PRODUCT INFORMATION SHEET

Response PT Milk: 5 Processed Samples Milk, Whey, Yoghurt, Curd Cheese and Cream

PT originated REFERENCE MATERIAL (RM)

Description of the RM

Name / Material of related PT	*DLA 15/2018 Response PT Milk 5 Processed Samples Milk, Whey, Yoghurt, Curd Cheese and Cream (and a "blank sample")*
Identifier / LOT	*RM 2018/15 Set*
Expiry date	*April 2027*
Matrix	*Potato Powder / Maltodextrin*
Physical description	*Powder*
Packaging / weight	*Sealed foile pouche / 6 x 20 g*
Storage conditions	*2-10°C, long term 2-10°C (dry and dark)*
Name and address manufacturer	***DLA - Proficiency Tests GmbH*** *Hauptstr. 80, 23845 Oering, Germany* *Tel. ++49-(0)4532-9183358, Fax. ++49(0)4102-9944976* *eMail. pt@dla-lvu.de, website. www.dla-lvu.de*

Composition of Material

PT-Sample series	**Sample 1 Milk**	**Sample 2 Curd Cheese**	**Sample 3 Cream**	**Sample 4 Yoghurt**	**Sample 5 Whey**	**Sample 6 „blank"**
Ingredients	**g/100 g**	**g/100g**	**g/100g**	**g/100g**	**g/100g**	**g/100g**
Potato powder Ingredients: potato, E471, E304, E223, E100 Nutrients per 100 g: Protein 8,3 g, carbohydrates 76 g, fat 0,6 g, salt 0,15 g	75	75	74	74	75	75
Maltodextrin	24	25	25	25	25	25
Allergen-Premixes Ingredients: maltodextrin (65% - 80%), titanium dioxide (< 25%), silicon dioxide (< 1,2-2%), processed allergen products (each 2,8% - 33% dry weight)	0,98	0,34	0,85	0,81	0,12	-
Allergen-Contents	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Whole milk, dried, (5 products, Germany)* Protein 25,0 % **	154	-	-	-	-	-
Curd cheese, dried, (5 products, Germany)* Protein 43,3 % **	-	95,4	-	-	-	-
Cream, dried, (5 products, Germany)* Protein 6,33 % **	-	-	624	-	-	-
Yoghurt, dried, (5 products, Germany)* Protein 25,0 % **	-	-	-	154	-	-
*Whey powder *, (4 products, Germany)* Protein 15,9 % **	-	-	-	-	398	-
– *thereof Milk protein*	38,6	41,3	39,5	38,6	63,3	-
Extended combined uncertainty (k=2) of milk protein content (= ± 11 %)	± 4,25	± 4,54	± 4,35	± 4,25	± 6,96	-

*Allergen contents as „total food“ as described in column ingredients according to gravimetric mixture
** Protein contents according to laboratory analysis of raw material mixtures (total nitrogen according to Kjeldahl with F=6,38 for milk protein)

Note: *The metrological traceability of temperature, mass and volume during production of the PT samples is ensured by DAkkS compliant calibrated reference materials.*

Minimum Sample Size / Homogeneity

A minimum sample size of 5 g is recommended for sample preparation.

The homogeneity tests were performed with sample sizes of 5 g (Microtracer analysis).
The mixture homogeneity was examined 8-fold by microtracer analysis. Homogeneity was sufficient with a probability of ≥ 25% (excellent mixture) and a HorRat value in the range of acceptance (0,3 to 1,3) (for more details see final report of PT).

Reference Values

All reference values were derived from the related proficiency test (PT) round (for more details see final report).

