



YO-MIX™ Yogurt Cultures



DANISCO

First you add knowledge...

YO-MIX™ Yogurt Cultures: the DVI range for yogurt and fresh fermented milk products

A broader sensory experience

Deliciously refreshing yogurt and fermented milk products gain their well-defined characteristics from the cultures they contain. Texture, viscosity and flavour profiles are determined by this key ingredient enabling manufacturers to create products that entirely match the taste preferences of consumers or introduce dynamic new sensory experiences to the market.

Danisco supplies an extensive range of yogurt and fermented milk cultures marketed under the brand name YO-MIX™ Yogurt Cultures. The range has been carefully developed to contribute the desired properties to almost any yogurt or fermented milk application. Produced for direct vat inoculation (DVI), most of the cultures are available in deep frozen (FRO) or freeze-dried/lyophilised (LYO) formats.

Categories

The YO-MIX™ range is divided into categories according to the key functionalities of the blends.

Acidification – fermentation capacities of the blend, such as flavour development and post-acidification during shelf life, ranging from mild flavour/low post-acidification to a strong fresh fermented milk flavour/fast acidification.

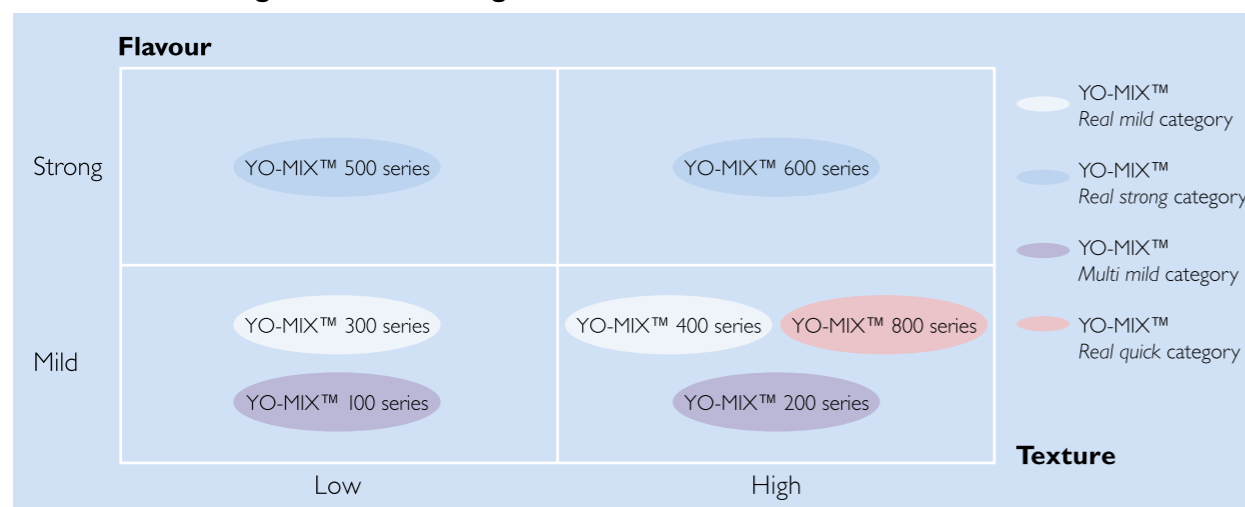
Texture/viscosity – ranking from short texture/low viscosity to thick texture/high viscosity.

The YO-MIX™ range is available in four different categories:

- YO-MIX™ *Real mild*
- YO-MIX™ *Real strong*
- YO-MIX™ *Real quick*
- YO-MIX™ *Multi mild*

Features	Benefits
DVI defined culture blends	Bacteriological safety Controlled functionalities Consistency of end products Higher productivity
Carefully selected strains	Phage robustness
Frozen or freeze-dried formats	Adapted to all production processes throughout the world

The YO-MIX™ Yogurt Culture range



Real/Real quick: St. thermophilus + Lb. bulgaricus. Multi: St. thermophilus + other strains (ie. Lb. lactic, Lb. acidophilus, Bifidobacterium)



YO-MIX™ Real mild yogurt cultures



In some countries, national food legislation draws a distinction between yogurt and fermented milk, defining yogurt as milk fermented only with the *Streptococcus thermophilus* and

Lactobacillus bulgaricus strains. All YO-MIX™ Real yogurt cultures fulfil this requirement.

Real mild cultures do not have the high acidity traditionally associated with such blends and meet the demand for yogurts with a mild flavour and limited post-acidification.

