ANALYTICA LABORATORIES

Analytica Laboratories Limited
Ruakura Research Centre
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Hamilton 3214, New Zealand
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Certificate of Analysis

Prolife Foods
100 Maui Street, Pukete
Hamilton 3200
Attention: Harry Bomans
Phone: 07 834 3333
Email: harry.bomans@prolife.co.nz

Lab Reference: 16-11199
Submitted by:
Date Received: 24/08/2016
Date Completed: 25/08/2016
Order Number:
Reference:

Results Summary

3in1 Honey Analysis

Laboratory ID	Sample ID	Dihydroxyacetone DHA	Methylglyoxal MG	Non-peroxide Activity NPA*	Hydroxymethylfurfural HMF
	Units *Reporting Limit*	mg/kg 10	mg/kg 4	%w/v phenol eq. 0.8	mg/kg 1
16-11199-1	2301620	1,620	887	20.8	26

Method Summary

3in1 Determination of Dihydroxyacetone (DHA), Methylglyoxal (MG) and Hydroxymethylfurfural (HMF) by aqueous extraction, derivatisation, and UPLC analysis.

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.

Report Comments

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

Production batch 2301620 relates to packing batch numbers 3079184 and 3079185.

Jane Smyth, B.Sc.
Technologist

IANZ ACCREDITED LABORATORY

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.

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Certificate of Analysis

Cambridge Bee Products Ltd
63 Benn Rd, RD3
Cambridge
Attention: Rick Haddrell
Phone:
Email:

Lab Reference: 16-02800
Submitted by:
Date Received: 4/03/2016
Date Completed: 7/03/2016
Order Number:
Reference:

Results Summary

3in1 Honey Analysis

Laboratory ID	Sample ID	Dihydroxyacetone DHA	Methylglyoxal MG	Non-peroxide Activity NPA*	Hydroxymethylfurfural HMF
	Units *Reporting Limit*	mg/kg 10	mg/kg 4	%w/v phenol eq. 0.8	mg/kg 1
16-02800-1	BT: 511613	928	489	14.6	23
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Method Summary

3in1	Determination of Dihydroxyacetone (DHA), Methylglyoxal (MG) and Hydroxymethylfurfural (HMF) by aqueous extraction, derivatisation, and UPLC analysis.
NPA	Non-peroxide activity (NPA) is calculated from methylglyoxal using a conversion calculation supplied by the Unique Manuka Factor Honey Association (UMFHA).

Report Comments

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

Jacob Jaine, M.Sc.
Senior Technologist

IANZ ACCREDITED LABORATORY

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Laboratory Test Report

Cambridge Bee Products Ltd
63 Benn Rd, RD3
Cambridge
Attention: Rick Haddrell
Phone: 07 827 3286
Email: rick@haddrells.co.nz

Laboratory Reference: 15-13582
Submitted by: Joel Perry
Date Received: 10/11/2015
Date Completed: 11/11/2015
Order Number:
Reference:

Results Summary

Unless specified otherwise, all samples arrived in acceptable condition.

Laboratory ID	Sample ID	DHA Dihydroxyacetone mg/kg	MG Methylglyoxal mg/kg	NPA* phenol equivalent %w/v	HMF Hydroxymethylfurfural mg/kg
15-13582-1	BT:3011516	1,360	582	16.2	22
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

*These results are outside the IANZ accreditation scope of the laboratory.

Method Summary

Samples were analysed as received by the Laboratory using the 3-in-1 honey method, which involves aqueous extraction, derivatisation, and analysis by UPLC with diode array detection. NPA is calculated from Methylglyoxal using the conversion calculation supplied by UMFHA.

	DHA (mg/kg)	MG (mg/kg)	NPA (%w/v)	HMF (mg/kg)
Reporting Limits =	10	4.0	0.8	1

Analyst Comments:

Lisa Zheng, MSc.
Technologist
Analytica Laboratories Ltd.

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