Analytica Laboratories Limited
Ruakura Research Centre
10 Bisley Road
Hamilton 3214, New Zealand
Ph +64 (07) 974 4740
sales@analytica.co.nz
www.analytica.co.nz

Certificate of Analysis

Honey For Life
1/98 Stirling Higway, North Fermantle
WA 6159
Attention: James Clough
Phone: + 61415480054
Email: james.clough@honeyforlife.com.au

Lab Reference: 22-26124
Submitted by:
Date Received: 18/07/2022
Testing Initiated: 25/07/2022
Date Completed: 26/07/2022
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

3in1 in Honey

Laboratory ID	Sample ID	Dihydroxyacetone (DHA)	Methylglyoxal (MG/MGO)	Non-Peroxide Activity* (NPA)	Hydroxymethylfurfural (HMF)
	Units	mg/kg	mg/kg	%w/v phenol eq.	mg/kg
	Reporting Limit	40	8	1.3	1
22-26124-5	BATCH 291	775	368	12.2	16.4

3in1 in Honey Approver:

Gurmeet Singh, Dip. Tech. (Sci)
Senior Technician

Method Summary

3in1 Determination of Dihydroxyacetone (DHA), Methylglyoxal (MG/MGO) and Hydroxymethylfurfural (HMF) by aqueous extraction, derivatisation, and UPLC (diode array) analysis in accordance with in-house procedures.

NPA Non-Peroxide Activity (NPA) values are not directly measured by the laboratory, but are calculated from the measured methylglyoxal concentration in the honey according to the requirements of the client. The calculation is based on published data(†) comparing the NPA and methylglyoxal concentration measured in a range of honey samples. These calculated values are not accredited by IANZ and do not imply that the honey is or is not manuka honey.
NPA values less than 5 are an estimate based on extrapolation of the relationship between methylglyoxal and NPA

(†) Isolation by HPLC and characterisation of the bioactive fraction of New Zealand manuka (Leptospermum scoparium) honey. C. J. Adams, et al. Carbohydrate Research 343 (2008) 651-659. And, Corrigendum to "Isolation by HPLC and characterization of the bioactive fraction of New Zealand manuka (Leptospermum scoparium) honey" [Carbohydr. Res. 343 (2008) 651]. Carbohydrate Research 344 (2009) 2609. C. J. Adams, et al.

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Lab Reference: 22-26124
Submitted by:
Date Received: 18/07/2022
Testing Initiated: 25/07/2022
Date Completed: 4/08/2022
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.
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Results Summary

C4 Sugars in Honey (AOAC)

Laboratory ID	Sample ID	$\delta^{13}C$ (Whole Honey)	$\delta^{13}C$ (Protein Extract)	Difference (Honey - Protein)	%C4 Sugars
	Units *Reporting Limit*	‰	‰	‰	%
22-26124-5	BATCH 291	-25.74	-26.04	0.3	1.9

C4 Sugars in Honey (AOAC) Approver:

Sandra Mathews, B.Eng.
Laboratory Technician

Method Summary

C4 Sugars (AOAC)

The C4 sugars were determined according to the international AOAC 998.12 standard method.
Stable carbon isotope ratios for the whole honey and honey protein, are measured using isotope ratio mass spectrometry (IRMS) or cavity ring-down spectroscopy (CRDS). An estimate of the C4 sugars content is derived from the difference in $\delta^{13}C$ between the whole honey and protein extract.

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Lab Reference: 22-26124
Submitted by:
Date Received: 18/07/2022
Testing Initiated: 25/07/2022
Date Completed: 5/08/2022
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.
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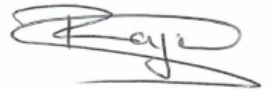
Results Summary

Physical Properties of Honey Suite

Laboratory ID	Sample ID	Moisture
	Units *Reporting Limit*	%
22-26124-5	BATCH 291	17.0

Physical Properties of Honey Suite Approver:



Rajwinder Kaur, DipScTech
Technician

Method Summary

Moisture Moisture content determination by refractometer (AOAC 969.38B).

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Lab Reference: 22-26124
Submitted by:
Date Received: 18/07/2022
Testing Initiated: 25/07/2022
Date Completed: 26/07/2022
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

Glyphosate in Honey (Trace)

Laboratory ID	Sample ID	Glyphosate	Glufosinate	Aminomethyl phosphonic acid
	Units	mg/kg	mg/kg	mg/kg
	Reporting Limit	0.004	0.010	0.010
22-26124-5	BATCH 291	<0.0040	<0.010	<0.010

Glyphosate in Honey (Trace) Approver:

Yanru Shangguan, B.Sc.
Laboratory Technician

Method Summary

Glyphosate Solvent extraction and FMOC derivatisation followed by 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 (RLP Method 8.47.1).

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Submitted by:
Date Received: 18/07/2022
Testing Initiated: 25/07/2022
Date Completed: 5/08/2022
Order Number:
Reference:

Report Comments

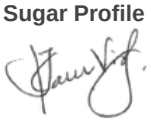
Samples were collected by yourselves (or your agent) and analysed as received at Analytica Laboratories. Samples were in acceptable condition unless otherwise noted on this report.
Specific testing dates are available on request.