YO-MIX™ Real mild comprises:

- YO-MIX™ 300 for low to normal viscosity
- YO-MIX™ 400 for higher viscosity

Frozen (FRO)	Freeze-dried (LYO)	Composition	Applications
YO-MIX™ 310		<i>St. thermophilus</i> <i>Lb. bulgaricus</i>	For stirred, set or drinking yogurt with very mild flavour, medium viscosity and post-acidification
	YO-MIX™ 300 YO-MIX™ 305	<i>St. thermophilus</i> <i>Lb. bulgaricus</i>	For stirred yogurt with medium flavour, viscosity and post-acidification
YO-MIX™ 410 YO-MIX™ 414 YO-MIX™ 433	YO-MIX™ 495 YO-MIX™ 496 YO-MIX™ 499	<i>St. thermophilus</i> <i>Lb. bulgaricus</i>	For stirred yogurt with mild flavour, high viscosity, smooth texture and controlled post-acidification

YO-MIX™ Real strong yogurt cultures



The YO-MIX™ Real strong category targets customers who require the traditional yogurt taste and higher acidity of the classic *Streptococcus thermophilus* and *Lactobacillus bulgaricus* cultures.

YO-MIX™ Real strong comprises:

- YO-MIX™ 500 for low to normal viscosity
- YO-MIX™ 600 for higher viscosity

Frozen (FRO)	Freeze-dried (LYO)	Composition	Applications
YO-MIX™ 532		<i>St. thermophilus</i> <i>Lb. bulgaricus</i> (undefined cultures)	For set and drinking yogurt with low viscosity, fast acidification and a traditional flavour
	YO-MIX™ 511	<i>St. thermophilus</i> <i>Lb. bulgaricus</i>	For set and drinking yogurt with low viscosity, fast acidification and a refreshing flavour
YO-MIX™ 560	YO-MIX™ 505	<i>St. thermophilus</i> <i>Lb. bulgaricus</i>	For set and drinking yogurt with medium viscosity, fast acidification and a refreshing flavour
YO-MIX™ 621		<i>St. thermophilus</i> <i>Lb. bulgaricus</i> (undefined cultures)	For stirred and set yogurt with high viscosity and a traditional flavour

YO-MIX™ Real quick yogurt cultures



The key feature of the YO-MIX™ Real quick category is its high fermentation speed. These cultures are ideal for manufacturers that want to reduce fermentation time and optimise capacity without compromising product quality.

They give a mild, creamy flavour, combined with high *Lactobacillus bulgaricus* counts in the final product.

Frozen (FRO)	Composition	Applications
YO-MIX™ 860	<i>St. thermophilus</i> <i>Lb. bulgaricus</i>	For stirred yogurt with fast acidification, high viscosity and <i>Lb. bulgaricus</i> content in the final product, an enhanced creamy flavour and controlled post-acidification

YO-MIX™ Multi mild yogurt cultures

Composed of multiple species, these cultures are designed for fermented milk with a mild flavour and low post-acidification. Each culture contains *St. thermophilus* in combination with one or more of the following species: *Lb. bulgaricus*, *Lb. lactis*, *Lb. acidophilus* and *Bifidobacterium*.



The YO-MIX™ Multi mild category comprises:

- YO-MIX™ 100 for low to normal viscosity
- YO-MIX™ 200 for higher viscosity

Frozen (FRO)	Freeze-dried (LYO)	Composition	Applications
YO-MIX™ 101		<i>St. thermophilus</i> <i>Lb. bulgaricus</i> <i>Lb. acidophilus</i>	For stirred yogurt-like fermented milks with medium texture and mild flavour
YO-MIX™ 209 YO-MIX™ 210	YO-MIX™ 205 YO-MIX™ 207 YO-MIX™ 208	<i>St. thermophilus</i> <i>Lb. bulgaricus</i> <i>Lb. acidophilus</i> <i>Bifidobacterium lactis</i>	For stirred yogurt-like fermented milks with high texture and mild flavour
YO-MIX™ 215		<i>St. thermophilus</i> <i>Lb. lactis</i> <i>Lb. acidophilus</i> <i>Bifidobacterium lactis</i>	For stirred yogurt-like fermented milks with high texture and very mild flavour
	YO-MIX™ 211	<i>St. thermophilus</i> <i>Lb. bulgaricus</i> <i>Lb. acidophilus</i> <i>Bifidobacterium lactis</i>	For stirred yogurt-like fermented milks with medium texture and mild flavour

Other cultures for yogurt and fermented milk



Danisco supplies additional cultures that increase the value of yogurt and fermented milk products by adding health benefits and extending shelf life.

confirmed their positive influence on the immune system. The range is accompanied by a unique marketing concept which may be licensed by only one manufacturer per application in each country or region.

In regions where the HOWARU™ concept has already been licensed, other high quality strains are available, such as *Lactobacillus acidophilus* NCFM®. This strain has been extensively researched for almost 30 years.