Reference Values qualitative ELISA Milk Protein / Casein

	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6
Number positive	17	17	17	17	14	0
Number negative	0	0	0	0	3	17
Percent positive	100	100	100	100	82	0
Percent negative	0	0	0	0	18	100
Consensus value	positive	positive	positive	positive	positive	negative
Spiking	positive	positive	positive	positive	positive	negative

Methods:
AQ = AgraQuant, RomerLabs
AQ-P = AgraQuant Plus, RomerLabs
IL = Immunolab
MI = Morinaga Institute ELISA
RS-F C= Ridascreen® Fast Casein, R-Biopharm
RS-F M= Ridascreen® Fast Milk, R-Biopharm
VT = Veratox, Neogen

Reference Values qualitative ELISA β-Lactoglobulin

	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6
Number positive	4	4	4	4	5	0
Number negative	0	0	0	0	0	5
Percent positive	100	100	100	100	100	0
Percent negative	0	0	0	0	0	100
Consensus value	positive	positive	positive	positive	positive	negative
Spiking	positive	positive	positive	positive	positive	negative

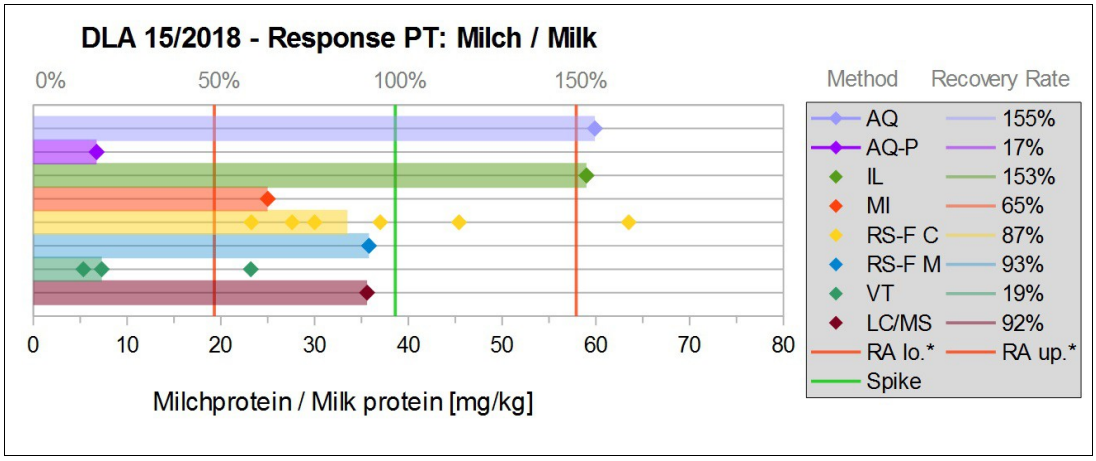
Methods:
IL LG= Immunolab β-Lactoglobulin
MI LG= Morinaga Institute β-Lactoglobulin ELISA
RS-F LG= Ridascreen® Fast β-Lactoglobulin, R-Biopharm