Results Summary

Sugar Profile in Honey (Gribbles)

		Client Sample ID	BATCH 291
Analyte	Unit	*Reporting Limit*	22-26124-5
Total Sugars in Honey	%		72.4
Glucose in Honey	%		32.9
Fructose in Honey	%		39.5
Sucrose in Honey	%		<0.5
Fructose/Glucose Ratio			1.20

Sugar Profile in Honey (Gribbles) Approver:



Jasleen Virk, DipSciTech
Foods Division Manager

Method Summary

Total Sugars in Honey	Test was conducted following the Biopharm enzymatic method. Testing was subcontracted out to Gribbles Dunedin (LABNET).
Glucose in Honey	Test was conducted following the Biopharm enzymatic method. Testing was subcontracted out to Gribbles Dunedin (LABNET).
Fructose in Honey	Test was conducted following the Biopharm enzymatic method. Testing was subcontracted out to Gribbles Dunedin (LABNET).
Sucrose in Honey	Test was conducted following the Biopharm enzymatic method. Testing was subcontracted out to Gribbles Dunedin (LABNET).

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Total Quality. Assured.

ANALYSIS REPORT No. 2207210108 DATE: 21.07.2022 PAGE 1/1

Client:

22207210108
PA352544

Chem Centre
Resources & Chemistry Precint
Cnr Manning Road and Townsing Drive
WA6983 Bentley
Australia

E-Mail: UGovinnage@chemcentre.wa.gov.au
Your order no. A120012

Our reference no.	: **PI2207190181**		
Product	: Honey		
Sample description / Batch	: **22S0085/003 BATCH 291**		
Sample received on / transported by	: 19.07.2022 via Parcel service	Seal	: none
Sample temp. when received / stored	: RT	Sampling	: Client
Packaging / Quantity	: Plastic container / ca. 250g	Start / End of analysis	: 19.07.2022 / 21.07.2022

ANALYSIS REQUESTED: Chloramphenicol by LC-MS/MS (101024)

Parameter	Result	Unit	Method
Chloramphenicol	n.d.	µg/kg	PM DE01.022:2020-07 (a) [1]

n.d. - not detected < limit of quantification 0.1 µg/kg
MRPL (Minimum Required Performance limit) for chloramphenicol = 0.3 µg/kg
according to Decision 2002/657/EC

(a) : accredited method. (na) : not accredited method. (1) Inhouse procedure (07/2020)

Interpretation:
Regarding the examined parameters, the indicated limit of quantification and the MRPL of 0.3 µg/kg which applies as reference point for action for food of animal origin, the sample corresponds to the legal regulations (Regulation (EC) 470/2009 in conjunction with Regulation (EU) 37/2010) and corresponds to Decision 2002/657/EC.

Hauke Zinow
Responsible Scientist, Certified Food Chemist

intertek
Total Quality. Assured.

ANALYSIS REPORT No. 2207210328 DATE: 21.07.2022 PAGE 1/1

Client:

22207210328
PA352544

Chem Centre
Resources & Chemistry Precint
Cnr Manning Road and Townsing Drive
WA6983 Bentley
Australia

E-Mail: UGovinnage@chemcentre.wa.gov.au
Your order no. A120012

Our reference no.	: **PI2207190181**		
Product	: Honey		
Sample description / Batch	: **22S0085/003 BATCH 291**		
Sample received on / transported by	: 19.07.2022 via Parcel service	Seal	: none
Sample temp. when received / stored	: RT	Sampling	: Client
Packaging / Quantity	: Plastic container / ca. 250g	Start / End of analysis	: 19.07.2022 / 21.07.2022

ANALYSIS REQUESTED: Tetracyclines by LC-MS/MS (101174)

Parameter	Result	Unit	Method
Oxytetracycline	n.d.	µg/kg	PM DE01.060/116:2012 (a) [1]
Tetracycline	n.d.	µg/kg	PM DE01.060/116:2012 (a) [1]
Chlortetracycline	n.d.	µg/kg	PM DE01.060/116:2012 (a) [1]
Doxycycline	n.d.	µg/kg	PM DE01.060/116:2012 (a) [1]
Demeclocycline	n.d.	µg/kg	PM DE01.060/116:2012 (a) [1]
Methacycline	n.d.	µg/kg	PM DE01.060/116:2012 (a) [1]
Minocycline	n.d.	µg/kg	PM DE01.060/116:2012 (a) [1]

n.d. - not detected < limit of quantification 2 µg/kg

(a) : accredited method. (na) : not accredited method. (1) Inhouse procedure (09/2012)

Interpretation:
Regarding the examined parameters and the mentioned limit of quantification the sample corresponds to the legal regulations (regulation (EC) 470/2009 in conjunction with regulation (EU) 37/2010).
The results are stated as sum of the parent drug and the corresponding 4-Epimer.

Hauke Zinow
Responsible Scientist, Certified Food Chemist