ID 32 C

IVD

Identification system for yeasts

SUMMARY AND EXPLANATION

ID 32 C is a standardized system for the identification of yeasts, which uses 32 miniaturized assimilation tests and a database. The complete list of those yeasts that it is possible to identify with this system can be found in the Identification Table at the end of this package insert.
Reading and interpretation are carried out automatically or manually.

PRINCIPLE

The ID 32 C strip consists of 32 cupules, each containing a dehydrated carbohydrate substrate.
A semi-solid, minimal medium is inoculated with a suspension of the yeast organism to be tested. After 24-48 hours of incubation, growth in each cupule is read either using the ATB™ Expression™ or ***mini API***® instruments, or visually.
Identification is obtained using the identification software.

CONTENT OF THE KIT (Kit for 25 tests)

- 25 ID 32 C strips
- 25 incubation lids
- 25 ampules of API C Medium
- 1 package insert provided in the kit or downloadable from **www.biomerieux.com/techlib**

COMPOSITION

Strip

The composition of the ID 32 C strip is given below in the list of tests :

CUPULES	TESTS	SUBSTRATES	QTY (mg/cup.)
1.0	GAL	D-GALactose	0.70
1.1	ACT	cycloheximide (ACTidione)	0.014
1.2	SAC	D-SACcharose (sucrose)	0.66
1.3	NAG	N-Acetyl-Glucosamine	0.64
1.4	LAT	LacTic acid	0.64
1.5	ARA	L-ARAbinose	0.70
1.6	CEL	D-CELlobiose	0.66
1.7	RAF	D-RAFfinose	2.34
1.8	MAL	D-MALtose	0.70
1.9	TRE	D-TREhalose	0.66
1.A	2KG	potassium 2-KetoGluconate	1.09
1.B	MDG	Methyl-αD-Glucopyranoside	1.92
1.C	MAN	D-MANnitol	0.68
1.D	LAC	D-LACtose (bovine origin)	0.70
1.E	INO	INOsitol	0.70
1.F	0	No substrate	-
0.0	SOR	D-SORbitol	2.72
0.1	XYL	D-XYLose	0.70
0.2	RIB	D-RIBose	0.70
0.3	GLY	GLYcerol	0.82
0.4	RHA	L-RHAmnose	0.68
0.5	PLE	PaLatinosE	0.66
0.6	ERY	ERYthritol	1.44
0.7	MEL	D-MELibiose	0.66
0.8	GRT	sodium GlucuRonaTe	0.76
0.9	MLZ	D-MeLeZitose	0.66
0.A	GNT	potassium GlucoNaTe	0.92
0.B	LVT	levulinic acid (LeVulinaTe)	0.48
0.C	GLU	D-GLUcose	0.78
0.D	SBE	L-SorBosE	0.70
0.E	GLN	GLucosamiNe	0.68
0.F	ESC	ESCulin ferric citrate	0.28 0.069

- The numbers indicated correspond to those printed on the strip.
- The quantities indicated may be adjusted depending on the titer of the raw materials used.

Medium

API C Medium 7 ml	Ammonium sulfate	5 g
	Monopotassium phosphate	0.31 g
	Dipotassium phosphate	0.45 g
	Disodium phosphate	0.92 g
	Sodium chloride	0.1 g
	Calcium chloride	0.05 g
	Magnesium sulfate	0.2 g
	L-Histidine	0.005 g
	L-Tryptophan	0.02 g
	L-Methionine	0.02 g
	Gelling agent	0.5 g
	Vitamin solution	1 ml
	Trace elements	10 ml
	Demineralized water	to make 1000 ml
	Final pH : 6.4-6.8 at 20-25°C	

- Although API® C Medium contains gelling agent, **it requires no prior heating** and may be as easily pipetted as a liquid medium. It is preferable to warm it at room temperature a few hours before use. **Do not shake**.
- The quantities indicated may be adjusted depending on the titer of the raw materials used.

REAGENTS AND MATERIAL REQUIRED BUT NOT PROVIDED

Reagents / Instrumentation

- API Suspension Medium, 2 ml (Ref. 70 700)
- DENSIMAT (Ref. 99 234) or ATB Densitometer or McFarland Standard (Ref. 70 900), point 2 on the scale
- ATB Expression or ***mini API,*** or **api*web*** ™ identification software (Ref. 40 011) (consult bioMérieux)
- ATB Electronic Pipette (consult bioMérieux) or ATB Inoculator and Tips (Ref. 15 710)

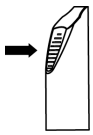
Material

- Pipettes or PSIpettes
- Ampule rack
- Ampule protector
- Air-tight box
- General microbiology laboratory equipment

WARNINGS AND PRECAUTIONS

- **For *in vitro* diagnostic use and microbiological control.**
- **For professional use only.**
- This kit contains products of animal origin. Certified knowledge of the origin and/or sanitary state of the animals does not totally guarantee the absence of transmissible pathogenic agents. It is therefore recommended that these products be treated as potentially infectious, and handled observing the usual safety precautions (do not ingest or inhale).

