



Key benefits

- Inhibits *Listeria*, yeasts and moulds
 - Improve overall quality
 - Shelf – Life extension
 - Clean-label
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BIO-PROTECTIVE CULTURES

Deliberate application of protective culture for the controlling of undesired microorganisms in fermented products without necessity of changing the technological and organoleptic (sensorial quality, etc.) of the product considerably.

ND Pharma& Biotech provides 2 different formulas of protective cultures under commercial name of **KEEPFRESH™ AF** produced as a proprietary technology of specific blending of cultured *Lactobacillus Paracasei* and *Propionibacterium freudenreichii (suspe Sherman)*.

KEEPFRESH™ AF has strong inhibitory effect n the yeast and moulds, and does not inhibit the normally used starter cultures, or give negative flavour/texture impact in the final dairy products.

KEEPFRESH™ AL is produced by blending the cultured *Lactobacillus Sp.* This second brand has strong inhibitory effect on *Listeria Sp* in fermented meat and cheese products.

KEEPFRESH™ AF	Fresh fermented dairy	Yoghourth	Yeast and mould	10-20 u/100L milk
KEEPFRESH™ AF	Cheese	Hard Cheese		10-20 u/100L milk
KEEPFRESH™ AL	Cooked Meat	Emulsion Sausages	Listeria	10-20 u/100Kg meat

KEEPFRESH™ AF

Antifungal cultures

Yogurt made with and without KEEPFRESH™ AF were held for 60 d @ 51C. Figure 1 shows the yeast spoilage as it was inhibited, with leads to blowing, off-flavours and off-odours during the shelf life of yogurt.

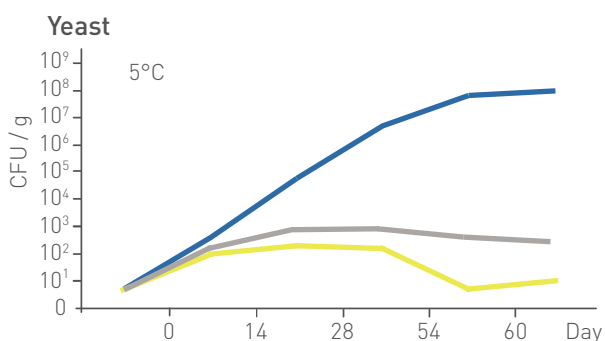


Figure 1

Blue (Control)
Grey (KEEPFRESH™ AF @ 10 u/100 L)
Green (KEEPFRESH™ AF @ 20u/100 L)

Figure 2 shows that the mould such as *Penicillium spp.* Was inhibited, which causes highly visible and pigmented growth in yogurt.

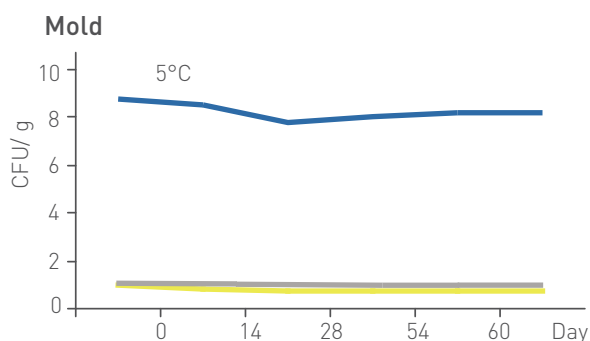


Figure 2

Blue (Control)
Grey (KEEPFRESH™ AF @ 10 u/100 L)
Green (KEEPFRESH™ AF @ 20u/100 L)

Figure 3

Figure 3 showing the inhibition effect of KEEPFRESH™ AF on moulds in yogurt (7 days@25°C, inoculate 1-2 mould spores on the surface each sample).

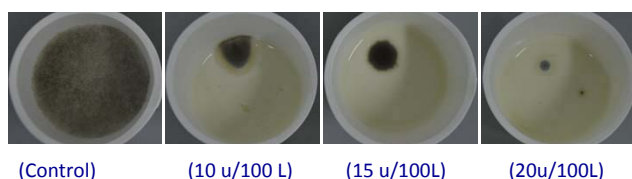


Figure 4 HARD CHEESE

Figure 4 showing the inhibition effect of KEEPFRESH™ AF on moulds in sliced hard cheese (16 days @ 25°C)



KEEPFRESH™ AL

Anti-*Listeria* Cultures

ND Pharma & Biotech



Figure 5

Figure 3 showing the outgrowth of *Listeria* in a typical Emulsion Sausages Formula. Addition of 10u/100 Kg of meat of DAIRYFRESH™ AL is expected to reach 10^3 cfu/g outgrowth for a least 35 days.

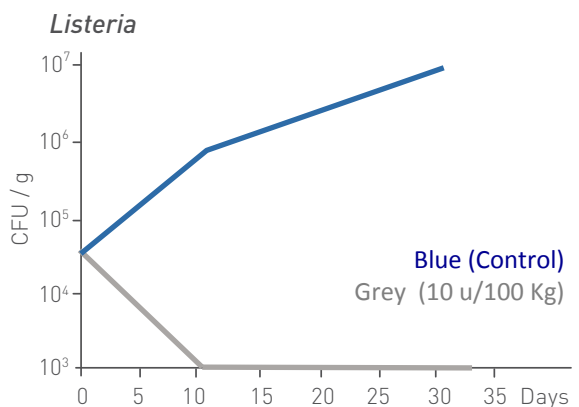
For further information about us, our catalogue of products and services and the fields we operate offering solutions, please write us to:

info@ndpharmabiotech.com

We have been an independent, family-owned and financially stable private company serving as provider for the Pharmaceutical, Research, Biotechnological, Agricultural and Chemical Industry since our incorporation.

We have established a series of strong partnerships and alliances worldwide to serve more efficiently to our clients and customers worldwide.

Our exclusive business model is part of our uniqueness in the creation of added value and strategic advanced solutions for you.




ND Pharma & Biotech

EMEA
ndpharmabiotech@europe.com

North America
ndpharmabiotech@usa.com

LATAM Countries
ndpharmabiotech@samerica.com

ASIA-PACIFIC
ndpharmabiotech@asia.com