

Service catalog

Beverages



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GEN-IAL GmbH is a DIN EN ISO 17025 flexibly accredited laboratory for the analysis of food, feed and beverages with a high level of expertise in contract analysis and the manufacture of DNA extraction and real-time PCR kits for use in testing laboratories. All products and new developments are constantly improved, further developed and adapted to the needs of our customers.



**More
Information**



Screening and identification of microorganisms using real-time PCR

Would you like to identify and differentiate beverage spoiling microorganisms as quickly and reliably as possible? Until now, trace contamination has been detected using cultural methods. These take

between three and twelve days. The real-time PCR method enables significantly shorter analysis times of 1-2 days.

Screening and identification of

REF.

Screening of beverage spoiling bacteria and yeast

ID 020

Lactobacillus / Pediococcus, Pectinatus / Megasphaera, Yeast

Screening beverage spoiling bacteria

ID 030

Lactobacillus / Pediococcus, Pectinatus / Megasphaera

Screening of biofilm producing bacteria and yeast

ID 095

Lactococcus lactis, Leuconostoc mesenteroides, Wickerhamomyces anomalus

Screening and identification of beer spoiling bacteria

ID 080

L. acetotolerans, L. backii, L. brevis/ brevisimilis/ parabrevis, L. lindneri, L.casei/ paracasei, L. buchneri/ parabuchneri, L. collinoides/ paracollinoides, L. perolens/ harbinensis, L. plantarum/ paraplantarum, L. coryniformis, L. rossiae, Pediococcus spp. (P.acidilactici, P. parvulus, P.inopinatus, P. pentosaceus), P. clausenii, P. damnosus, Pektinatus spp., Megasphaera spp., Enterobacteriaceae, diastatic S.cerevisiae, Wickerhamomyces anomalus

Screening of beverage spoiling bacteria and Dekkera spp.

ID 090

Lactobacillus / Pediococcus, Pectinatus / Megasphaera, Dekkera spp.

Screening of beverage spoiling bacteria and diastatic S. cerevisiae

ID 040

Lactobacillus / Pediococcus, Pectinatus / Megasphaera, diastatic S.cerevisiae

Screening of wine spoiling bacteria and yeast

ID 320

Lactobacillus / Pediococcus / Oenococcus oeni, acetic acid bacteria, yeast

Screening of wine spoiling bacteria with identification of O. oeni

ID 330

Lactobacillus / Pediococcus, Oenococcus oeni, acetic acid bacteria

Screening and identification of

REF.

Screening and identification of 8 wine spoiling bacteria and yeast

ID 230

Lactobacillus / Pediococcus, Oenococcus oeni, acetic acid bacteria, yeast, Zygosaccharomyces bailii, Zygosaccharomyces rouxii, Dekkera bruxellensis

Screening and identification of 14 wine spoiling bacteria and yeast

ID 220

Lactobacillus / Pediococcus / Oenococcus oeni, acetic acid bacteria, Leuconostoc mesenteroides, Lactococcus lactis, Alicyclobacillus spp., Candida spp., Dekkera spp., Saccharomyces cerevisiae, diastatic S.cerevisiae, Schizosaccharomyces pombe, Zygosaccharomyces spp., Pichia spp.

Screening of beverage spoiling bacteria and wild yeast

ID 070

Lactobacillus / Pediococcus, acetic acid bacteria, Enterobacteriaceae, bottom-fermented yeast, top-fermented yeast and wild yeast (Group 1 and 2)

Wild yeast group 1: Dekkera anomala, Dekkera bruxellensis, Dekkera custersiana, Dekkera naardenensis, Debaromyces hansenii, Hanseniaspora guillermondii, Hanseniaspora osmophila, Issotchenkia orientalis, Saccharomyces exiguus, Kluyveromyces marxianus, Metschnikowia pulcherrima, Wickerhamomyces anomalus, Pichia fermentans, Pichia membranaefaciens, diastatic S. cerevisiae, Saccharomycodes ludwigii, Torulaspora delbrückii

Wild yeast group 2: Candida glabrata, Candida albicans, Candida kefyr, Candida intermedia, Candida parapsilosis, Candida sake, Candida tropicalis, Naumovozya dairenensis, Pichia guillermondii, Zygosaccharomyces bailii, Zygosaccharomyces rouxii

Screening and identification of Alicyclobacillus

ID 720

Alicyclobacillus spp., A. acidoterrestris, A. acidocaldarius incl. preenrichment according to IFU 12

Screening and identification of bacteria producing biogenic amines

ID 345

Detection of specific lactic acid bacteria involved in the formation of biogenic amines in wine

Screening of beverage spoiling bacteria and acetic acid bacteria

ID 944

Lactobacillus / Pediococcus, Pectinatus / Megasphaera, acetic acid bacteria required conditions. After subsequent analysis, a risk assessment is carried out.