- All specimens, yeast cultures and inoculated products should be considered infectious and handled appropriately. Aseptic technique and usual precautions for handling yeasts should be observed throughout this procedure. Refer to "CLSI® M29-A, *Protection of Laboratory Workers from* Occupationally Acquired Infections; *Approved Guideline* - Current revision". For additional handling precautions, refer to "Biosafety in Microbiological and Biomedical Laboratories - CDC/NIH - Latest edition", or to the regulations currently in use in each country.
- Do not use reagents past the expiry date.
- Before use, check that the packaging and components are intact.
- Do not use strips which have been damaged : cupules deformed, desiccant sachet open, etc.
- Open ampules carefully as follows :
  - Place the ampule in the ampule protector.
  - Hold the protected ampule in one hand in a vertical position (white plastic cap upper-most).
  - Press the cap down as far as possible.
  - Position the thumb tip on the striated part of the cap and press forward to snap off the top of the ampule.
  - Take the ampule out of the ampule protector and put the protector aside for subsequent use.
  - Carefully remove the cap.



- The performance data presented were obtained using the procedure indicated in this package insert. Any change or modification in the procedure may affect the results.
- Interpretation of the test results should be made taking into consideration the patient history, the source of the specimen, colonial and microscopic morphology of the strain and, if necessary, the results of any other tests performed, particularly the antimicrobial susceptibility patterns.

STORAGE CONDITIONS

The strips and media should be stored at 2-8°C until the expiry date indicated on the packaging.

SPECIMENS (COLLECTION AND PREPARATION)

ID 32 C is not for use directly with clinical or other specimens.
The microorganisms to be identified must first be isolated on a suitable culture medium according to standard microbiological techniques.

INSTRUCTIONS FOR USE

Preparation of the strip

- Remove the strip from its packaging.
- Discard the desiccant.
- Place the lid on the strip.
- Record the strain reference on the elongated flap of the strip. (Do not record the reference on the lid as it may be misplaced during the procedure).

Preparation of the inoculum

- Open an ampule of API® Suspension Medium (2 ml) as indicated in the paragraph "Warnings and Precautions" or use any tube containing 2 ml of distilled water without additives.
- Remove 1 or several identical colonies from the culture medium. It is recommended to use young cultures (24-48 hours old).
- Prepare a suspension with a turbidity equivalent to 2 McFarland : measure with the ATB ™ Densitometer, or the DENSIMAT, or compare with a turbidity control (McFarland Standard).
  NOTE : If the strip is to be read AUTOMATICALLY, the ATB Densitometer or the DENSIMAT must be used to adjust the turbidity of the yeast suspension.
- Open an ampule of API C Medium as indicated in the paragraph "Warnings and Precautions" and transfer approximately 250 µl of the previous suspension into the ampule.
  This suspension must be used immediately after preparation.

Inoculation of the strip

- AUTOMATIC inoculation :
  - Place the strip, the inoculated ampule of API C Medium and a Tip on the ATB Inoculator tray.
  - The inoculator will automatically homogenize the contents of the ampule and fill the cupules (135 µl / cupule).
- MANUAL inoculation :
  - Homogenize the inoculated ampule of API C Medium and dispense 135 µl of the suspension into each cupule of the strip using the ATB Electronic Pipette.
- Place the lid on the strip.
- Incubate at 29°C ± 2°C for 24-48 hours.

NOTE : Some ventilated incubators may completely dehydrate the medium in the cupules. In this case, place the strip in an air-tight box with a receptacle containing a small volume of water. A humid atmosphere is thus created, which prevents the tests from drying out.

READING AND INTERPRETATION

Reading the strip

- AUTOMATIC reading using ATB Expression™ or ***mini API***:
  - check that the middle part of the strip is clean so that the reader can recognize the strip code,
  - check that the name printed on the strip corresponds to the strip name displayed by the software.

  The reader searches for detectable growth in each cupule and transmits the information to the computer.
- VISUAL reading :
  Compare each cupule to the control (0) and record as positive any cupule that is more turbid.

