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Certificate of Analysis

Midlands Apiaries Ltd
6 JB Cullen Drive
Ashburton 7772
Attention: Hamish Finnie
Phone: 027 405 1273
Email: hamish.finnie@midlands.co.nz

Lab Reference: 17-16861
Submitted by:
Date Received: 18/07/2017
Date Completed: 20/07/2017
Order Number:
Reference: Larnac

Report Comments

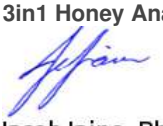
Samples were received by Analytica Laboratories in acceptable condition unless otherwise noted on this report.

Results Summary

3in1 Honey Analysis

Laboratory ID	Sample ID	Methylglyoxal (MG)	Non-peroxide Activity* (NPA)	Hydroxymethylfurfural (HMF)
	Units	mg/kg	%w/v phenol eq.	mg/kg
	Reporting Limit	4	0.8	1
17-16861-8	193173L	328	11.4	10

3in1 Honey Analysis Approver:



Jacob Jaine, Ph.D.
Senior Technologist

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.

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Midlands Apiaries Ltd
8 JB Cullen Drive
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Lab Reference: 17-08669
Submitted by: Jennifer Ringdahl
Date Received: 6/04/2017
Date Completed: 10/04/2017
Order Number:
Reference: Larnac

Results Summary

4in1 Honey Analysis

Laboratory ID	Sample ID	Methylglyoxal MG	Non-peroxide Activity NPA*	Hydroxymethylfurfural HMF
	Units *Reporting Limit*	mg/kg 4	%w/v phenol eq. 0.8	mg/kg 1
17-08669-8	089171L	367	12.2	11

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.
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Leptosperin Aqueous extraction, dilution, analysis by UPLC.

Report Comments

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Jane Smyth, B.Sc.
Technologist

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Report Comments

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Results Summary

3in1 Honey Analysis

Laboratory ID	Sample ID	Methylglyoxal MG	Non-peroxide Activity NPA*	Hydroxymethylfurfural HMF
	Units / *Reporting Limit*	mg/kg / 4	%w/v phenol eq. / 0.8	mg/kg / 1
17-16861-1	191171L	612	16.7	22
17-16861-2	191172L	610	16.6	22
17-16861-3	191173L	622	16.8	18
17-16861-4	191174L	621	16.8	18
17-16861-5	192175L 420+	440	13.6	16
17-16861-6	193171L 420+	444	13.7	16
17-16861-7	193172L 300+	328	11.4	9
17-16861-8	193173L 300+	328	11.4	10
17-16861-9	194177L 120+	177	7.9	14
17-16861-10	194178L 120+	175	7.8	14

3in1 Honey Analysis Approver:

Jacob Jaine, Ph.D.
Senior Technologist

Method Summary

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

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Method Summary

NPA

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