CERTIFICATE FOR SHOCK-FROZEN CERTIFIED REFERENCE MATERIAL

Version 1

Batch Raw milk Maj-2023

Intended use FTIR analysis and reference methods

Type	A0	A1	B	C	30
Fat	**5,184**	**5,872**	**4,081**	**2,799**	**1,392**
Fat, U (abs)	*0,099*	*0,079*	*0,053*	*0,068*	*0,050*
Protein	**4,463**	**4,112**	**3,497**	**3,595**	**3,624**
Protein, U (abs)	*0,117*	*0,086*	*0,077*	*0,082*	*0,094*
Lactose	**4,811**	**4,682**	**4,846**	**4,881**	**4,866**
Lactose, U (abs)	*0,291*	*0,226*	*0,300*	*0,240*	*0,310*
Dry Matter	**15,345**	**15,484**	**13,143**	**11,995**	**10,660**
Dry Matter, U (abs)	*0,223*	*0,221*	*0,252*	*0,298*	*0,218*
***Casein**	**3,535**	**3,275**	**2,760**		
Casein U (abs)	*0,180*	*0,180*	*0,180*		
***Freezing Point**			**-0,521**		
Freezing Point U (abs)			*0,003*		

* = Indicative values

REFERENCE

Fat	ISO 1211:2010, Röse Gottlieb
Protein	ISO 8968-1:2014, Kjeldahl
Lactose, mono	ISO 22662:2017, HPLC - AOAC 982.14, HPLC - ISO 5765:2002, Enzymatic
Dry Matter	ISO 6731:2010, Gravimetric
Casein	ISO 17997-1:2004, Kjeldahl (calculation)
Freezing Point	ISO 5764:2009, Cryoscope

Production month: Maj-2023
Valid until: Maj-2024

Approval date: 26-06-2023

Approved by:

Bente Østergaard
CRM Responsible

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INFORMATION REGARDING THE CERTIFIED REFERENCE MATERIAL (CRM)

Description

Shock-Frozen Danish Raw Milk.

The certified reference values are calculated based on accredited reference method results.
For fat, protein, and dry matter, the CRM reference values comprise results from seven laboratories.
For lactose, the CRM reference values comprise results from five laboratories.
Casein and freezing point values are determined by one laboratory.

Homogeneity is evaluated using the individual results from each laboratory and FTIR analysis values from Eurofins Milk Testing Denmark.
Stability is evaluated based on FTIR analysis results from Eurofins Milk Testing Denmark.

The CRM reference values are statistically evaluated using Grubbs's Outlier Test.

Instructions for Handling and Use

The samples are thawed in a water bath to reach a temperature of 40±1°C in approximately 50 minutes.
Gently invert the samples 20-30 times and confirm that the sample material looks like natural raw milk.
The samples are now ready for analysis on an FTIR instrument or can be used as standard by reference
If the samples need cooling before use, do this in a tempered water bath.
The samples must not be stored and reused.

Sample Size

One vial contains 50 mL of sample material.

Validity Period

1 year at -18°C to -20°C.

Storage Information

Store at -18°C to -20°C until use.

Information

If there are any relevant observations regarding the samples, please contact Eurofins Milk Testing Denm
E-mail: calibration@eurofins.dk