Interpretation

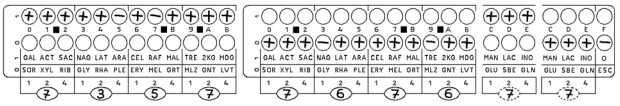
Identification is obtained using the database (V3.0) :

- AFTER AUTOMATIC READING :
  the results transmitted to the computer are interpreted by the ATB Expression or ***mini API*** identification software.
- AFTER VISUAL READING :
  the reactions obtained are coded into a **numerical profile** :
  On the result sheet, the tests are separated into groups of 3 and a number 1, 2 or 4 is indicated for each. The values corresponding to positive reactions are then added together within each group.

Identification is obtained using the **api*web*™** identification software by manually entering the 10-digit numerical profile : the 4 digits from the upper row (1.0-1.B), followed by the 4 digits from the lower row (0.0-0.B) and completed by the 2 digits from the following supplementary tests :

- 9th digit for coding tests MAN, LAC, INO (1.C, 1.D, 1.E)
- 10th digit for GLU, SBE, GLN (0.C, 0.D, 0.E)

Only the ESC test is not coded and will be read if requested by the software in case of low discrimination between two species.



7357 7676 77 *Cryptococcus humicola*

Reincubation

Reincubation is necessary in the following cases :

- low discrimination ;
- unacceptable or doubtful profile ;
- or if the following the comment is given for the profile :

IDENTIFICATION NOT VALID BEFORE
48 HOURS OF INCUBATION

RECOMMENDATIONS

To obtain the best results with the ID 32 C strip, it is important to scrupulously respect the following points of the procedure :

- Precisely adjust the inoculum to 2 McFarland. The ATB Densitometer or the DENSIMAT must be used if the strip is to be read and interpreted by ATB™ Expression™ or ***mini API*®**.
- Dispense exactly 135 µl per cupule with the ATB Electronic Pipette or the ATB Inoculator (essential if the strip is to be read and interpreted by ATB Expression or ***mini API***).

QUALITY CONTROL

The strips and media are systematically controlled at various stages of their manufacture. For those users who wish to perform their own quality control tests with the strip, it is preferable to use the strain **1. *Cryptococcus humicola* ATCC® 64676** or else the following strain :

2. *Candida glabrata* ATCC 64677

ATCC : American Type Culture Collection, 10801 University Boulevard, Manassas, VA 20110-2209, USA.

	GAL	ACT	SAC	NAG	LAT	ARA	CEL	RAF	MAL	TRE	2KG	MDG	MAN	LAC	INO	SOR	XYL	RIB	GLY	RHA	PLE	ERY	MEL	GRT	MLZ	GNT	LVT	GLU	SBE	GLN	ESC
1.	+	+	+	+	+	V	+	-	+	+	+	+	+	+	+	+	+	+	V	+	+	+	+	+	V	+	+	+	+	+	+
2.	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-

Profiles obtained after culture of the strains on Sabouraud agar, followed by 48 hours of incubation and automatic reading.

It is the responsibility of the user to perform Quality Control in accordance with any local applicable regulations.

LIMITATIONS OF THE METHOD

- The ID 32 C system is designed uniquely for the identification of those yeasts included in the database (see Identification Table at the end of this package insert). It cannot be used to identify any other microorganisms or to exclude their presence.
- Only pure cultures of a single organism should be used.

RANGE OF EXPECTED RESULTS

Consult the Identification Table at the end of this package insert for the range of expected results for the various biochemical reactions.

PERFORMANCE

2697 collection strains and strains of various origins belonging to species included in the database were tested :

- 89.4 % of the strains were correctly identified (with or without supplementary tests).
- 7.8 % of the strains were not identified.
- 2.9 % of the strains were misidentified.

WASTE DISPOSAL

Dispose of used or unused reagents as well as any other contaminated disposable materials following procedures for infectious or potentially infectious products.

It is the responsibility of each laboratory to handle waste and effluents produced according to their type and degree of hazardousness and to treat and dispose of them (or have them treated and disposed of) in accordance with any applicable regulations.

WARRANTY

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CE

METHODOLOGIE / PROCEDURE / METHODIK / TECNICA / PROCEDIMENTO / ΔΙΑΔΙΚΑΣΙΑ / METOD / METODE / METODYKA

Tests morphologiques
Morphology tests
Morphologische Tests
Tests morfológicos
Tests morfologici
Testes morfológicos
Εξετάσεις μορφολογίας
Morfologiska tester
Morfologisk test
Ocena morfologii

