

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ARLA FOODS AMBA,
Petitioner

v.

LEPRINO FOODS COMPANY,
Patent Owner.

IPR2025-01199

U.S. Patent No. 11,825,860

**DECLARATION OF TANJA CHRISTINE JÆGER
UNDER 37 C.F.R. § 1.68 IN SUPPORT OF PETITION FOR
INTER PARTES REVIEW**

I, Tanja Christine Jæger, hereby declare as follows:

I. Introduction

1. My name is Tanja Christine Jæger. I am currently a scientist at Arla Foods a.m.b.a. (“Arla” or “Petitioner”) in Arla Foods Ingredient’s Innovation Center in Videbæk, Denmark.

2. I received a Master of Science degree in molecular nutrition and food technology from Aarhus University. My CV is attached as Appendix A.

3. I have been employed as a scientist at Arla since 2012, and my main research focuses on biophysics and functionalities of milk proteins.

4. I am one of the named inventors of Arla’s International Published Patent Application No. WO 2020/002450 (“Nielsen450”) (Ex1007). I was personally involved in the work described in Nielsen450, including the experiments described as Nielsen450’s Examples 4, 5, 11, and 12.

5. I provided a sample of the same batch of beta-lactoglobulin (“BLG”) powder used in the original experiments described in Nielsen450’s Examples 11 and 12 to Dr. Etzel.

II. The Same Batch of BLG Powder Used in Nielsen450 Was Provided to Dr. Etzel for Replication of Examples 11-12

6. Example 11 of Nielsen450 is titled “High Protein Beverages at Neutral pH” and described the preparation of nutritional high-protein beverages containing a broad range of whey protein concentration. Ex1007, 109. Example 12 is titled

“High Protein Beverages at Neutral pH With a Lipid Content of 25% and 50% of The Total Energy Content” and described the preparation of nutritional high-protein beverages in the presence of fat. *Id.*, 111.

7. The nutritional high-protein beverages in Examples 11 and 12 were all prepared using a sample of BLG powder identified in Nielsen450 as “BLG powder A.” *Id.*, 109, 111. In Nielsen450, we explained that the BLG powder A was prepared using methods described in WO 2018/115520 (“Bertelsen”). Ex1007, 74.

8. I reviewed past laboratory records I made when preparing beverages reported in Examples 11 and 12 of Nielsen450 and identified the particular batch of BLG powder used in those experiments as “Batch N11, 28-11-17, week 48.” The batch identifier included the trial number, production date, and calendar week of the powder. Following the experiments described in Nielsen450, that same batch of BLG powder was stored at Powder Lab 1.24 in a cupboard assigned to Søren Bang Nielsen—the lead inventor of Nielsen450. The cupboard is located indoors and kept at room temperature (approx. 22°C) with humidity maintained between 30% and 50%. We typically store past samples for as long as we think it is necessary, for example, for use in research projects later. I was able to find and identify that particular batch of BLG powder in the sample storage area of Søren Bang Nielsen’s cupboard based on the “Batch N11, 28-11-17, week 48” identifier.

9. I used methods disclosed by Nielsen450 to perform testing on the

identified BLG powder to determine its current composition, including the total protein composition (measured by Kjeldahl protein analysis – Nielsen450’s Example 1.5), the dry matter content (Example 1.15), and the protein types BLG, ALA, and CMP (measured by HPLC – Example 1.4). Ex1007, 81:33-82:4, 85:14-20, 91:6-94:2. The test results showed that the identified BLG sample contained 92.18% dry matter by weight, 89.25% protein by weight, and 92.03% BLG by weight (97 % of total protein being BLG). A lower dry matter content in the powder in 2025 is likely due to moisture absorption during storage. The following table compares compositions of the BLG powder in 2018/2019 and 2025.

