

BIOMÉRIEUX

API® & ID 32

Identification databases

PIONEERING DIAGNOSTICS





API® & ID 32

Identification databases

INTRODUCTION

The API®, ID 32 and rapid ID 32 database update takes into account:

- the evolution of international taxonomy
- the description of the new bacterial species,
- newly acquired bacteriology data (new profiles for bacterial strains which have an impact on performance data)

As a result of the update, the APIWEB™ software version has changed from version 1.3.0 to version 1.3.1

The API and ID 32 databases have again been updated

Twenty-two of the twenty-three identification databases have been revised, taking account the biochemical profiles of over 56,277 strains. Today, 697 species of bacteria and yeasts can be identified, including 14 new species and 50 that have been assigned new names.

The changes made can be broken down as follows:

A number of new species have been added to the database (including both entirely new species and others added on the basis of new results).

Certain bacterial species have been deleted due to more stringent criteria. Certain rare species which are not sufficiently studied have been removed from the database.

The names of certain species have been changed to follow modifications in the bacterial taxonomy as officially described in the International Journal of Systematic and Evolutionary Microbiology.

Notes have been revised to reflect the changes in names and the species added and deleted.

Percentages and performances have been altered to reflect variations observed in the profiles analyzed as the database was revised.

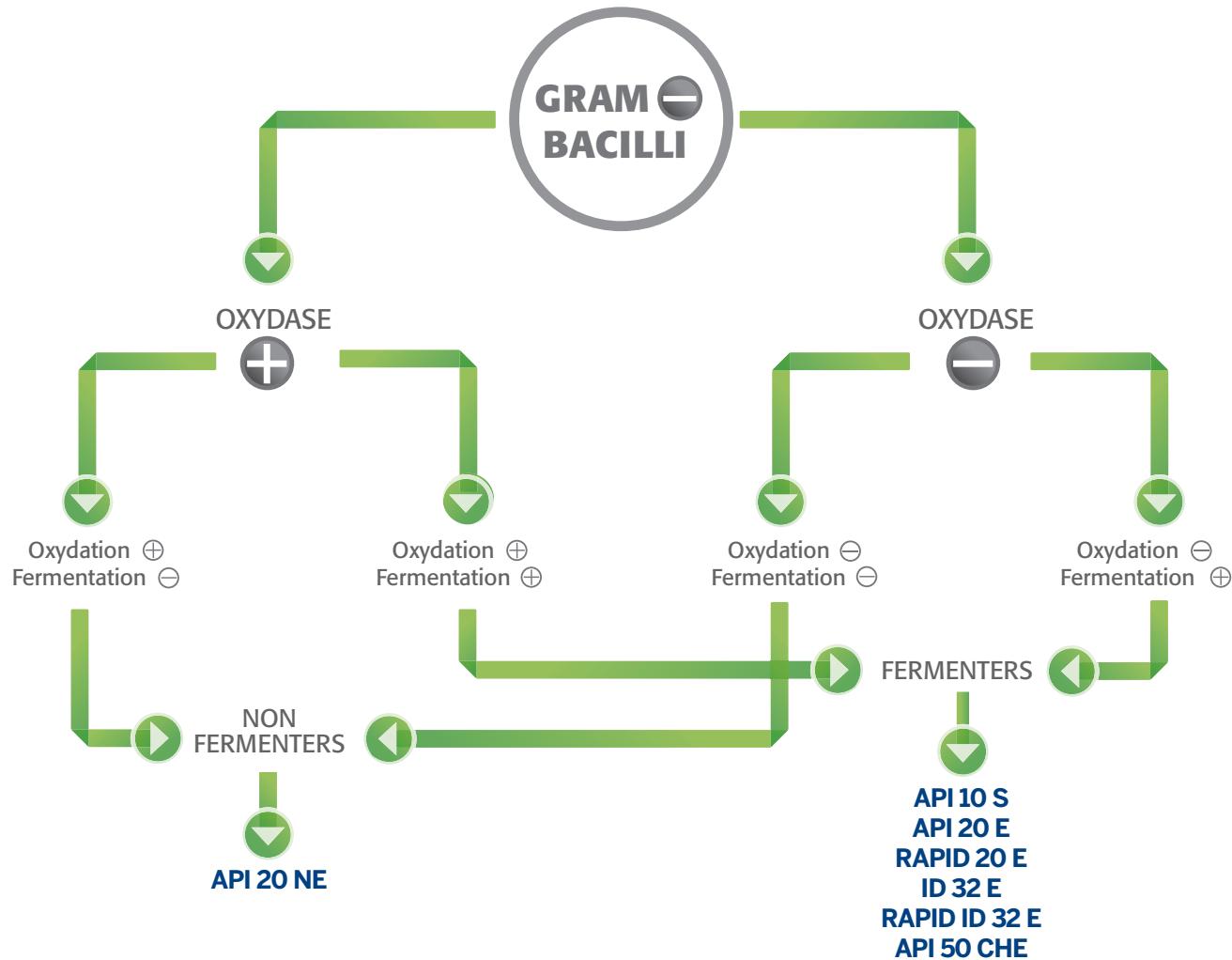
Additional tests were modified to reflect the new reference information available.

WHAT'S CHANGED IN THE DATABASES?