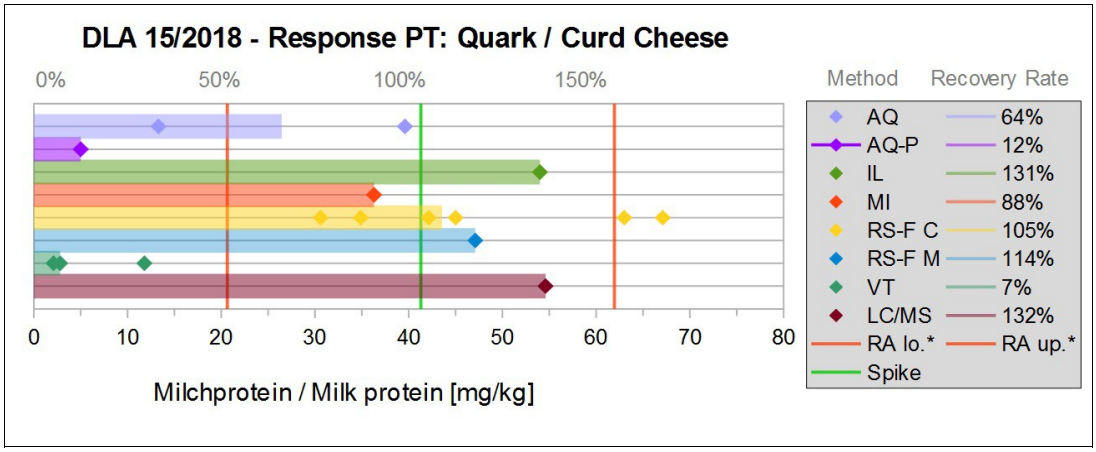
Reference Values qualitative *LC-MS/MS*

	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6
Spiking	positive	positive	positive	positive	positive	negative

Methods:
LC/MS = Liquid chromatography / Mass spectrometry

Median of Recovery Rates: Samples 1-3





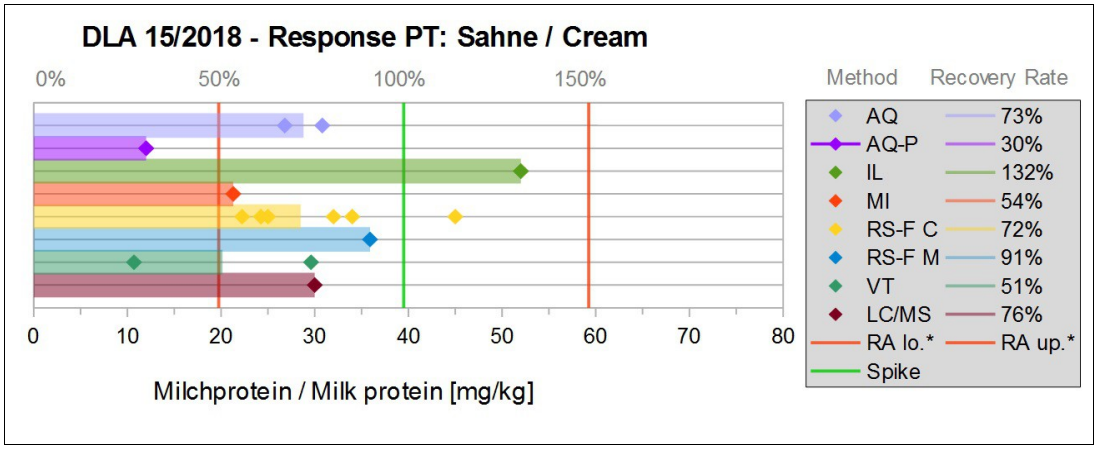
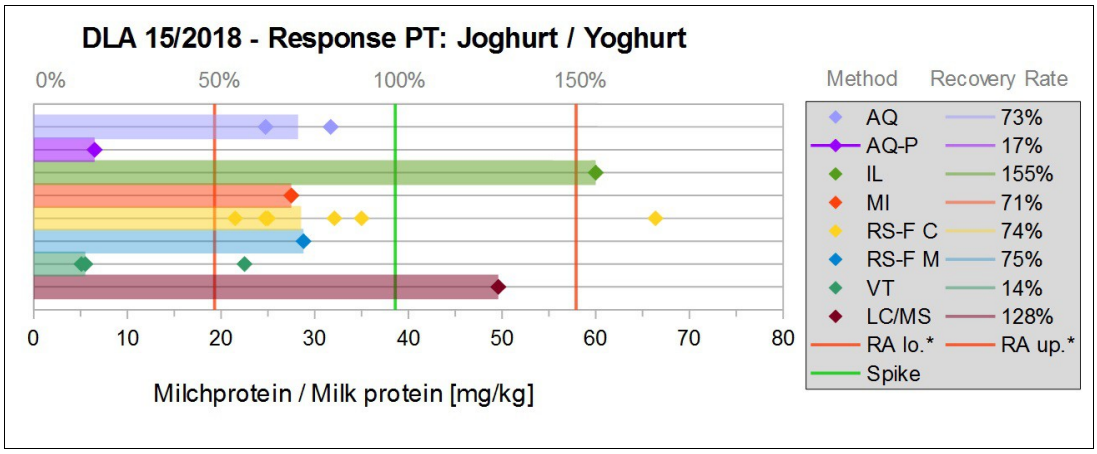