Identification of bacteria using real-time PCR

Pseudomonas aeruginosa

ID 110

Enterobacteriaceae

ID 145

More available on request

Identification of yeast and wild yeast using real-time PCR

The microbiological detection of yeasts and wild yeasts is an important part of hygiene monitoring in breweries. Detection is carried out using real-time

PCR, enabling rapid, highly sensitive and specific detection of undesirable yeasts.

Identification of

REF.

top-fermented yeast	ID 150
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bottom-fermented yeast	ID 160
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diastatic <i>S.cerevisiae</i>	ID 130
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<i>Dekkera</i> spp.	ID 550
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Identification and quantification of <i>Dekkera bruxellensis</i>	ID 370
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<i>Wickerhamomyces anomalus</i>	ID 175
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<i>Candida</i> spp.	ID 130
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<i>Zygosaccharomyces bailii</i>	ID 560
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<i>Zygosaccharomyces rouxii</i>	ID 580
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wild yeast	ID 540
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Rhodotorula spp., *Saccharomyces exiguus*, *Candida* spp., diastatic *S. cerevisiae*, *Saccharomyces ludwigii*, *Debaromyces hansenii*, *Torulasporea delbrückii*, *Saccharomyces bayanus / pastorianus*, *Kluyveromyces marxianus*, *Hanseniaspora* spp., *Dekkera* spp., *Pichia* spp

wild yeast group 1	ID 520
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Dekkera anomala, *Dekkera bruxellensis*, *Dekkera custersiana*, *Dekkera naardenensis*, *Debaromyces hansenii*, *Hanseniaspora guillermondii*, *Hanseniaspora osmophila*, *Hanseniaspora uvarum*, *Issotchenkia orientalis*, *Saccharomyces exiguus*, *Kluyveromyces marxianus*, *Metschnikowia pulcherrima*, *Wickerhamomyces anomalus*, *Pichia fermentans*, *Pichia membranaefaciens*, diastatische *S. cerevisiae*, *Saccharomyces ludwigii*, *Torulasporea delbrückii*

wild yeast group 2	ID 530
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Candida glabrata, *Candida albicans*, *Candida kefir*, *Candida intermedia*, *Candida parapsilosis*, *Candida sake*, *Candida tropicalis*, *Naumovozyma dairenensis*, *Pichia guilliermondii*, *Zygosaccharomyces bailii*, *Zygosaccharomyces rouxii*

Identification of microorganisms by sequencing

Specific DNA-regions of the sample are amplified using the PCR method and sequenced. The DNA sequences obtained are compared with public and in-house databases (BlastN). The method is not

suitable for identifying mixtures. To do this, the microorganisms must first be separated. We can carry out separations on request.

Identification of	REF.
• Bacteria	SI 001
• Yeast	SI 002
• Bacteria and yeast	SI 003
• Mould	SI 004

Testing for hop resistance using real-time PCR

Testing beer samples for bacterial contamination and simultaneous identification of the hop resistance genes *horA*, *horC*, *hitA* and ORF5 as genetic markers for beer-spoiling microorganisms in beer and beer-based mixed drinks. *Hor A*- and *hor C*

genes are primarily responsible for bacterial growth in beer, while *hitA* and ORF5 have a stimulating effect. The more genes are present, the greater the potential for beer spoilage (synergistic effect).

Detection of	REF.
beverage spoiling bacteria and hop resistance genes	ID 050
Lactobacillus / Pediococcus, Pectinatus / Megasphaera and simultaneous identification of the hop resistance genes <i>horA</i> and <i>horC</i> as genetic markers for beer-damaging microorganisms in beer and beer-based mixed drinks	
hop resistance genes	ID 105
Hop resistance genes <i>horA</i> , <i>horC</i> , <i>hitA</i> and ORF5	

Product-specific method development and validation

Product variability and different applications in companies require special adjustments to detection methods as a prerequisite for valid test results.

We can undertake development and validation on request.

REF.

Product-specific method development and validation	PV 001
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Detection of beer spoilage microorganisms in large volumes using the PolyBIND® technology

The separation and enrichment of microorganisms from large sample quantities or samples loaded with solids is problematic for microbiological diagnostics in the beverage industry. The filtration or centrifugation methods used to date are time-consuming or fail completely due to blockage of the filter. The newly developed PolyBIND® particles enable, for the first time, rapid and simple isolation of microorganisms from large sample quantities and viscous or solids-laden liquids. This increases the statistical probability of detecting trace contamination.

Examination of microorganisms for their harmfulness to the product

Upon receipt of the product, it is inoculated with the desired microorganism strain and incubated under the required conditions. After subsequent analysis, a risk assessment is carried out.

REF.

Detection of beer spoilage microorganisms in large volumes using the PolyBIND® technology
PB 008

REF.

Examination of microorganisms for their harmfulness to the product
PS 001
