

LeoBavaricus – TUM 68[®]

Saccharomyces cerevisiae
top fermenting wheat beer yeast

Short description

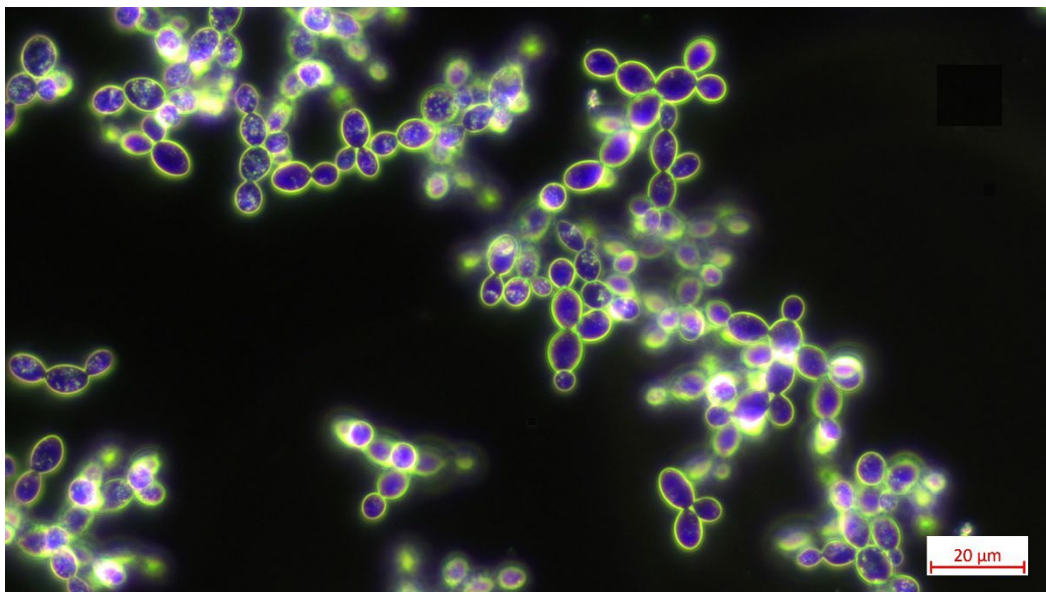
Color: light brown, naturally cloudy
Foam (visual): good
Aroma: pure, pleasant top-fermented aroma, pleasant clove aroma, trace of banana
Flavour: pure, pleasant top-fermented flavor, pleasant clove aroma, trace of banana, full-bodied, drinkable, mild, well-balanced aftertaste

Examination parameters

	Result
Original extract	12.8°P, 20°C isotherm
Apparent attenuation after 3 d (%)	81
Yeast harvested g/l	18
Diacetyl (mg/l) in green beer	0.6
Ethyl acetate (mg/l) in green beer	18.4
Acetaldehyde in green beer (mg/l)	4.3
Higher aliphatic alcohols (mg/l)	135
Esters (mg/l)	18.5
Flavour according to DLG	4.1

Overview of attributes

Fermentation rate	high
pH reduction	strong
Diacetyl reduction	very good
Foam	very good
Δ LAa/FAa (%)*	very low
Acetaldehyde	very low
Higher alcohols	high
Esters	normal



