

# TALKING POINT

The Arla Foods Ingredients newsletter  
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**Arla Foods Ingredients**  
The essence of quality

# Sialic acid makes a Smarter formula

## Deliveries soon back to normal

Never before has demand been so high for our milk-based ingredients. On our markets for functional milk proteins, nutritional products and egg replacement solutions for bakery, we continue to experience market growth.

In recent months, this escalating demand has placed increasing pressure on our ability to produce sufficient quantities to meet all customer needs. At the same time, supplies of our main raw material – whey – have declined due to lower than expected cheese production by Arla Foods and other suppliers.

**This is a situation we are currently working to resolve. We hope to be in a position to resume normal deliveries within the very near future.**

**Until then, we apologise for any inconvenience caused. We remain committed to being a reliable and trustworthy supplier.**

## As a key component of infant nutrition attracts growing attention, Arla Foods Ingredients seeks new sources

Mounting evidence of the significant nutritional role played by sialic acid in human breast milk has caught the attention of the infant formula industry. Demand for Arla Foods Ingredients' LACPRODAN® CGMP-10 – a whey protein rich in sialic acid – is growing as a result. Responding to the market interest, an innovation project is now underway to identify additional sialic acid sources.

A study published in the American Journal of Clinical Nutrition earlier this year is the latest in a series that suggests sialic acid is important to early cognitive development. Present in human milk and neural tissues, the belief is that the 9-carbon sugar molecule is a key contributor during the periods of rapid brain growth that occur in the first months of life. Learning ability and memory are both thought to be enhanced.

### Nutritional supplement

Of the sialic acid present in human milk, one third is bound to protein and two thirds to carbohydrate. Used as a nutritional supplement in infant formula, the caseinoglycomacropptide product LACPRODAN® CGMP-10 is a good source of protein-bound sialic acid. Studies show a clear increase in the sialic acid content of spit when CGMP is used as a nutritional supplement in infant formula, a clear indication that the sialic acid is being absorbed.

In addition to its association with improved cognitive development, CGMP has a documented antiviral effect, inhibiting infections caused by Streptococcus, E. coli and cholera toxin, and promotes a healthy gut microflora.

### Raising the standard

Today a typical infant formula contains less than 25% of the sialic acid present in human milk. In an attempt to raise this standard, Arla Foods Ingredients has initiated a project to manufacture a source of carbohydrate-bound sialic acid. The aim is to provide infant formula manufacturers with an opportunity to raise the level of sialic acid without increasing the overall protein content. Reducing protein levels and improving protein quality is currently a strong trend within the infant formula industry.

Arla Foods Ingredients has long been committed to the ongoing effort to optimise the nutritional profile of infant formula. The outcome of the project should be available later this year.

**For more information: [svhp@arlafoods.com](mailto:svhp@arlafoods.com)**

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*Text: Cath Mersb*

*Illustrations: Made By Makers*

*Pictures: Ivar Mjell*

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*[www.arlafoodsingredients.com](http://www.arlafoodsingredients.com)*



# When hunger is in short supply

Protin® from Arla Foods is a new range of high-energy drinks designed to provide refreshing nutrition in hospital and at home

Two hospitals have worked closely with Arla Foods to develop a new series of high-energy yogurt drinks especially for patients with small appetites. Arla Foods Ingredients supplies the protein that gives the drinks their optimum nutritional content while maintaining an appealingly light consistency.

Protin® is the first fresh dairy product of its kind to be launched on the Danish market, bringing an opportunity for patients to obtain the nutrition-packed product they received in hospital from their local supermarket. At the same time, hospitals and nursing homes are no longer reliant on mixing the drinks themselves. That saves both time and money.

"The hospitals never know how much they need from day to day. Apart from being time-consuming to mix, much of what the hospitals make themselves goes to waste due to the very short shelf life," explains Arla Foods key account manager John Gynther.

#### Extended shelf life

Compared to the less than two-day shelf life of the blends made by hospitals and nursing homes, Protin® has an overall shelf life of up to 28 days. The six fruity flavour variants, including two sugar-free, provide an important dietary supplement when the appetite is at a low ebb. Drinking Protin® regularly during the week before an operation can also help patients build up their nutritional reserves.

Both the hospitals involved in the project supplied samples of their own blends as a benchmark for the development process. When it appeared that the simple addition of milk protein to an existing drinking

yogurt base resulted in an impossibly high viscosity, the functional milk protein team at Arla Foods Ingredients was brought in to find a solution.

"It is very typical for us to be assigned to difficult tasks like this," says customer service manager Mads Bjerregaard Larsen. "We found it necessary to reduce the milk content of the product, as the casein in the milk was responsible for the high viscosity. Instead whey-based proteins with a neutral flavour profile and low water-binding capacity were used to compensate for the milk. We also slightly altered the processing parameters to obtain the optimal product."