2 McF

API® Suspension Medium 2 ml

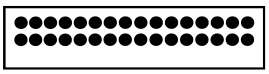
250 µl

API C Medium

32 x 135 µl

ID 32 C

24:00 - 48:00 **29°C ± 2°C**



ID 32 C

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TABLEAU D'IDENTIFICATION / IDENTIFICATION TABLE / PROZENTTABELLE / TABLA DE IDENTIFICACION / TABELLA DI IDENTIFICAZIONE / QUADRO DE IDENTIFICAÇÃO / ΠΙΝΑΚΑΣ ΤΑΥΤΟΠΟΙΗΣΗΣ / IDENTIFIERINGSTABELL / IDENTIFIKATIONSTABEL / TABELA IDENTYFIKACYJNA

% de réactions positives après 24/48 H à 29°C ± 2°C / % of positive reactions after 24/48 hrs. at 29°C ± 2°C / % der positiven Reaktionen nach 24/48 h bei 29°C ± 2°C / % de las reacciones positivas después de 24/48 H a 29°C ± 2°C / % di reazioni positive dopo 24/48 ore a 29°C ± 2°C / % de reacções positivas após 24/48 H a 29°C ± 2°C / % θετικών αντιδράσεων μετά από 24/48 ώρες στους 29°C ± 2°C / % positiva reaktioner efter 24/48 timmar vid 29°C ± 2°C / % positive reaktioner efter 24/48 timer ved 29°C ± 2°C / % pozytywnych reakcji po 24/48 godzinach w 29°C ± 2°C