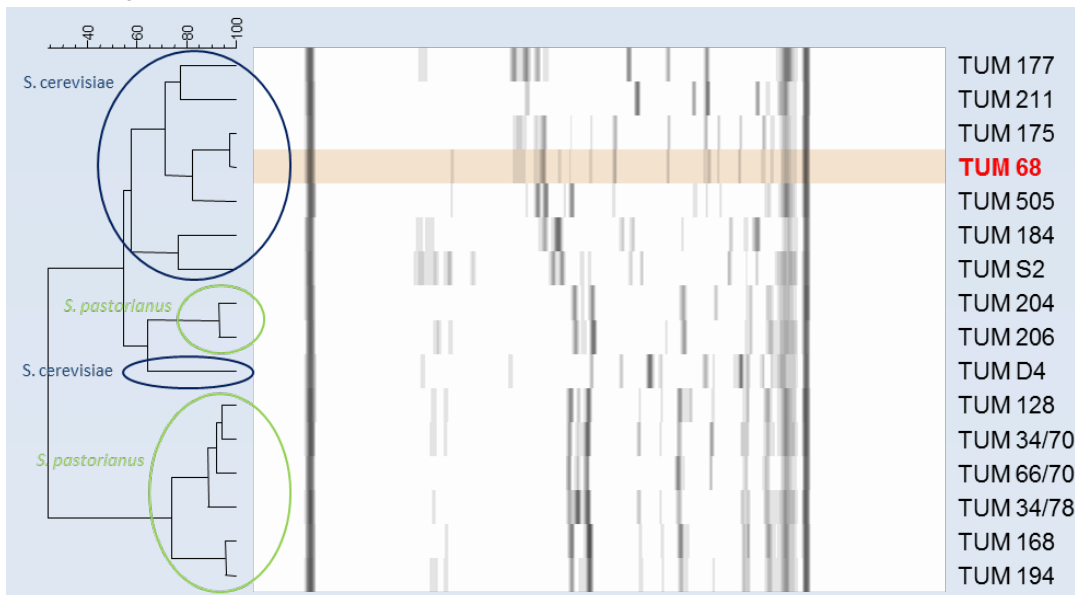
Microscopic view of yeast strain LeoBavaricus – TUM 68[®]
(Picture LeoBavaricus – TUM 68[®] © FZW BLQ)

Real-time PCR Screening Profile:

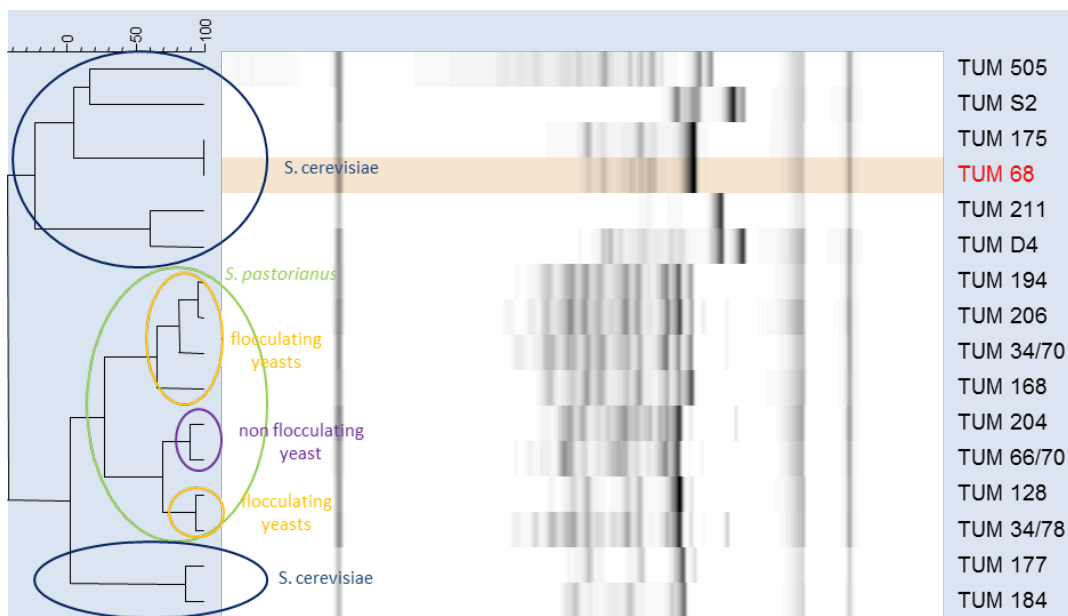
Comparison of individual qualitative results from real-time PCR systems for the differentiation of industrial *Saccharomyces* strains (with a focus on *S. cerevisiae* and *S. pastorianus* (bottom-fermenting strains)) (according to Hutzler, M. 2009, Hutzler, M. 2010)