A blend of whey protein fractions, NUTRILAC® YO-7830 was chosen as the protein source.

#### Fresh taste

"We have developed a range that the hospitals actually think is slightly better than what they were making," John Gynther says. "People have been surprised by the deliciously fresh taste."

Launched in Danish hospitals and nursing homes in autumn 2006, Protin® appeared on supermarket shelves in early 2007 with specially designed packaging. A number of discharged hospital patients had already inquired about the product before the retail launch.

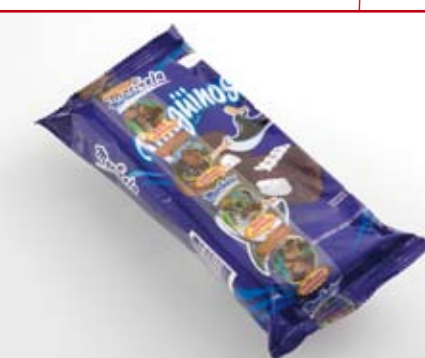
Today the range is widely used in hospitals and nursing homes throughout Denmark. Arla Foods is now looking to launch the range on international markets.

For more information: [ckj@arlafoods.com](mailto:ckj@arlafoods.com)



# Great cakes cut the egg

Grupo Bimbo is the undisputed leader within the Mexican and Latin American bakery industry. Egg replacement solutions from Arla Foods Ingredients are today integral to the group's popular cake brands



Egg replacement is fast becoming a buzzword within the bakery industry, bringing a valuable opportunity to cut costs and improve the quality of cake products. Keen to replace egg with an equally natural alternative, more and more manufacturers are choosing a solution from Arla Foods Ingredients.

One of them is Grupo Bimbo, which uses Arla Foods Ingredients' functional milk protein MULTILAC® BK 6205 in cake products marketed in countries throughout Latin America. In the more than three years that have passed since adopting the solution, Grupo Bimbo has won important benefits.

Regional purchase manager for Grupo Bimbo in South America, Alejandro Aticha explains that the initial decision to use the Arla Foods Ingredients egg replacement concept was taken after tests at Bimbo Chile proved its superior performance in extending cake shelf life. In 2006, the company switched to the new generation MULTILAC® protein for even better results.

"The solution has enabled us to extend product shelf life and reach markets we couldn't reach before, such as the wholesale market," says Alejandro Aticha. "A very important advantage is that an essential part of our costs – egg – is highly unstable and cyclical. Arla Foods Ingredients can offer a more stable price with longer-term commitments, making it easier for me to prepare my budget".

## Boon for efficiency

Compared to liquid egg, which also requires refrigeration, the powder protein is very easy to handle – a real boon for production line efficiency. Another logistical gain is the fact that the Arla Foods Ingredients plant producing the protein is located in Argentina.

With Arla Foods Ingredients now delivering solutions to Grupo Bimbo plants in Chile, Peru and Mexico, Alejandro Aticha is positive that the relationship between the two companies will continue to grow. Deliveries to Colombia, Venezuela and Brazil are expected to get underway in the near future.

"Arla Foods Ingredients has a good perception of our needs and provides the right technical, development, implementation and logistical support. I think we are at the stage where we see each other as strategic partners. We trust each other a lot," he says.

Some of Grupo Bimbo's successful brands have been on the market for more than 20 years. Even the smallest change in the recipe must ensure the popular taste and texture are maintained. Using cost-efficient egg replacement solutions from Arla Foods Ingredients, cakes are more than just as good. For the most part, they are even better.

**For more information:** [cva@arlafoods.com](mailto:cva@arlafoods.com)

## About Grupo Bimbo

Established in Mexico in 1945, Grupo Bimbo today ranks among the world's most important bakery companies with more than 5,000 products and 100 well-known brands. The group is present in 17 countries in Latin America, Europe and Asia, not to mention the US.



# Tone Up in good taste

## New hydrolysate solutions add appealing nutritional benefits to sports drinks

Sports nutrition products based on whey protein hydrolysates are moving out of their bodybuilding niche and into the mainstream as more studies document their positive health effects. Arla Foods Ingredients supports the move with processing technology and formulation expertise that enable the development of refreshing hydrolysate sports drinks with a satisfying taste.

Long used in protein drinks for bodybuilders, hydrolysates provide a series of important benefits when consumed in connection with exercise. These include stimulating an insulin response four times higher than that of intact proteins.

As a result, the transport of glucose and amino acids into insulin-sensitive cells rapidly increases while muscle glycogen production goes up – mechanisms that fulfil. These mechanisms fulfil the necessary conditions for enhanced muscle synthesis, recovery and endurance and a reduction in muscular soreness. In clinical nutrition, the same mechanisms may also counter muscle wasting during illness.