ID 32 C V3.0	GAL	ACT	SAC	NAG	LAT	ARA	CEL	RAF	MAL	TRE	2KG	MDG	SOR	XYL	RIB	GLY	RHA	PLE	ERY	MEL	GRT	MLZ	GNT	LVT	MAN	LAC	INO	GLU	SBE	GLN
Candida albicans 1	**98**	**99**	**100**	**100**	**96**	0	0	1	**100**	**97**	**100**	**98**	**99**	**98**	1	10	0	**100**	0	0	0	0	2	1	**100**	1	1	**98**	1	**99**
Candida albicans 2	**100**	**100**	0	**50**	0	0	0	0	**99**	**67**	**100**	0	**67**	**67**	0	0	0	**33**	0	0	0	0	0	0	**99**	0	0	**100**	0	**50**
Candida boidinii	5	**100**	0	**86**	**75**	0	0	0	0	0	0	0	**99**	**99**	**100**	**99**	0	0	**100**	0	0	0	0	1	**100**	0	0	**100**	1	**67**
Candida catenulata	**100**	**74**	1	**67**	**75**	0	0	0	**33**	**33**	0	0	**74**	2	0	**91**	0	0	0	0	0	0	17	0	**100**	0	0	**100**	0	**74**
Candida colliculosa	**26**	19	**78**	0	**82**	0	15	**78**	**31**	**74**	**80**	**31**	**72**	4	4	**59**	4	**33**	0	4	0	**27**	**31**	0	**78**	1	0	**96**	1	0
Candida dattila	**43**	0	**100**	0	0	0	14	**100**	**99**	**100**	1	**100**	**99**	20	0	**86**	0	**100**	0	0	0	**83**	0	0	**71**	1	0	**100**	**33**	0
Candida dubliniensis	**100**	**100**	**100**	**90**	10	0	0	0	**100**	11	**99**	0	**100**	3	0	0	0	1	0	0	0	0	0	0	**100**	0	0	**100**	0	**60**
Candida famata	**100**	13	**100**	**97**	**43**	**83**	**91**	**93**	**100**	**99**	**99**	**100**	**100**	**75**	2	**99**	**38**	**100**	**66**	19	**40**	**100**	**52**	1	**100**	**31**	0	**100**	**75**	**75**
Candida glabrata	0	0	1	0	3	0	0	0	1	**99**	0	0	0	1	0	**30**	1	0	0	1	3	0	**31**	0	0	0	1	**100**	0	0
Candida globosa	0	0	**60**	**33**	0	0	0	**60**	**50**	0	**75**	**60**	**80**	0	0	**60**	0	**60**	0	0	0	0	**60**	0	**60**	0	0	**60**	**60**	25
Candida guilliermondii	**100**	**53**	**100**	**97**	**30**	**99**	**99**	**100**	**100**	**99**	**97**	**97**	**92**	**99**	11	**99**	3	**97**	0	**72**	0	**97**	9	2	**94**	0	0	**100**	**85**	**97**
Candida hellenica	**100**	**100**	**100**	**100**	**33**	**67**	**100**	**67**	**99**	**100**	0	0	**100**	**100**	**67**	**99**	**100**	**99**	0	0	**99**	0	**67**	0	**100**	0	**100**	**100**	**100**	**100**
Candida holmii	**88**	**50**	**88**	0	0	0	0	**88**	0	**75**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**88**	0	0
Candida inconspicua/norvegensis	1	0	0	0	**94**	0	0	0	0	0	0	0	6	0	0	**91**	0	0	0	0	0	0	0	1	6	0	0	**99**	0	**86**
Candida intermedia	**99**	0	**100**	**100**	**50**	10	**85**	**85**	**100**	**100**	**100**	**67**	**100**	**99**	5	10	**50**	**100**	0	1	**50**	**100**	**85**	**33**	**100**	**75**	0	**100**	**85**	**99**
Candida kefyr	**99**	**100**	**99**	1	**99**	**72**	12	**99**	1	1	5	0	**85**	**83**	1	**51**	0	0	0	1	0	1	0	0	**77**	**96**	0	**100**	1	1
Candida krusei	1	3	1	**90**	**99**	0	0	0	1	0	0	0	1	1	0	**95**	1	1	1	1	0	0	3	1	1	1	0	**100**	1	5
Candida lambica	0	0	0	**96**	**100**	0	0	0	0	0	0	0	4	**97**	0	**89**	0	0	0	0	0	0	0	0	0	0	0	**100**	0	**89**
Candida lipolytica	0	**100**	0	**97**	**97**	0	0	0	0	0	0	0	**54**	0	11	**100**	0	0	**100**	0	0	0	**77**	0	**84**	0	0	**100**	0	3
Candida lusitaniae	**94**	1	**100**	**91**	14	5	**99**	7	**100**	**100**	**91**	**93**	**99**	**94**	11	**82**	**100**	**100**	5	0	0	**100**	**84**	1	**100**	0	0	**100**	**95**	**86**
Candida magnoliae	0	0	**98**	0	0	0	0	**75**	0	0	**63**	0	**100**	0	20	**100**	0	0	0	0	0	0	**99**	0	**100**	0	0	**100**	**83**	0
Candida melibiosica	**100**	0	**100**	**50**	1	0	**100**	**50**	**100**	**100**	**100**	2	**100**	**99**	**50**	**50**	**35**	**100**	0	**50**	1	**100**	**89**	1	**100**	0	0	**100**	**50**	**50**
Candida membranifaciens	**100**	0	**100**	**99**	**50**	**100**	**100**	**100**	**100**	**99**	**100**	**80**	**100**	**100**	**99**	**100**	0	**100**	**100**	**99**	20	**100**	**100**	1	**100**	20	0	**100**	**60**	**60**
Candida norvegica	0	0	0	0	**83**	0	**80**	0	0	0	0	0	**50**	**67**	0	**83**	**33**	0	0	0	0	0	0	1	**83**	0	0	**83**	0	0
Candida parapsilosis	**100**	25	**100**	**100**	1	**96**	2	1	**100**	**96**	**93**	**98**	**100**	**96**	1	**93**	1	**100**	0	0	1	**99**	**92**	**70**	**100**	1	0	**100**	**72**	**97**
Candida pelliculosa	**43**	0	**100**	0	**96**	0	**70**	**99**	**100**	**97**	0	**96**	**97**	**85**	9	**100**	0	**96**	**90**	0	1	**96**	19	0	**100**	0	0	**100**	0	0
Candida pulcherrima	**99**	0	**100**	**100**	0	0	**83**	0	**100**	**99**	**100**	**99**	**100**	**83**	**80**	**100**	20	**100**	0	0	0	**100**	**83**	0	**100**	0	0	**100**	**100**	**99**
Candida rugosa	**75**	0	1	**36**	**75**	1	0	0	0	0	0	0	**99**	**75**	0	**67**	0	0	0	0	0	0	18	0	**99**	0	0	**99**	**64**	**30**
Candida sake	**80**	**26**	**90**	**90**	**30**	0	**28**	2	**90**	**85**	**80**	**31**	**85**	**74**	20	**83**	0	**85**	2	0	1	**70**	**30**	5	**85**	0	0	**85**	**67**	**70**

