

4Protection

Clean label solutions for shelf life without compromise

Ensuring stability throughout shelf life, naturally

In the dairy sector, quality must be safeguarded throughout the entire supply chain. Cheese, yogurt, and fermented milk products require solutions capable of ensuring **stability and safety across their full shelf life**.

The 4Protection line by Sacco System consists of carefully selected lactic acid bacteria that naturally preserve dairy products without the use of additives or artificial preservatives. These solutions meet **clean label** requirements while maintaining the **original structure, taste, and aroma of the product**.

The entire range also addresses the need to reduce food waste, considering that approximately **20% of dairy products are wasted each year**, particularly at the household level.⁽¹⁾



Food cultures with protective effect are based on the use of single strains or defined mixtures of microorganisms, typically lactic acid bacteria.

Their metabolic activity is well recognized for inhibiting the growth of microorganisms that are harmful to humans and **limits the development of spoilage microorganisms** by modifying the growth environment. In this way, they support product safety and help maintain quality throughout the entire shelf life.

The synergy between starter cultures and food cultures with protective effect **does not generate off-flavours**, but instead preserves the original flavour profile of dairy products.



The protective effect of bacteria is the result of **three main biological interactions**:

Occupy the physical space



Compete for nutrients



Produce inhibitory molecules

Sacco System 4Protection Product Line:

	Culture Name	Application	Inoculation method	Dosage (doses/100l)*
Anti Yeast&Moulds 	LPR A LR B LR 4P D	Yogurt and fermented milk	DVS	1-10
Anti Clostridi 	LC 4P 1 Block 1 (LCR 4P 06) Block 2 (MOL 4P06)	Fresh, hard, semi-hard and soft cheeses	DVS	1-10
Anti Pseudomonas 	Ally 1 (CNB AP)	Mozzarella and ricotta	Storage Liquid	1-10
Anti Listeria monocytogenes 	Hero 1 (CNB AL) Hero 2 (LPAL)	Fresh, semi-hard, blue type cheeses	DVS Saline solution Smear solution	1-10
Anti Gram Negative 	Rescue 1 (CPR 4P 1) Rescue 2 (CRS 4P 2)	Fresh, hard and semi-hard cheeses	DVS	1-10
Anti Other Microorganisms (e.g. Heterofermentative Microorganisms) 	Free 1 (BGP 1)	Yogurt and fermented milk	DVS	1-10
		Fresh, soft and semi-hard cheeses	DVS	0,1-10
	LPR G	Yogurt, fermented milk, fresh and semi-hard chees	DVS Saline solution	1-10
Protein Stability 	PerforMilk 1	Milk in storage tank	DVS	0,5-1
	PerforMilk 2	Milk in storage tank	DVS	0,1-10

* Please contact your technical sales manager for further information

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