Fig. 1: Graphs of single results as milk protein (total) (Samples 1-3) separated by methods with corresponding mean recovery rates, lower scale milk protein content in mg/kg, upper scale recovery rate in % with * range of acceptance from 50% - 150% (* range of acceptance: RA lower limit to RA upper limit)

Median of Recovery Rates: Samples 4-5



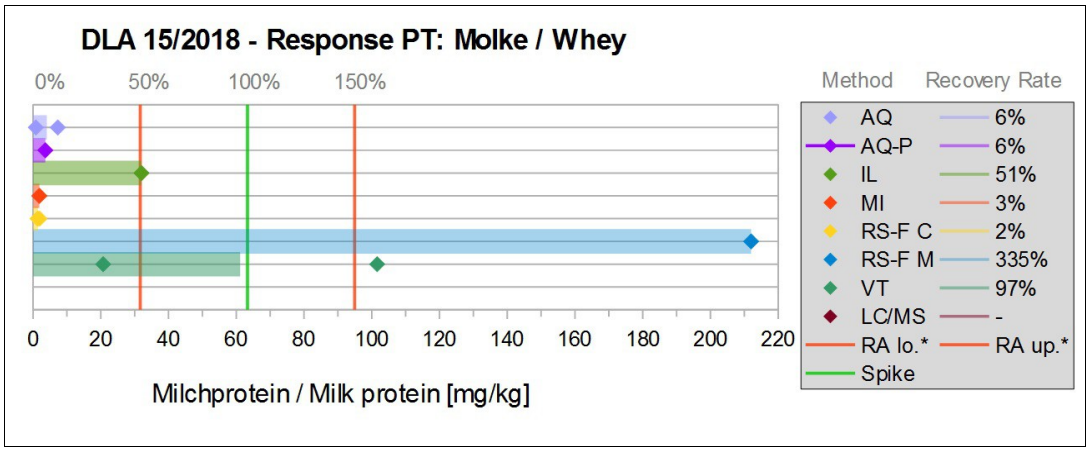


Fig. 2: Graphs of single results as milk protein (total) (Samples 4-5) separated by methods with corresponding mean recovery rates, lower scale milk protein content in mg/kg, upper scale recovery rate in % with * range of acceptance from 50% - 150% (* range of acceptance: RA lower limit to RA upper limit)

Intended Use
- for laboratory use only, no food!
- validation of analytical methods
- control sample for quality control charts
- test material for inter-laboratory comparisons

Storage Instructions and Handling Information
The material should be stored as stated on page 1. Before use of the material should be warmed up to room temperature. The content should be mixed thoroughly prior to subsampling (see minimum sample size above). The material should be weighed immediately after opening of the foil pouche/bottle and closed again afterwards in order to avoid uptake of moisture. Frequent freezing and thawing should be avoided as this can lead to changes in the properties of the material. The expiry date of this RM is based on the current knowledge and applies only for proper storage conditions in the originally closed foil pouche/bottle.

Safety Precautions
The usual laboratory safety precautions should be applied when working with the RM considering the type of ingredients, parameters and its concentration.

Data Source
The material was analyzed by 11 laboratories within the related proficiency test (PT). Different analytical methods have been used.

Various
The user must determine the suitability of this RM for its particular purpose. DLA makes no warranty of any kind, expressed or implied, other than its products meet all quality control standards set by DLA. We do not guarantee this product can be used for a special application.

approved (PT-Coordinator)	updated
Matthias Besler-Scharf, PhD	Ulrike Vorreiter
signed M. Besler-Scharf	*signed U. Vorreiter*
12 June 2025	4 May 2026