



Certificate of Analysis

Bio-Mer LTD
 38 Sonter Road
 Christchurch 8042
 Attention: Quincy Siew
 Phone: 03 348 9871
 Email: info@bio-mer.co.nz

Lab Reference: 18-19452
 Submitted by:
 Date Received: 28/05/2018
 Date Completed: 29/05/2018
 Order Number:
 Reference:

Report Comments

Samples were received by Analytica Laboratories in acceptable condition unless otherwise noted on this report.

Results Summary

MPI Manuka Classification*

Laboratory ID	Sample ID	MPI Manuka Classification
18-19452-1	1611	MONOFLORAL MANUKA

MPI Manuka Classification* Approver:

Maria Tourna, Ph.D.
 C4 & DNA Team Leader

MPI Manuka DNA

Laboratory ID	Sample ID	Manuka DNA
		<i>Units</i> Reporting Limit
		Cq
18-19452-1	1611	21.44

MPI Manuka DNA Approver:

Maria Tourna, Ph.D.
 C4 & DNA Team Leader

MPI Manuka Markers

Laboratory ID	Sample ID	4-Hydroxyphenyllactic acid (4-HPLA)	2-Methoxybenzoic acid (2-MBA)	2'-Methoxy acetophenone (2'-MAP)	3-Phenyllactic acid (3-PLA)	
		<i>Units</i> Reporting Limit	mg/kg 0.8	mg/kg 0.8	mg/kg 0.8	mg/kg 20
18-19452-1	1611	9.4	13	27	580	

MPI Manuka Markers

Laboratory ID	Sample ID	4-Hydroxyphenyllactic acid (4-HPLA)	2-Methoxybenzoic acid (2-MBA)	2'-Methoxyacetophenone (2'-MAP)	3-Phenyllactic acid (3-PLA)
	<i>Units Reporting Limit</i>	mg/kg 0.8	mg/kg 0.8	mg/kg 0.8	mg/kg 20

MPI Manuka Markers Approver:



Jacob Jaime, Ph.D.
Senior Technologist

Method Summary

MPI Manuka Classification For classification as monofloral manuka, the following chemicals all need to be present and at these levels:

- 4-hydroxyphenyllactic acid at a level greater than or equal to 1mg/kg
- 2-methoxybenzoic acid at a level greater than or equal to 1mg/kg
- 2'-methoxyacetophenone at a level greater than or equal to 5mg/kg
- 3-phenyllactic acid at a level greater than or equal to 400mg/kg

And the DNA level from manuka pollen is less than Cq 36, which is approximately 3fg/ μ L.

For classification as multifloral manuka, the following chemicals all need to be present and at these levels:

- 4-hydroxyphenyllactic acid at a level greater than or equal to 1mg/kg
- 2-methoxybenzoic acid at a level greater than or equal to 1mg/kg
- 2'-methoxyacetophenone at a level greater than or equal to 1mg/kg
- 3-phenyllactic acid at a level greater than or equal to 20 mg/kg but less than 400mg/kg

And the DNA level from manuka pollen is less than Cq 36, which is approximately 3fg/ μ L

MPI Manuka Markers Solvent extraction, LC-MS/MS and HPLC analysis.
Analytica Laboratories Ltd., is approved by the New Zealand Ministry of Primary Industries to conduct this analysis under the Recognised Laboratory Programme (RLP Method 10.05).

MPI Manuka DNA Samples were analysed as received by the Laboratory for Manuka Pollen DNA by pollen DNA extraction followed by qPCR.
Analytica Laboratories Ltd., is approved by the New Zealand Ministry of Primary Industries to conduct this analysis under the Recognised Laboratory Programme (RLP Method 10.04).

The DNA component of the MPI Manuka Honey Definition requires a Cq value of less than 36 to qualify for either a monofloral or multifloral manuka honey.