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Certificate of Analysis

Client:	Midlands Apiaries Limited	**Lab No:**	2020783	SPv1
Contact:	Hamish Finnie	**Date Received:**	25-Jul-2018	
	C/- Midlands Apiaries Limited	**Date Reported:**	26-Jul-2018	
	PO Box 65	**Quote No:**	70096	
	Ashburton 7740	**Order No:**		
		Client Reference:		
		Submitted By:	Lily Zhao	

Sample Type: Honey

Sample Name:					24718AB1	
Lab Number:					2020783.4	
Individual Tests						
Leptosperin	mg/kg				550	-
NPA (Non Peroxide Activity)*	% Phenol Equivalent				11.2	-
MPI 5 Attributes Tests						
MPI Manuka Honey Classification					Monofloral Manuka Honey	-
Manuka Honey Chemistry Profile						
3-Phenyllactic acid	mg/kg				610	-
2'-Methoxyacetophenone	mg/kg				22	-
2-Methoxybenzoic Acid	mg/kg				14.4	-
4-Hydroxyphenyllactic acid	mg/kg				10.4	-
Manuka Honey PCR Profile						
Manuka Cq	Cq				21.90 #1	-
3-in-1 Honey Analysis						
Dihydroxyacetone	mg/kg				690	-
5-hydroxymethylfurfural (HMF)	mg/kg				15.0	-
Methylglyoxal	mg/kg				318	-

Analyst's Comments

#1 Report Signatory for this analysis is Kevin Wang.

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively clean matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis.

Sample Type: Honey

Test	Method Description	Default Detection Limit	Sample No
Individual Tests			
Leptosperin	Aqueous extraction, dilution, analysis by LC-MS/MS.	15 mg/kg	1-4
NPA (Non Peroxide Activity)*	NPA is calculated from methylglyoxal using a correlation curve based on published data for NPA and the primary active ingredient, methylglyoxal. (1,2). (1) 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. (2) Corrigendum to "Isolation by HPLC and characterization of the bioactive fraction of New Zealand manuka (Leptospermum scoparium) honey" [Carbohydr. Res. 343 (2008) 651]. C. J. Adams, et al. Carbohydrate Research 344 (2009) 2609.	1.0 % Phenol Equivalent	1-4
3-in-1 Honey Analysis	Aqueous extraction, derivatisation. Analysis by UPLC-UV (dihydroxyacetone, 5-hydroxymethylfurfural, methylglyoxal).	1.0 - 10 mg/kg	1-4
MPI 5 Attributes Tests			

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