Results shown in table below:

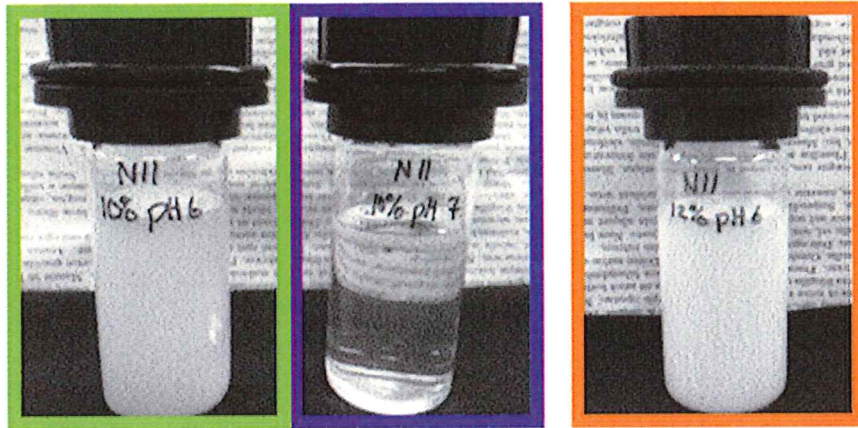
% w/w	Measured 2018/2019	Measured 2025
A-LA	BDL	BDL
B-LG	95.9	92.03
CMP	BDL	BDL
Total protein	93.97	89.25
Dry matter	95.19	92.18

*BDL = below detection limit

I provided that identified batch of BLG powder to Dr. Etzel for his use in experiments repeating those described in Examples 11 and 12 of Nielsen450.

10. Additionally, I attest that notations referencing “N11” corresponding to that composition’s identifier are visible in Nielsen450’s Figure 10 (shown below) depicting beverage compositions from Example 11. It was our practice to write the batch number of the BLG powders on the glass sample vials during our experiments.

Figure 10



III. Arla's Laboratory Equipment Was Used to Replicate Nielsen450's Examples 11-12

11. Dr. Etzel was granted access to Arla's lab equipment for performing the replication of Nielsen450's Examples 11-12. The equipment provided to Dr. Etzel included:

- Homogenizer (ID: E-0040)
- Malvern Mastersizer 3000 (ID: E-0041)
- Turbiquant (ID: E-0055)
- Sigma Centrifuge (ID: E-0024)
- Water bath
- pH-meter
- Magnetic stirrer
- Thin-walled glass tubes with lids

12. I confirm that most of the laboratory equipment listed above were the same ones used in performing the original experiments of Examples 11-12 in Nielsen⁴⁵⁰. In August 2020, we replaced the homogenizer (ID: E-0040). I further confirm that the replacement homogenizer has the same functions as the prior one.

13. As I am authorized and trained to safely operate Arla's laboratory equipment, I operated the equipment under the instructions of Dr. Etzel. Based on the steps and processing conditions I observed in Dr. Etzel's experiments, I confirm that they were faithful replications of the original experiments that produced the samples described in Examples 11 and 12 of Nielsen⁴⁵⁰.

IV. Conclusion

14. This declaration and my opinions herein are made to the best of my knowledge and understanding, and based on the material available to me, at the time of signing this declaration. I declare that all statements made herein on my own knowledge are true and that all statements made on information and belief are believed to be true, and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 or Title 18 of the United States Code.

Date: July 15, 2025



Tanja Christine Jæger

APPENDIX A

Contact

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www.linkedin.com/in/tanja-christine-jæger-73170351
(LinkedIn)

Top Skills

Protein Chemistry

Food Science

Food Technology

Languages

German

Danish

English

Tanja Christine Jæger

Research Scientist at Arla Foods Ingredients
Central Denmark Region, Denmark

Summary

- Broad knowledge of food technology, nutrition, and biotechnology.
- Expertise in the functional and biophysical properties of milk proteins.
- Extensive laboratory experience with focus on functional and chemical analytical methods.
- Familiarity with food production (primary dairy) and chemical unit operations.
- Skilled in project management, research, and development.

Experience

Arla Foods Ingredients

14 years 6 months

Research Scientist

January 2012 - Present (13 years 6 months)

Midtjylland, Danmark

Research with focus on biophysics and functionalities of milk proteins.

Master Student

January 2011 - December 2011 (1 year)

Investigated the chemical and physical changes in whey protein ingredients during storage and effect on the functional properties.

Arla Foods

Bachelor student (Bachelor of Science in Engineering)

April 2008 - December 2008 (9 months)

Implementation of a analytical method for lactose determination and optimization of the production of lactose reduced milk powder by enzyme technology.

Education

Aarhus University

Master's degree, Molecular Nutrition and Food Technology · (2009 - 2011)

Aalborg University

Bachelor's degree, Biotechnology (engineer) · (2005 - 2009)

Viborg Technical Gymnasium (HTX) (Danish upper secondary school)

· (2001 - 2004)