Arla Foods Ingredients has participated in a series of studies in cooperation with independent institutes, added to the growing wealth of evidence that backs these positive effects. This and the ability to mask the characteristic bitter after-taste are main contributors to the broadening interest now being shown in hydrolysates for sports nutrition.

New processing technology developed by Arla Foods Ingredients combined with the use of flavours is largely responsible for the improved taste. At the same time, the technology enables hydrolysate drink formulations to be precisely tailored to individual manufacturer requirements. The degree of hydrolysis, amino acid profile and raw materials are among the main adjustable factors.

Clear, stable and appealing, modern hydrolysate drinks build bodies and good impressions.

**For more information:** [vkj@arlafoods.com](mailto:vkj@arlafoods.com)

# 7-Eleven goes for wholesome Snacks

## New protein bar meets a growing need for healthy convenience

The world's leading chain of convenience stores 7-Eleven has long recognised the increasing health awareness of its customers. Now, in Denmark, 7-Eleven is extending its range of healthy food products with a protein bar developed by Arla Foods Ingredients.

Marketed under 7-Eleven's own label, the protein bar joins the nutritious salads, sandwiches and chicken skewers already on the shelves in the 55 Danish stores.

"People are eating out more, often when they are on the go, and there is a clear focus on health," says category manager for 7-Eleven Denmark, Henrik Ludvig. "The protein bar helps us satisfy this need."

### Joint project

The product launch is the result of close cooperation between Arla Foods Ingredients and 7-Eleven. While Arla Foods Ingredients has developed the protein bar itself, 7-Eleven has used its retail knowledge to design the packaging and the marketing campaign that will promote the product in the stores.

"We are very interested in developing our own products as it enables us to differentiate ourselves on the market. So this is an exciting project for us – and a good way to make our confectionery a little healthier," says Henrik Ludvig.

The decision to launch an own label protein bar builds on the



success of a branded product stocked by 7-Eleven over the past 18 months. Despite having a slightly higher price than standard chocolate bars, the branded protein bar accounts for a relatively high proportion of total chocolate bar sales.

### Deliciously healthy

Arla Foods Ingredients' optimised protein compound, comprising caseinate and whey protein concentrate, isolate and hydrolysate, represents just over 25% of the new 7-Eleven bar's overall content. Fortified with calcium and fibre and low in fat, the chocolate-coated bar has a delicious chocolate caramel taste, as Henrik Ludvig confirms:

"The idea is that consumers can choose this instead of a chocolate bar. Their pleasure on eating it should be the same."

Working with Arla Foods is not new to 7-Eleven. In the Danish stores, consumers can buy Café Coolers in two flavour variants – the result of a previous development project with the dairy company. The Café Coolers are today also available from 7-Eleven outlets in Sweden.

"If the new protein bar is a success, it is quite possible that we will export the product to other 7-Eleven markets – or perhaps develop more flavour variants or even a drink to go with it," Henrik Ludvig says.

But first things first. Once the in-store marketing campaign is underway, 7-Eleven will closely follow the consumer response to the new protein bar.

Expectations are high.

For more information:  
[asj@arlafoods.com](mailto:asj@arlafoods.com)

## About 7-Eleven

More than 27,900 stores worldwide make 7-Eleven an absolute leader in convenience retailing. Founded at the Southland Ice Company in Texas, US, in 1927, the company pioneered the convenience store concept when it started selling milk, bread and eggs outside normal shop opening hours. Today most stores are open 24 hours a day, seven days a week.

# First protein bar production in China



Would-be manufacturers of protein bars in China can at last take the plunge thanks to a new cooperation agreement between Arla Foods Ingredients and the Chinese cereal manufacturing company Ernst, based in Shenzhen on the Hong Kong border.

The protein bar market in China is in growth but, until now, no production facilities have been available to local manufacturers. Following major investment in equipment and staff training by Arla Foods Ingredients' protein bar specialists, Ernst is capable of producing protein bars that meet international quality standards.

"A number of our customers have asked us where they can get their protein bars produced," says nutrition manager at Arla Foods Ingredients, Anders Steen Jørgensen. "Ernst already has a waiting list of companies that want to run production trials."

**For more information:** [asj@arlafoods.com](mailto:asj@arlafoods.com)

## Four bites to a glass

Chew a healthy chunk of milk and give your body a shot of essential nutrients. Just four of Arla Foods Ingredients' milk bites provide the equivalent protein and calcium to a glass of milk.

Milk bites are among the many concepts developed by Arla Foods Ingredients to demonstrate how the natural goodness of milk can be made easily accessible in delicious, convenient snacks.

