



# Certificate of Analysis

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Lab Reference: 16-11352  
Submitted by:  
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Reference:

## Results Summary

3in1 Honey Analysis

**N. Lotto**

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
16-11352-1	JP2408	299	130	6.6	17
16-11352-2	16ABS1 19.8.16	1,010	447	13.8	17
16-11352-3	16AB41 19.8.16	985	465	14.1	20
16-11352-4	16AB11 19.8.16	508	183	8.0	21

**MetilGlossale**

## 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.

## Report Comments

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

  
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Technologist