Yeast	Strain	PCR-System					
		Sc-GRC3	Sc	OG-COXII	Sbp	UG-LRE1	UG-300
<i>S. bayanus</i>	DSM 70412T, 70547, BTII K 1-C-3	-	-	-	+	-	-
	70411, 70508	-	-	-	+	+	+
<i>S. bayanus/pastorianus</i>	CBS 2440, 6017	-	-	-	+	+	+
<i>S. pastorianus</i>	CBS 1503, 1513, 1538, DSM 6580NT, 6581	-	-	-	+	+	+
<i>S. pastorianus</i> (bottom-fermenting)	TUM 26, 44, 34/70, 34/78, 44, 54, 59, 69, 84, 105, 109, 120, 128, 168, 172, 180, 194, 199, 206 (flocculent yeasts) TUM 71, 144 (low or non-flocculent yeasts)	+	+	-	+	+	+
	CBS 1484, 5832, CBS 6903, NBRC 2003, BTII K B-I-4, B-J-4, B-J-5						
	TUM 120 (flocculent yeast) TUM 66, 66/70, 204 (low or non-flocculent yeasts) CBS 5832, CBS 6903	+	+	-	+/-	+	+
<i>S. cerevisiae</i>	DSM 70424, 70449T, 70451, CBS 1464, 8803, BT II K 3-A-1, 3-C-3, 3-G-1, 5-A-7, 6-I-1, 6-F-4	+	+	+	-	-	-
<i>S. cerevisiae</i> (top-fermenting)	TUM 68, 127, 149, 175, 205, BTII K 5-A-8 (Southern German style wheat beer yeast)	+	+	+	-	-	-
	TUM 148, 184, 208 (alt yeast)	+	+	+	-	-	-
	TUM 165, 177 (kölsch yeast)	+	+	+	-	-	-
	TUM 210, 211, 213 (ale yeast)	+	+	+	-	-	-
	TUM Bingen, Bordeaux, Eperney, Laureiro, Stein, Wädensvill (wine yeast)	+	+	+	-	-	-
	TUM B4 (distillers' yeast) TUM S2 (sparkling wine yeast)	+	+	+	-	-	-
<i>S. cerevisiae</i> var. <i>diastaticus</i>	CBS 1782, DSM 70487, BTII K 1-B-8, 1-H-7, 2-A-7, K 2-F-1, 3-D-2, 3-H-2, 3-H-4	+	+	+	-	-	-
<i>S. cariocanus</i>	CBS 7995, 8841	-	+	-	-	-	-
	CBS 5313	+	+	+	-	-	-
<i>S. kudriavzevii</i>	CBS 8840	-	-	-	-	-	-
<i>S. mikatae</i>	CBS 8839	-	-	-	-	-	-
<i>S. paradoxus</i>	CBS 406, 432, 2908, 5829, 7400, 8436	-	+	-	-	-	-

Genetic fingerprint profile:



The virtual electrophoresis gel depicted above was created using capillary electrophoresis separated by interdelta PCR ($\Delta 12/\Delta 21$). Pictured are results for strain TUM 68 compared with a selection of yeast strains most frequently supplied by the Weihenstephan Research Center (FZW BLQ).



A virtual image of the rDNA IGS2_314 genetic fingerprint of yeast strains separated using capillary gel electrophoresis is depicted above. Pictured are the results for strain TUM 68 compared with a selection of yeast strains most frequently supplied by the Weihenstephan Research Center (FZW BLQ)

References:

- Schneiderbanger H.: Data from current research results "Weizenbierhefecharakterisierung" (10.12.2012)
 Hutzler M.: Dissertation : "Entwicklung und Optimierung von Methoden zur Identifizierung und Differenzierung von getränkerelevanten Hefen" (2009)
 Hutzler M.: Book: "Getränkerelevante Hefen- Identifizierung und Differenzierung: Wie können Hefen praxisrelevant unterschieden werden, und wie können Identifizierungsergebnisse technologisch bewertet werden?" (2010) ISBN 978-3-8381-1482-8
 Stretz D.; Hutzler M.; et al.: Brauwelt International: „Quality control begins with yeast culturing“ 29 (5): 268-270, 2011
 Riedl R.; et al.: EBC Congress Glasgow: "Yeast Strain Identification by a Combination of Partial IGS2-rDNA-PCR and Rep-PCR Fingerprinting" (2011)