CELVIA

HONEY METAGENOMIC DNA ANALYSIS (MDA v2). TEST REPORT SAMPLE INFORMATION	
Laboratory ID	
Sample number	
Client name	
Client e-mail	
Arrival and registration time	
Reporting time	

MDA_V025 v6.0

REFERENCE INFORMATION	
International Database of Genomes (IDG)	IDG_v1.0 (May 2025)
Number of studied objects in the IDG	831 790
Number of plants in the IDG	147 325
Number of bacteria in the IDG	108 038
Number of fungi in the IDG	88 221
Number of insects, mammals, etc in the IDG	362 808

RESULTS	
Number of DNA sequences per sample	X,XXX,XXX
Number of detected studied objects	XXXX (bracken)
AUTHENTICITY ANALYSIS	
Conclusion of the authenticity analysis	**AUTHENTIC** OR **NON-AUTHENTIC**

COMMENTS	

The definition of authenticity in this report is as follows:

Authentic: The DNA profile of the analysed sample is similar to the subset of profiles of Celvia CC's created *Metagenomic Database of Authentic honey* (MDA2_v1.1). The sample has a very high probability of being authentic honey.

Non-authentic: The DNA profile of the analysed sample is dissimilar to the subset of profiles of Celvia CC's created *Metagenomic Database of Authentic honey* (MDA2_v1.1). The sample has a very high probability of being non-authentic honey.

Interpretation rule: A sample is considered authentic if the authenticity score calculated by both validated machine learning models exceeds the predefined decision threshold. If the authenticity score of at least one model is below the threshold, the sample is considered non-authentic.

The MDA v2 test sensitivity is 89.5%, meaning that the test correctly identifies 89.5% of non-authentic honey samples.
The MDA v2 test specificity is 99.6%, meaning that the test correctly identifies 99.6% of authentic honey samples.

Important information:

The Honey Metagenomic DNA Analysis (MDA v2) describes the composition and authenticity of honey using an NGS-based honey DNA metagenome analysis and species-specific and ratio-based machine learning models, in accordance with the workflow MDA_P002 v 2.0. The DNA profile is compared against the different types of honey DNA profiles in the subset of the database created by Celvia CC (*Metagenomic Database of Authentic honey*, MDA2_v1.1). MDA v2 is an untargeted analysis of all DNA sequences present in honey. Therefore, the results may differ from those obtained using other methods, such as pollen analysis, PCR-based targeted DNA analysis, NMR, etc. The results apply only to the sample tested as provided by the customer. Celvia CC takes no responsibility for any interpretations, conclusions, or actions based on our analysis results. Reverse engineering of the analysis process or methodology is prohibited. In the case of any disputes, all matters will be governed and resolved in accordance with the laws of Estonia. Without the Celvia CC permission, only a full reproduction of the report is allowed. Claims must be submitted within 30 days of the report issue date.

Compiled by	
Approved by	

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