ID 32 C V3.0	GAL	ACT	SAC	NAG	LAT	ARA	CEL	RAF	MAL	TRE	2KG	MDG	SOR	XYL	RIB	GLY	RHA	PLE	ERY	MEL	GRT	MLZ	GNT	LVT	MAN	LAC	INO	GLU	SBE	GLN
Candida silvicola	**40**	**100**	**90**	**60**	**50**	**75**	**100**	0	**75**	**100**	1	20	**100**	**80**	**100**	**100**	**99**	**75**	**60**	0	0	**75**	**40**	0	**100**	0	0	**100**	1	**60**
Candida sphaerica	**88**	**96**	**100**	4	**96**	0	**51**	**92**	**67**	**74**	4	**61**	**98**	**43**	0	**90**	0	**65**	0	0	0	**64**	4	0	**96**	**92**	0	**100**	**64**	4
Candida tropicalis	**99**	**30**	**100**	**100**	**50**	4	**91**	9	**100**	**99**	**99**	**99**	**100**	**99**	21	9	3	**100**	0	0	0	**99**	**33**	7	**100**	5	0	**100**	5	**95**
Candida utilis	0	0	**100**	0	**100**	0	**100**	**100**	**100**	**99**	0	**57**	25	**88**	0	**100**	0	**100**	0	0	0	**100**	**75**	0	**50**	0	0	**100**	0	0
Candida valida	0	0	0	**79**	14	0	0	0	0	0	0	0	0	0	0	**62**	0	0	0	0	0	0	0	0	0	0	0	**100**	0	**86**
Candida zeylanoides	0	**46**	0	**99**	0	0	0	0	0	**53**	**87**	0	**97**	0	0	**100**	0	0	0	0	0	0	1	0	**100**	0	0	**100**	**53**	**50**
Cryptococcus albidus	**40**	0	**91**	0	0	**91**	**91**	**82**	**91**	**82**	**91**	**64**	**91**	**91**	10	0	**70**	**82**	0	0	**82**	**91**	**50**	0	**55**	**30**	**50**	**82**	10	0
Cryptococcus curvatus	**100**	17	**100**	**100**	**75**	17	**100**	**75**	**50**	**67**	**100**	**33**	**83**	**100**	**100**	**99**	**33**	**50**	**67**	0	**99**	**50**	**100**	0	**60**	**100**	**67**	**100**	0	**83**
Cryptococcus humicola	**99**	**71**	**100**	**92**	**100**	**86**	**100**	**43**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**99**	**99**	**100**	**99**	**100**	**100**	**50**	**100**	**71**	**99**	**100**	**99**	**100**	**71**	**99**
Cryptococcus laurentii	**100**	20	**100**	**75**	25	**100**	**100**	**100**	**100**	**99**	**100**	**77**	**100**	**88**	**99**	**40**	**99**	**100**	**60**	**100**	**100**	**80**	**99**	0	**99**	**100**	**99**	**100**	20	**60**
Cryptococcus neoformans	**99**	0	**100**	**95**	0	**75**	**65**	**81**	**100**	**75**	**100**	**100**	**100**	**81**	**71**	0	**91**	**100**	**52**	0	**100**	**96**	**76**	0	**100**	0	**99**	**100**	**50**	**64**
Cryptococcus terreus	**83**	0	0	**100**	0	**100**	**100**	0	1	**58**	**100**	0	**99**	**100**	**99**	0	**67**	0	0	0	**99**	1	**100**	0	**100**	**85**	**69**	**100**	**91**	**33**
Cryptococcus uniguttulatus	0	0	**100**	**100**	0	**99**	0	**99**	**100**	**100**	**100**	**100**	**99**	**100**	0	**33**	**33**	**100**	0	0	**100**	**100**	**67**	0	**99**	0	**100**	**100**	0	**99**
Debaryomyces etchellsii/carsonii	**90**	0	**100**	**91**	**36**	18	**50**	0	**100**	**64**	**99**	**100**	**100**	**60**	12	**60**	0	**100**	12	0	0	**99**	12	0	**100**	0	0	**100**	**91**	**30**
Debaryomyces polymorphus	**100**	**98**	**100**	**100**	1	**50**	**99**	**100**	**100**	**100**	**100**	**100**	**100**	**95**	25	**40**	1	**100**	**60**	**60**	0	**100**	**63**	0	**100**	**60**	0	**100**	**99**	**99**
