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# Certificate of Analysis

Nelson Honey & Marketing (NZ) Ltd 276 State Highway 6, RD 2, Motupiko Nelson 7072 Attention: Terena Roeske Phone: 03 522 4413 Email: terena@nelsonhoney.com Lab Reference: Submitted by: Date Received: Date Completed: 5/07/2018 Order Number: Reference:

18-22848 Dayna Smout 2/07/2018

## **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.

# **Results Summary**

#### 3in1

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
18-22848-1	250618MH	113	94	5.4	23

**3in1 Approver:** 

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

### Method Summary

3in1

ΝΡΔ

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

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. Àdams, et al.

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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