

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

Lab Reference: 22-04668 Submitted by: N/A

Date Received: 09/02/2022 Testing Initiated: 11/02/2022 Date Completed: 16/02/2022

Order Number: N/A Reference: N/A

#### **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 Reporting Limit		mg/kg 40	mg/kg 8	%w/v phenol eq. 1.3	mg/kg 1
22-04668-2	BN: 194416	1,490	919	21.3	32.0

3in1 in Honey Approver:

Gurmeet Singh, Dip. Tech. (Sci)

Laboratory Technician

NPA

## **Method Summary**

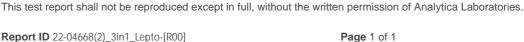
3in1 Determination of Dihydroxyacetone (DHA), Methylglyoxal (MG/MGO) and Hydroxymethylfurfural (HMF) by aqueous

extraction, derivatisation, and UPLC analysis in accordance with in-house procedures.

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.

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.





**Report Date** 16/02/2022