

Certificate Issued To:
Superman Herbs
2800 Rodeo Gulch Dr Unit G
Soquel, CA 95073
USA

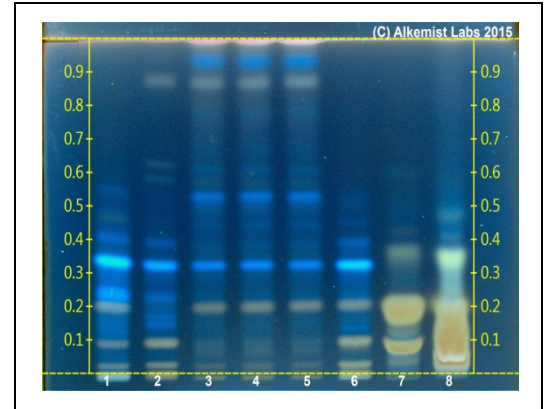
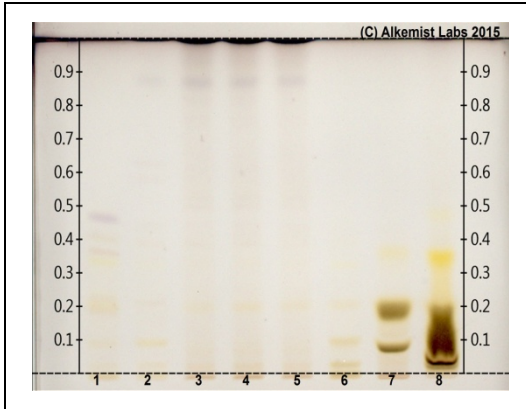


Work performed at:
Alkemist Labs
1260 Logan Ave B2
Costa Mesa, CA 92626
714-754-HERB (4372)
714-668-9972 (FAX)
E-mail: sales@alkemist.com
Web Site: www.alkemist.com

Certificate of Analysis: Ziziphus jujuba spinosa (Z01)
High Performance Thin-Layer Chromatography with Photo-Documentation

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Company Name: Superman Herbs
Title: Ziziphus jujuba spinosa
Plant Part: seed
Sample Received: 9/16/2015
Sample Description: Clear Reclosable Plastic Bag
Form of Botanical: powdered extract
Appearance: light brown fine powder
Lot : (Z01) → Lane 6(2µl)
Sample : GI25915SUP1_1
Latin Name: Ziziphus jujuba Mill. var. spinosa (Bunge) Hu ex H.F. Chow [Rhamnaceae]
Reference Sample : Lane 1(3µl) (GI23811SWH1) Ziziphus jujuba var spinosa (seed); Lane 2(3µl) (GI17515MYWY1) Ziziphus jujuba var spinosa (seed); Lane 7(2µl) (QL01405SWH2) Ziziphus jujuba (fruit); Lane 8(3µl) (ABZ17515SWH1) Ziziphus jujuba (fruit); held at Alkemist Labs, Costa Mesa, CA.
Analyst: N. Hoang, L. Scott, P. Fast, T. Collins 60658
Sample Prep: 0.3g+3mL 70% grain EtOH sonicate/heat @-50° C ~ 1/2 hr
Stationary Phase: Machery-Nagel Nano-DURASIL-20 UV HPTLC plates
Mobile Phase: CHCl₃: AcCOOH: CH₃OH: H₂O [6/3.2/1.2/0.8]
Detection: (1) Vanillin/H₂SO₄ Reagent → 110° C 5 min → visible light
(2) Vanillin/H₂SO₄ Reagent → 110° C 5 min → UV 365 nm
Reference Source: Method Developed by Alkemist Labs
IDT-SOP-72-01

Comments & Conclusions: Lane 6 is the test sample Ziziphus jujuba spinosa (Z01). Lanes 1, 2, 7, 8 are the reference samples used for comparison. This test sample, Ziziphus jujuba spinosa (Z01), is consistent with the chromatographic profile of the reference samples of Ziziphus jujuba Mill. var. spinosa (Bunge) Hu ex H.F. Chow [Rhamnaceae], used above. **This test sample, Ziziphus jujuba spinosa (Z01) has characteristics of an extract derived from Ziziphus jujuba Mill. var. spinosa (Bunge) Hu ex H.F. Chow [Rhamnaceae] seed.**

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: 9/18/2015

Note: Any unidentified lanes in the above chromatograms are confidential and may represent internal studies or other test samples not related to Z01.

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