



GENESIS™ SERIES

CHEESE STARTER CULTURES

Description

- ▶ Concentrated freeze-dried blended mesophilic and thermophilic multi strain cultures
- ▶ Optimized combinations of compatible selected bacteriophage resistant strains
- ▶ Activity – the number of viable active cells is 1×10^{10} CFU per gram
- ▶ Strains are not genetically modified

Packing and storage conditions

- ▶ GENESIS cultures are packed in three layer folio sachets in doses for a fixed amount of milk
- ▶ Cultures for bulk starter preparation – 100, 200 l. They assure the obtaining of an active liquid bulk starter culture.
- ▶ Direct starter cultures for 500, 1000, 1500, 2000, 5000 l
- ▶ Freeze-dried GENESIS cultures preserve their production qualities for a year when stored at $0 \div 10^{\circ}$ C in dry premises. GENESIS cultures allow transportation without special cooling for no more than 72 hours.

Purity

Coliforms (ISO 4831,ISO 4832)	CfU/g; MPN	Absent
Escherihia coli (ISO 7251)	CfU/g; MPN	Absent
Salmonella species (ISO 6579)	in 25,0 g	Absent
Staphylococcus aureus (6888-1-3)	CfU/g; MPN	Absent
Listeria monocytogenes (ISO 11290-1)	in 25,0 g	Absent
Yeast and moulds (ISO 7954)	CfU/g	< 5

Chemical standards

Pb	< 0,10 mg/kg	Cd	<0,10 mg/kg	As	<1,00 mg/kg
Hg	< 0,03 mg/kg	Cu	< 1,00 mg/kg	Zn	< 1,00 mg

Dosage

Activity units (U) in relation to liters	Amount of milk (mixture) for fermentation (l)
1	100
5	500
10	1000-1500
20	2000-2500
50	5000

Alternative cultures

▶ TM-24 ▶ TM-25 ▶ TM-27

Composition

Lactococcus lactis sp lactis

Lactococcus lactis sp cremoris

Streptococcus salivarius sptermophilus

Lactobacillus delbrueckii sp bulgaricus

Lactobacillus helveticus

Application

- ▶ Feta and other brine-ripened cheeses, semi-hard cheeses, hard cheeses
- ▶ The cultures are suitable for the production of Bulgarian white brined cheese.
- ▶ Cultures without citrate fermentation
- ▶ Fast acidification.

Fermentation activity

	0:00	1:00	2:00	2:30	3:00	4:00	4:30	5:00	5:30	6:00	6:30	7:00	8:00
36°C	6,50	6,47	6,43	5,94	5,90	5,59	5,40	5,21	5,13	5,05	4,97	4,93	4,81

36°C	24:00
pH	4,56

Alternative cultures

▶ TM-1 ▶ TM-2 ▶ TM-3

Composition

Lactococcus lactis sp lactis

Streptococcus salivarius sptermophilus

Lactobacillus delbrueckii sp bulgaricus

Lactobacillus casei sp casei

Application

- ▶ Yellow cheeses of the Cheddar, Kashkaval, Colby, Mozzarella types
- ▶ Fast acidification.

Fermentation activity

	0:00	1:00	2:00	2:30	3:00	4:00	4:30	5:00	5:30	6:00	6:30	7:00	8:00
36°C	6,50	6,48	6,42	5,95	5,92	5,60	5,41	5,22	5,12	5,06	4,96	4,92	4,82

36°C	24:00
pH	4,56



Alternative cultures

▶ CHTM-10 ▶ CHTM-11 ▶ CHTM-12

Composition

Lactococcus lactis sp lactis

Lactococcus lactis sp cremoris

Lactococcus lactis sp lactis biovar diacetylactis

Leuconostoc mesenteroides sp cremoris

Streptococcus salivarius spthermophilus

Lactobacillus delbrueckii sp bulgaricus

Application

▶ Hard cheeses

Fermentation activity

	0:00	1:00	2:00	2:30	3:00	4:00	4:30	5:00	5:30	6:00	6:30	7:00	8:00
36°C	6,60	6,51	6,49	6,35	6,26	5,76	5,42	5,22	5,12	5,05	4,98	4,90	4,85

36°C	24:00
pH	4,60



- ▶ The information is based on laboratory experiments and is approximate for manufacturing conditions.
- ▶ Nutritional medium used: non-fat reconstituted milk (10% solids), heated for 45 minutes at 99 ° C and standardized to pH 6.6 ± 0.5 .
- ▶ Each consumer should carry out his own tests based on our recommendations and determine the suitability of the starter culture depending on the quality of raw materials, technology, equipment in each case.