Comprising bite-size pieces of calcium-enriched protein bar covered with a crispy coating, milk bites are an excellent protein source and maintain their moist and chewy texture throughout shelf life. Arla Foods Ingredients can supply the protein and calcium compound along with tailor-made formulations.

**For more information:** [asj@arlafoods.com](mailto:asj@arlafoods.com)



# inbrief



## Rocketing sales prompt growth



Significant growth in demand from the infant formula industry for whey protein fractions rich in alpha-lactalbumin has spurred Arla Foods Ingredients to expand production. During 2007, the company will almost double the capacity of its LACPRODAN® Alpha production line.

Interest in alpha-lactalbumin has increased as manufacturers of starter and follow-on formulas look to tailored bovine milk fractions as a means of lowering the nitrogen burden on the kidneys of newborn infants and meeting the minimum amino acid requirements. The new European infant formula directive backs the growing alpha-lactalbumin sales by requiring infant formula manufacturers to simulate the amino acid profile of human milk as closely as possible.

Nutrition manager at Arla Foods Ingredients, Anders Steen Jørgensen welcomes the development.

"It has been evident for some years that support from strong clinical evidence is necessary in order to build a sustainable market for speciality milk fractions. It is with excitement that we can now see these investments become converted into market growth for our LACPRODAN® Alpha range," he says.

**For more information:** [asj@arlafoods.com](mailto:asj@arlafoods.com)

## Fresh look for new websites

The Arla Foods Ingredients and Arla Foods Ingredients South America websites have been relaunched with an attractive new design and simpler navigation to the latest news and information. Aimed at customers, investors, partners and other interested parties, the websites are a source of easily accessible facts about the company and its markets.

For visitors in need of more technical data, scientific publications and product and application brochures are also available for download.

Visit the websites at [www.arlafoodsingredients.com](http://www.arlafoodsingredients.com) and [www.arla-ingredients.com.ar](http://www.arla-ingredients.com.ar).

**For more information:** [les@arlafoods.com](mailto:les@arlafoods.com)

## Nutrition reorganises European sales

Arla Foods Ingredients' nutrition business area has introduced a new European sales organisation to provide customers with more specialised service.

The move means that manager of Arla Foods Ingredients' office in France, Vincent Goulois, has taken up the position of European sales director for nutrition. Ben Rewinkel, former manager of the Dutch office, has been appointed European nutrition sales manager.

Particularly customers working on international markets should now experience a more coordinated approach to their requests and faster access to qualified assistance.

**For more information:** [asj@arlafoods.com](mailto:asj@arlafoods.com)

# Oasis of opportunity



## DANO<sup>®</sup> homes in on a desert market thirsty for milk

North Africa is the latest destination for Arla Foods milk powder with the arrival of the DANO<sup>®</sup> brand in Algeria – one of the world's five biggest milk powder markets.

Rapid market growth, increasing accessibility and large families make Algeria a land of great potential for DANO<sup>®</sup>. Faced with a strong tradition for milk consumption by the 33 million consumers, Algeria's own dairy farmers can today meet just 10% of national demand. That, along with the growing consumer emphasis on quality and safety, has created all the right conditions for the DANO<sup>®</sup> milk powder launch. The sky-rocketing demand for milk powder means DANO<sup>®</sup> sales so far have way exceeded all expectations. As Algeria now feels the effects of an acute milk shortage, Arla Foods has responded by donating 180,000 DANO<sup>®</sup> samples to schools in the nation's poorest provinces – samples that were otherwise earmarked for the DANO<sup>®</sup> launch campaign.

"Some 65,000 to 70,000 tonnes of retail-packaged milk powder are sold in Algeria a year. Our aim is to establish DANO<sup>®</sup> as a high quality, healthy milk product for the whole family, rich in calcium, vitamins and

proteins," says brand manager Michael Lundtoft.

"The strategy is to gain a rapid foothold in the milk powder market and then start driving the category through innovation and segmentation."

To lead the market drive, Arla Foods has appointed Anwar Mahfoudhi as country manager based at a new representative office in Algiers. The respected local distributor DIMO is responsible for sales and distribution, initially in Algiers and two other major cities in the region. To start with DANO<sup>®</sup> is available in a 500g pack and 125g sachet.

### Eye-catchers

An extensive marketing campaign – the biggest yet for a dairy launch in Algeria – is underway. Eye-catching television commercials, radio spots, bus banners and other outdoor and press advertising have all contributed to the strong early response from consumers.

"We have had a fantastic start," says Michael Lundtoft.

"The stores have received the product well, and we have already experienced many repeat orders."

**For more information: [milun@arlafoods.com](mailto:milun@arlafoods.com)**