Geotrichum capitatum	**31**	**92**	0	0	**33**	0	0	0	0	0	0	0	0	0	0	**100**	0	0	0	0	0	0	0	0	0	0	0	**92**	25	0
Geotrichum spp	**90**	**100**	0	0	**94**	5	0	0	0	0	0	0	**99**	**99**	0	**99**	0	0	0	0	0	0	0	1	**95**	0	0	**100**	**99**	0
Kloeckera apis/apiculata	0	**99**	0	0	0	0	**100**	0	0	0	**33**	0	0	0	0	0	0	0	0	0	0	0	**99**	0	0	0	0	**100**	0	0
Kloeckera japonica	0	**100**	0	0	0	0	**75**	0	0	**74**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**85**	0	0
Kodamaea ohmeri	**99**	0	**100**	**100**	0	0	**99**	**99**	**100**	**100**	**100**	**100**	**100**	0	20	**100**	0	**100**	0	0	0	0	0	0	**100**	0	0	**100**	**80**	**99**
Pichia farinosa	**99**	0	1	**100**	0	0	20	0	0	**99**	0	0	**99**	**40**	**40**	**100**	0	0	**99**	0	0	0	**75**	1	**100**	0	0	**100**	0	**50**
Rhodotorula glutinis	**80**	9	**99**	0	0	**61**	**28**	**92**	**84**	**97**	**30**	25	**55**	**70**	**68**	**66**	9	**74**	0	0	3	**84**	**28**	0	**55**	0	0	**99**	20	0
Rhodotorula minuta	8	0	**86**	**57**	14	**86**	**71**	0	3	**86**	**97**	0	**43**	**86**	**29**	**100**	0	0	0	0	**99**	**86**	**99**	1	**43**	8	0	**99**	1	0
Rhodotorula mucilaginosa	**95**	0	**100**	0	0	**85**	15	**100**	**72**	**85**	0	0	**38**	**90**	**92**	**50**	5	**71**	0	0	0	**71**	**26**	0	**57**	0	0	**100**	8	0
Saccharomyces cerevisiae	**63**	1	**89**	4	**65**	1	7	**89**	**91**	**34**	0	**28**	2	0	2	5	2	**28**	1	5	0	15	4	0	2	2	2	**100**	1	2
Saccharomyces kluyverii	**80**	0	**100**	**40**	**60**	0	5	**100**	**80**	**75**	**70**	**60**	**87**	20	0	0	0	**87**	0	**75**	20	25	**40**	0	**99**	1	20	**100**	20	0
Sporobolomyces salmonicolor	20	0	**30**	0	0	0	0	**30**	0	**85**	0	0	**85**	0	0	0	0	0	0	0	0	0	**85**	0	**85**	0	0	**85**	0	0
Stephanoascus ciferrii	**99**	**100**	**100**	**100**	**99**	**100**	**75**	**99**	**100**	**100**	**99**	0	**100**	**100**	**99**	**100**	**100**	**75**	**100**	**75**	**50**	0	**100**	0	**99**	0	**100**	**100**	**100**	**100**
Trichosporon inkin	**95**	**50**	**100**	**99**	**100**	0	**100**	0	**100**	**97**	**100**	**100**	1	**100**	**100**	**50**	0	**100**	**70**	1	**75**	**95**	**100**	1	**97**	**100**	**97**	**100**	25	**70**
Trichosporon asahii	**99**	**99**	**100**	**100**	**100**	**98**	**100**	0	**100**	**95**	**100**	**99**	**30**	**100**	**100**	**75**	**75**	**100**	**98**	1	**98**	**70**	**100**	1	17	**100**	25	**100**	17	**98**
Trichosporon mucoides	**100**	**99**	**100**	**100**	**100**	**100**	**99**	**99**	**100**	**100**	**100**	**99**	**99**	**100**	**100**	**99**	**99**	**100**	**99**	**100**	**100**	**94**	**100**	1	**99**	**100**	**100**	**100**	**94**	**99**
Williopsis saturnus	0	0	**100**	0	**90**	0	**100**	**100**	20	20	0	20	**60**	**100**	0	**99**	20	20	0	0	0	15	**70**	0	20	0	0	**100**	0	0
Zygosaccharomyces spp	17	1	1	0	6	0	1	6	6	1	1	1	**65**	1	0	**59**	1	6	0	1	1	6	1	0	**63**	0	0	**99**	0	6

