



## Certificate of Analysis

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Lab Reference: 22-38893  
 Submitted by:  
 Date Received: 25/10/2022  
 Testing Initiated: 26/10/2022  
 Date Completed: 28/10/2022  
 Order Number:  
 Reference:

### Report Comments

Samples were collected by yourselves (or your agent) and analysed as received at Analytica Laboratories. Samples were in acceptable condition unless otherwise noted on this report.  
 Specific testing dates are available on request.

### Results Summary

#### MPI Manuka Classification for Honey\*

Laboratory ID	Sample ID	MPI Manuka Classification*
22-38893-1	KER3, KER22012	MONOFLORAL MANUKA

#### MPI Manuka Classification for Honey\* Approver:

Tracy Chen, B.Sc.  
 Technologist

#### MPI Manuka DNA in Honey

Laboratory ID	Sample ID	Manuka DNA
		<i>Units Reporting Limit</i>
		Cq
22-38893-1	KER3, KER22012	24.15

#### MPI Manuka DNA in Honey Approver:

Alesha Avery, BSc(Tech),  
 Laboratory Technician

#### MPI Manuka Markers in Honey

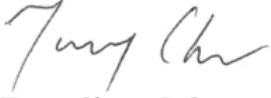
Laboratory ID	Sample ID	4-Hydroxyphenyllactic acid (4-HPLA)	2-Methoxybenzoic acid (2-MBA)	2'-Methoxy acetophenone (2'-MAP)	3-Phenyllactic acid (3-PLA)
		<i>Units Reporting Limit</i>	mg/kg	mg/kg	mg/kg
		0.80	0.80	0.80	20
22-38893-1	KER3, KER22012	6.2	15	8.1	940

All tests reported herein have been performed in accordance with the laboratory's scope of accreditation with the exception of tests marked \*, which are not accredited.  
 This test report shall not be reproduced except in full, without the written permission of Analytica Laboratories.

## MPI Manuka Markers in Honey

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</i>	mg/kg	mg/kg	mg/kg	mg/kg
	<i>Reporting Limit</i>	0.80	0.80	0.80	20

### MPI Manuka Markers in Honey Approver:



Tracy Chen, B.Sc.  
Technologist

## Method Summary

### MPI Manuka Classification

For classification as monofloral manuka, the following chemicals all need to be present and at these levels (Animal Products Notice - General Export Requirements for Bee Products, 2018):

- 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/ $\mu$ 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/ $\mu$ L.

### MPI Manuka Markers

Solvent extraction, LC-MS/MS analysis in accordance with in-house procedures.

Analytica Laboratories Ltd., is approved by the New Zealand Ministry of Primary Industries to conduct this analysis under the Recognised Laboratory Programme (MPI Technical Paper 2017/30 Modified, RLP Method 10.05)

### Leptospermum scoparium DNA (PCR)

Samples were analysed as received by the Laboratory for Manuka Pollen DNA by pollen DNA extraction followed by qPCR in accordance with the MPI Technical Paper 2017/31 (modified) (96 well method with magnetic bead extraction). 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.