



## Certificate of Analysis

【モノフローラルマヌカハニー MGO260】

BATCH NO. 2007RONGOM

Heathstock Apiaries Ltd  
675 Broxton Road  
Hawarden 7385  
Attention: Mark McCusker  
Phone:  
Email:

Lab Reference: 20-27501  
Submitted by: NZ Honey Farms Ltd  
Date Received: 29/07/2020  
Testing Initiated: 29/07/2020  
Date Completed: 3/08/2020  
Order Number: HF2007  
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

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
20-27501-1	2007RONGOM	709	263	10.0	14

#### 3in1 Approver:

Gurmeet Singh, Dip. Tech. (Sci)  
Technician

- ①ジビドロアセキトンは巣箱の中で熟成し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 (UMF=10.0)
- ④ヒドロキシメチルフルフラールは低いほど良いです (1kgあたり40mg以下)

### 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.