BIBLIOGRAPHIE / LITERATURE REFERENCES / LITERATUR / BIBLIOGRAFIA / ΑΝΑΦΟΡΕΣ ΑΡΘΡΟΓΡΑΦΙΩΝ /REFERENSLITTERATUR / LITTERATURHENVISNINGER / PIŚMIENNICTWO

1. BARNETT J.H., PAYNE R.W., YARROW D.
   Yeasts : Characteristics and Identification
   (1983) Cambridge University Press, London.
2. DEAK T., BEUCHAT L.R.
   Comparison of the SIM, ***API 20 C*** and ***ID 32 C*** Systems for Identification of Yeasts Isolated from Fruit Juice Concentrates and Beverages.
   (1993) Journal of Food Protection, 56, 585-592.
3. GUTIERREZ J., MARTIN E., LOZANO C., CORONILLA J., NOGALES C.
   Evaluation of the ATB 32 C, Automicrobic system and API 20 C using clinical yeast isolates.
   (1994) Ann. Biol. Clin., 50, 443-446.
4. KREGER VAN RIJ N.J.W.
   The Yeasts : A Taxonomic Study.
   (1984) Elsevier, Amsterdam.
5. McGINNIS M.R. and al.
   Taxonomic and Nomenclatural Evaluation of the genera *Candida* and *Torulopsis*
   (1984) J. Clin. Microbiol., 20, 813-814.
6. MONGET D., CANIAUX I., DESMONCEAUX M., GUICHERD M.
   ATB 32 C : A New Automated Method for the Identification of Yeasts.
   (1987) Florence, Fifth International Symposium On Rapid Methods and Automation in Microbiology and Immunology, 4-6 Nov. 1987.
7. WARREN N.G., SHADOMY H.J.
   Yeasts of medical importance
   in : BALOWS A., HAUSLER W.J., HERMANN K.L., ISENBERG H.D.,SHADOMY H.J.
   Fifth edition,
   (1991) Manual of Clinical Microbiology, 617-629.
8. WICKERHAM L.J., BURTON K.A.
   Carbon Assimilation Tests for the Classification of Yeasts.
   (1948) J. Bact., 56, 363-371.

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Symbole / Symbol Símbolo / Simbolo Σύμβολο	Signification / Meaning / Bedeutung Significado / Significato / Επεξήγηση Betydelse / Betydning / Znaczenie
	Référence du catalogue Catalogue number (GB) / Catalog number (US) Bestellnummer / Número de catálogo / Numero di catalogo Referência de catálogo / Αριθμός καταλόγου Katalognummer / Katalognummer / Numer katalogowy
	Dispositif médical de diagnostic in vitro In Vitro Diagnostic Medical Device In Vitro Diagnostikum Producto sanitario para diagnóstico in vitro Dispositivo medico-diagnostico in vitro Dispositivo médico para diagnóstico in vitro In Vitro Διαγνωστικό Ιατροτεχνολογικό προϊόν Medicintekniska produkter för in vitro diagnostik Medicinsk udstyr til in vitro-diagnostik Wyrób do diagnostyki In Vitro
	Fabricant / Manufacturer / Hersteller / Fabricante Fabbricante / Κατασκευαστής / Tillverkare / Producent
	Limites de température / Temperature limitation Temperaturbegrenzung / Limite de temperatura Limiti di temperatura / Limites de temperatura Περιορισμοί θερμοκρασίας / Temperaturbegränsning Temperaturbegrænsning Przestrzegać zakresu temperatury
	Utiliser jusque / Use by / Verwendbar bis Fecha de caducidad / Utilizzare entro / Prazo de validade Ημερομηνία λήξης / Använd före / Holdbar til / Użyć przed
	Code du lot / Batch code Chargenbezeichnung / Código de lote Codice del lotto / Código do lote Αριθμός Παρτίδας / Lot nummer / Lotnummer Kod partii
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	Contenu suffisant pour "n" tests Contains sufficient for <n> tests Inhalt ausreichend für <n> Prüfungen Contenido suficiente para <n> ensayos Contenuto sufficiente per "n" saggi Conteúdo suficiente para “n” ensaios Περιεχόμενο επαρκές για «ν» εξετάσεις Räcker till "n" antal tester Indeholder tilstrækkeligt til "n" test Wystarczy na wykonanie <n> testów

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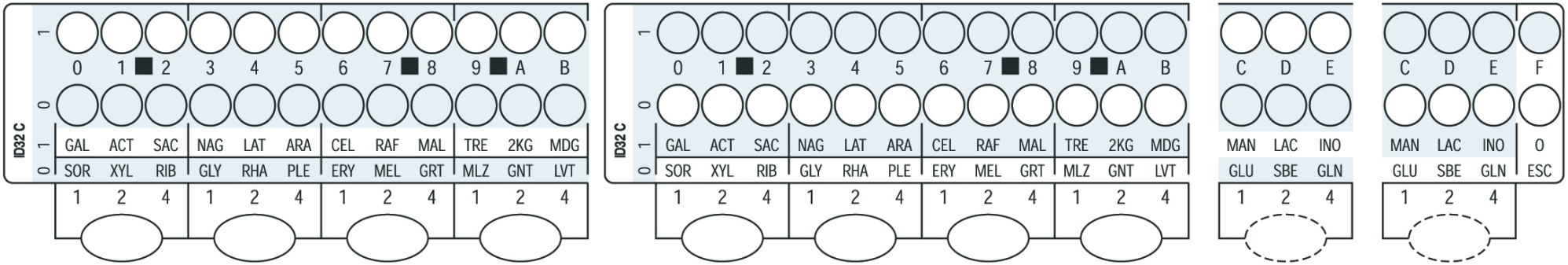

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