

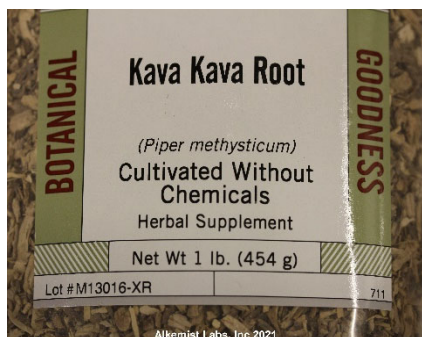
Certificate Issued To:
Mountain Rose Herbs
12661 Hoover St
Garden Grove, CA 92841
USA



Work performed at:
Alkemist Labs
12661 Hoover Street
Garden Grove, CA 92841
714-754-HERB (4372)
sales@alkemist.com

Certificate of Analysis: Kava Kava Root (M13016-XR)
Microscopy with Digital Photo-Documentation

1



2



3



Company Name: Mountain Rose Herbs
Title: Kava Kava Root
Plant Part: Root
Sample Received: 4/28/2021
Sample Description: Clear Reclosable Plastic Bag
Form of Botanical: cut and sifted
Appearance: (1) Tan cut and sifted root
Lot : M13016-XR
Sample : 21118AVW_1
Latin Name: Piper methysticum G.Forst. [Piperaceae]
Reference Sample : TA21609CRB Piper methysticum G.Forst. [Piperaceae] authenticated by macroscopic, microscopic &/or TLC studies according to the reference sources cited below; held at Alkemist Labs, Garden Grove, CA.
Analyst: E. Sudberg & I. Solorzano
Magnification: (2) 400X
Chemical Reagents: (2) acidified chloral hydrate glycerol solution
Sample Findings: (2) simple and compound starch granules
Magnification: (3) 400X
Chemical Reagents: (3) acidified chloral hydrate glycerol solution
Sample Findings: (3) parenchymatous cells with moderately thickened walls and numerous pits
Reference Source: British Herbal Pharmacopoeia, 1996, Microscopic Characterization of Botanical Medicines, Upton, R., 2011
MIC-SOP-54-04, MIC-SOP-54-05, MIC-SOP-54-06, MIC-SOP-510-07

Comments & Conclusions: This sample has characteristics of Piper methysticum G.Forst. [Piperaceae] root and rhizome based on comparison with an authenticated reference sample and the characteristics described in the references cited above. The characteristic cellular structures identified in this sample are the simple and compound starch granules seen in micrograph (2) above. In micrograph (3) we see the parenchymatous cells with moderately thickened walls and numerous pits. **This test sample, Kava Kava Root (M13016-XR), has characteristics of Piper methysticum G.Forst. [Piperaceae] root and rhizome.**

NOTE: The British Herbal Pharmacopoeia defines 'Kava-kava' as the dried and cut rhizome, usually free from roots and sometimes scraped, of Piper methysticum G. Forst. The presence of soluble excipients and other plant species material was not detected in this test sample.

Analyzed by: Iris Solorzano
Examined, Reviewed & Authorized by: Élan M Sudberg, CEO

Report Date: 5/3/2021



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