sonicate/heat at 50°C for 30 min.  
Stationary Phase: Silica gel 60, HPTLC plates  
Mobile Phase: Dichloromethane: Methanol: Water [7/3/0.4]  
Detection: (1) UV 366 nm  
(2) 10% Sulfuric, 100°C, 2min, 366nm (Reich, E., 2007)  
Reference Standard: Lane 1(3µl) *Eurycomanone* (00005393-104, CHR), *Oleanolic acid* (00015303-109, CHR), Methanol (216552, VWR)  
Reference Source: HPTLC Association Tongkat Ali root (*Eurycoma longifolia*)  
IDT-SOP-72-01

**Comments & Conclusions:** Lane 5 is the test sample Tongkat Ali (22799) Lanes 2, 3, 7, 8 are the reference samples used for comparison. This test sample, Tongkat Ali (22799), has characteristics of the chromatographic profile of *Eurycoma longifolia* reference samples used above. **This test sample Tongkat Ali (22799) indicates the presence of *Eurycoma longifolia* 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: 09/12/22

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 22799. 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