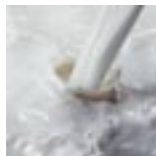
HOWARU™ Exclusive Probiotics

Danisco's probiotic strains are ideal for use in dairy products, where they contribute documented health benefits.

HOWARU™ Exclusive Probiotics contain *Bifidobacterium lactis*. More than 15 clinical studies have

Products	Composition	Benefits
HOWARU™ Bifido	<i>Bifidobacterium lactis</i>	15 clinical studies Benefits the immune system Unique marketing concept Licensed to one manufacturer per country/region
<i>L. acidophilus</i> NCFM®	<i>Lactobacillus acidophilus</i>	Extensively researched Human studies ongoing Available non-exclusively to all markets
<i>B. lactis</i>	<i>Bifidobacterium lactis</i>	<i>In-vitro/in-vivo</i> data available
<i>L. paracasei</i>	<i>Lactobacillus paracasei</i>	<i>In-vitro/in-vivo</i> data available
<i>L. acidophilus</i>	<i>Lactobacillus acidophilus</i>	<i>In-vitro/in-vivo</i> data available

HOLDBAC™ Protective Cultures



HOLDBAC™ YM Protective Cultures have been specially developed to control the growth of yeasts and moulds in fresh fermented dairy products and represent a natural solution for higher microbiological quality and shelf life extension.

Benefits

- DVI cultures
- Control growth of yeasts, moulds and certain hetero-fermentative lactic acid bacteria
- Maintain the intrinsic sensory qualities during shelf life
- Potential to extend shelf life for enhanced production flexibility and extension of geographic markets
- Preserve taste and appearance throughout shelf life
- Ideal for consumer-friendly labels

Products	Composition	Benefits
HOLDBAC™ YM-B	<i>Lactobacillus rhamnosus</i> <i>Propionibacterium freudenreichii</i> subsp. <i>shermanii</i>	Growth control of yeasts, moulds and certain hetero-fermentative lactic acid bacteria
HOLDBAC™ YM-C	<i>Lactobacillus paracasei</i> <i>Propionibacterium freudenreichii</i> subsp. <i>shermanii</i>	Growth control of yeasts, moulds and certain hetero-fermentative lactic acid bacteria

The choice depends on fermentation culture applied, initial level and species of spoilage microorganisms as well as storage temperature conditions of final product.

Danisco Culture Units (DCU)

In the past, Danisco and Rhodia have used different unit systems to standardise their cultures. Now that the companies have merged into one, a new, common unit system has been developed. This system is called the Danisco Culture Unit (DCU).

The system involves no change in the activity per sachet/pouch/carton. The standard dosage recommended for the YO-MIX™ yogurt culture range is 500 DCU per 2500 litres (20 DCU per 100 litres).



Culture packaging types and pack sizes

Sales form	Packaging type	Standard packaging size
Frozen (FRO) DVI	VARIO PAK Flexible PE Pouch	500 DCU 500 DCU
Freeze-dried (LYO) DVI	Alu-foil pouch	100, 250 and 500 DCU

Product support

Danisco supplies a broad range of culture solutions for yogurt processing, shelf life extension and valued-added health benefits. In addition, manufacturers can look to Danisco for creative innovation, efficient production and diligent quality assurance that meet all dairy needs.

For more information about Danisco's full range of products, contact your local sales or application representative.

Glossary of terms

Defined culture – a culture composed of single strains of different species blended in a defined ratio

DVI – highly concentrated cultures, which can be added directly to the vat

Undefined culture – a culture composed of many, uncharacterised strains of different species

St. thermophilus – *Streptococcus thermophilus*

Lb. bulgaricus – *Lactobacillus delbrueckii* subsp. *bulgaricus*

Lb. lactis – *Lactobacillus delbrueckii* subsp. *lactis*

Lb. acidophilus – *Lactobacillus acidophilus*

FRO – cultures in frozen pellet form

LYO – cultures in freeze-dried powder form

DCU (Danisco Culture Unit) – universal unit system for defining culture activities



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Danisco develops and produces functional ingredients primarily for the food and beverage industry and, to a lesser extent, for the non-food industry. Some 9,000 people are employed within the group's sales and production companies and innovation centres in 40 countries. Net sales of DKK 16.4 billion (EUR 2.2 billion) were reported in 2003/04.

Produced mainly from natural raw materials, the broad product range is backed by top technical services, creating innovative, high quality solutions for food and beverage products. The range includes antimicrobials, antioxidants, emulsifiers, enzymes, flavours, functional systems, speciality fats, speciality sweeteners, starter cultures and media, and textural ingredients. Danisco is also one of the largest and most efficient sugar producers in Europe.

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