



KEY BENEFITS

- Lysis of Gram+ & Gram- Bacteria;
- Shelf-life extension;
- No Organoleptic impact;
- Non-GMO source;
- Natural, Customer-friendly label;

	Lysoch® L4
Code	0403
Registration Number	Lysozyme
Organoleptic impact	No Impact
Source	Non-GMO, renewable
Thermal Stability	Up to 150°C
Applicable pH	5.5 - 8
Recommended dosage	40-160mg/KG
Packing Size	1L, 20L
Appearance	Transparent Liquid
Labelling	Lysozyme

NATURAL LYSIS OF GRAM+ & GRAM- BACTERIA

Cheese is a perishable product with a short shelf life, especially when stored in the refrigerator. Fresh cheeses have a high moisture content and a pH ranging from 5.4 to 6.0. They undergo minimal processing before packaging, which creates favorable conditions for the growth of both gram-positive and gram-negative bacteria. This can lead to issues like cheese blowing and off-odor.

To address these concerns, Handary SA has developed Lysoch® L4, a natural antimicrobial for food that is well-known for its label-friendly properties. Lysoch® L4 is highly effective in inhibiting the growth of both gram-positive and gram-negative microorganisms in various food and beverage products.

Lysoch® L4 acts as a potent inhibitor of undesirable microorganisms, including lactic acid bacteria. By doing so, it helps extend the shelf life of food and preserve its quality. Additionally, Lysoch® L4 serves as a primary intervention to prevent the growth of pathogenic foodborne microorganisms such as *Listeria*, *Staphylococcus*, *Mycobacterium*, as well as spore-forming bacteria like *Bacillus* and *Clostridium*. This contributes significantly to enhancing food safety standards.

OUR BRANDS

LYSOCH® L4
Microbial Lysozyme



CASE STUDIES

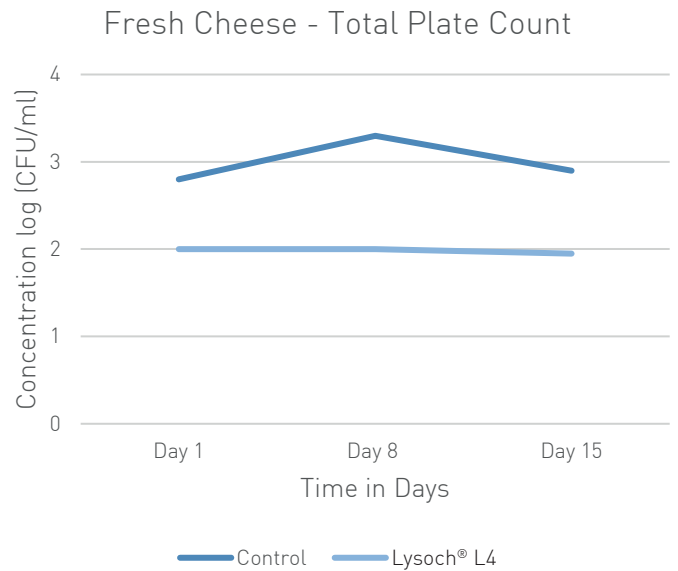
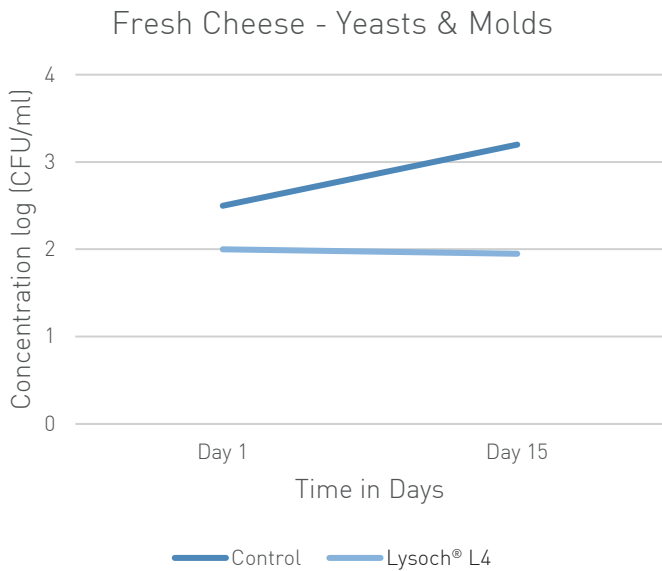
Fresh cheese is a popular soft white cheese with a near-neutral pH of 6.5, widely consumed in the Hispanic region. However, its refrigerated shelf life is limited to just two weeks. In a recent case study, the effectiveness of incorporating Lysoch® L4 was investigated as a safe method to extend the shelf life of fresh cheese.

LYSOCH® L4: FRESH CHEESE SHELF-LIFE EXTENSION

To conduct the experiment, we compared a sample of fresh cheese with a dosage of 160mg/Kg of Lysoch® L4 to a sample without any treatment. Since Lysoch® L4 is a liquid, it was directly added to the cheese during the final step. All samples were then stored in a refrigerator at a temperature of 5°C.

Our objective was to monitor the levels of Yeast, Molds, and Total Plate Count throughout the shelf life of the fresh cheese. By day 15, the untreated sample exhibited a significant increase in microbial activity, as indicated by the logarithmic growth. In contrast, the sample treated with Lysoch® L4 remained completely stable, demonstrating the effectiveness of this product in such applications.

Further research and testing can explore optimal dosage levels of Lysoch® L4 and evaluate its impact on other quality parameters such as texture, taste, and overall sensory attributes of the fresh cheese. Overall, the results suggest Lysoch® L4 holds promise as a valuable tool in improving the safety and shelf life of fresh cheese, benefiting both producers and consumers alike.



CONCLUSION

In conclusion, the incorporation of Lysoch® L4, a liquid antimicrobial agent, in fresh cheese demonstrated significant benefits for extending its shelf life.

The use of Lysoch® L4 effectively inhibited the growth of yeast, molds, and other microorganisms, contributing to the preservation of the fresh cheese. This finding highlights the potential of Lysoch® L4 as a safe and efficient solution for enhancing the shelf life of fresh cheese and similar food products.



APPLICATION GUIDELINE

The following guideline will assist you to get the optimum solution by using Handary Lysoch® L4 to effectively and naturally extend the microbial stability and the shelf-life of fresh cheese.

DIRECT ADDITION INTO FORMULATION

Follow the suggested dosages to apply directly Lysoch® L4 into fresh cheese formulation.

Ingredients	Application		Benefits	Dosage
Lysoch® L4	Cheese	Fresh Cheese	Growth control and stability of Gram+ & Gram- Bacteria	40-160 mg/kg

Follow the suggested dosages to apply directly Lysoch® L4 into fresh cheese formulation. Lysoch® L4 recommended dosages are added directly into the final product. Dosages ranging from 40-160 mg/kg..

FRESH CHEESE MANUFACTURING PROCESS

Follow the representative production process flow chart of fresh cheese and the recommended stage of product incorporation to get the best efficiency of Lysoch® L4 in fresh cheese application.

