



## Certificate of Analysis

BioHoney Ltd  
142 Collingwood Street  
Nelson 7010  
Attention: Terry Bone  
Phone: 03 548 2741  
Email: terry@forestherbs.co.nz

Lab Reference: 16-15361  
Submitted by:  
Date Received: 3/11/2016  
Date Completed: 7/11/2016  
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
16-15361-1	1612MH100	423	134	6.7	14

### 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<sup>(†)</sup> 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.

Megan Grainger, Ph.D.  
Technologist



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.