



Certificate of Analysis

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Lab Reference: 18-08880
 Submitted by: Christopher Courage
 Date Received: 14/03/2018
 Date Completed:
 Order Number: FGOLD-130318
 Reference: 100318-NZG

Report Comments

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

Results Summary

MPI Manuka Honey Classification*

| Laboratory ID | Sample ID | MPI Manuka Classification |
|---------------|----------------|---------------------------|
| 18-08880-1 | B-1-100318-NZG | MONOFLORAL MANUKA |

MPI Manuka Honey Classification* Approver:

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

MPI Manuka DNA

| Laboratory ID | Sample ID | Manuka Pollen DNA |
|---------------|----------------|-------------------|
| 18-08880-1 | B-1-100318-NZG | 27.37 |

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) |
|---------------|----------------|-------------------------------------|-------------------------------|----------------------------------|-----------------------------|
| | | Units Reporting Limit | mg/kg | mg/kg | mg/kg |
| | | 0.8 | 0.8 | 0.8 | 20 |
| 18-08880-1 | B-1-100318-NZG | 8.6 | 7.2 | 20 | 610 |

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

| 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:



Chris Wakefield, B.Sc.(Tech)
Honey Team Leader

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.