



## Certificate of Analysis 【モノフローラルマヌカハニー／MGO100+】

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Lab Reference: 21-06383  
Submitted by: N/A  
Date Received: 15/02/2021  
Testing Initiated: 15/02/2021  
Date Completed: 17/02/2021  
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

Laboratory ID	Sample ID	①	②	③	④
		Dihydroxyacetone (DHA)	Methylglyoxal (MG)	Non-Peroxide Activity* (NPA)	Hydroxymethylfurfural (HMF)
Units Reporting Limit		mg/kg 40	mg/kg 8	%w/v phenol eq. 1.3	mg/kg 1
21-06383-5	WSQ21	1,290	106	5.8	1

#### 3in1 Approver:

Gurmeet Singh, Dip. Tech. (Sci)  
Technician

- ①ジヒドロアセキトンは巣箱の中で熟成することでメチルグリオキサールに変容します
- ②メチルグリオキサールは、マヌカハニーの抗菌力を示す数値です
- ③非過酸化水素作用は、抗菌力を示す数値です。(NPA8.8レベル→UMFでいうところの8.8レベル)
- ④ヒドロキシメチルフルフラールは、低いほど良い。1kgあたり40mg以下でないといけません

### Method Summary

**3in1** Determination of Dihydroxyacetone (DHA), Methylglyoxal (MG) and Hydroxymethylfurfural (HMF) by aqueous extraction, derivatisation, and UPLC analysis in accordance with in-house procedures.

**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

<sup>(†)</sup> 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.