Database	Version number		Changes to thesaurus		Changes to database	
	old	new	Taxons	Notes	Identification	Additional tests
API® 20 E	v 4.1	v 5.0	X	X	X	X
RapiD 20 E™	v 3.1	v 3.2	X	-	-	-
API® 10 S	v 3.1	v 4.0	X	X	X	-
API® 20 NE	v 7.0	v 8.0	X	X	X	-
API® STAPH	v 4.1	v 5.0	-	-	X	-
API® 20 STREP	v 7.0	v 8.0	X	X	X	X
API® 20 C AUX	v 4.0	v 5.0	X	X	X	-
API® CANDIDA	v 2.1	v 2.2	X	X	-	-
API® 20 A	v 4.0	v 5.0	X	X	X	X
API® CORYNE	v 3.0	v 4.0	X	X	X	-
API® CAMPY	v 2.1	v 3.0	X	-	X	-
API® LISTERIA	v 1.2	v 2.0	-	X	X	-
API® NH	v 3.0	v 4.0	X	X	X	-
API® 50 CHB	v 4.0	v 4.1	X	-	-	-
API® 50 CHE	v 3.1	v 3.2	X	-	-	-
API® 50 CHL	v 5.1	v 5.2	X	-	-	-
ID 32 E	v 3.0	v 4.0	X	-	X	X
RAPID ID 32 E	v 3.1	v 4.0	X	-	X	X
ID 32 STAPH	v 2.1	v 3.0	X	X	X	X
RAPID ID 32 STREP	v 3.0	v 4.0	X	X	X	X
ID 32 C	v 3.0	v 4.0	X	X	X	X
rapid ID 32 A	v 3.2	v 3.3	X	-	-	-

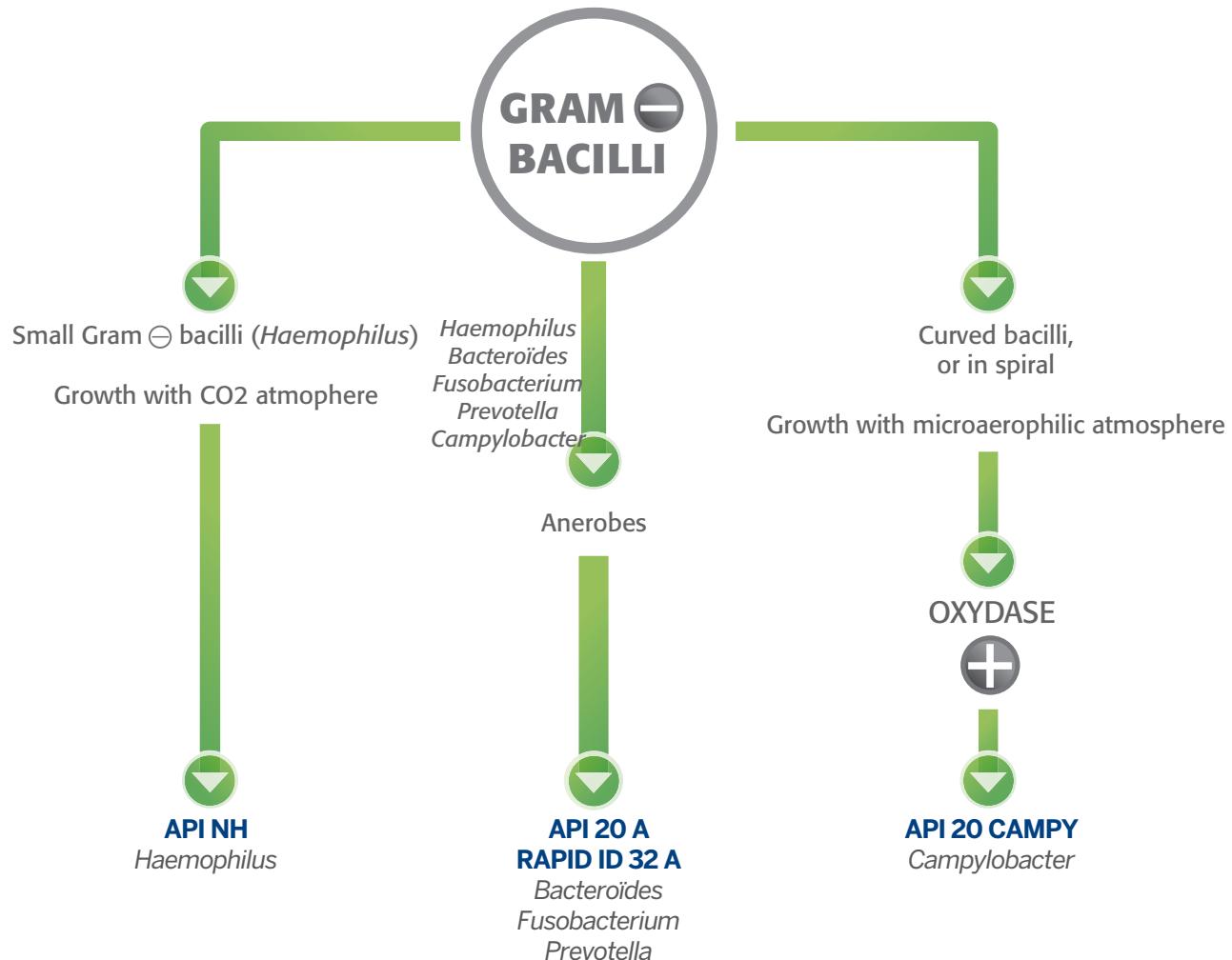
ORIENTATION TESTS

GRAM \ominus BACILLI



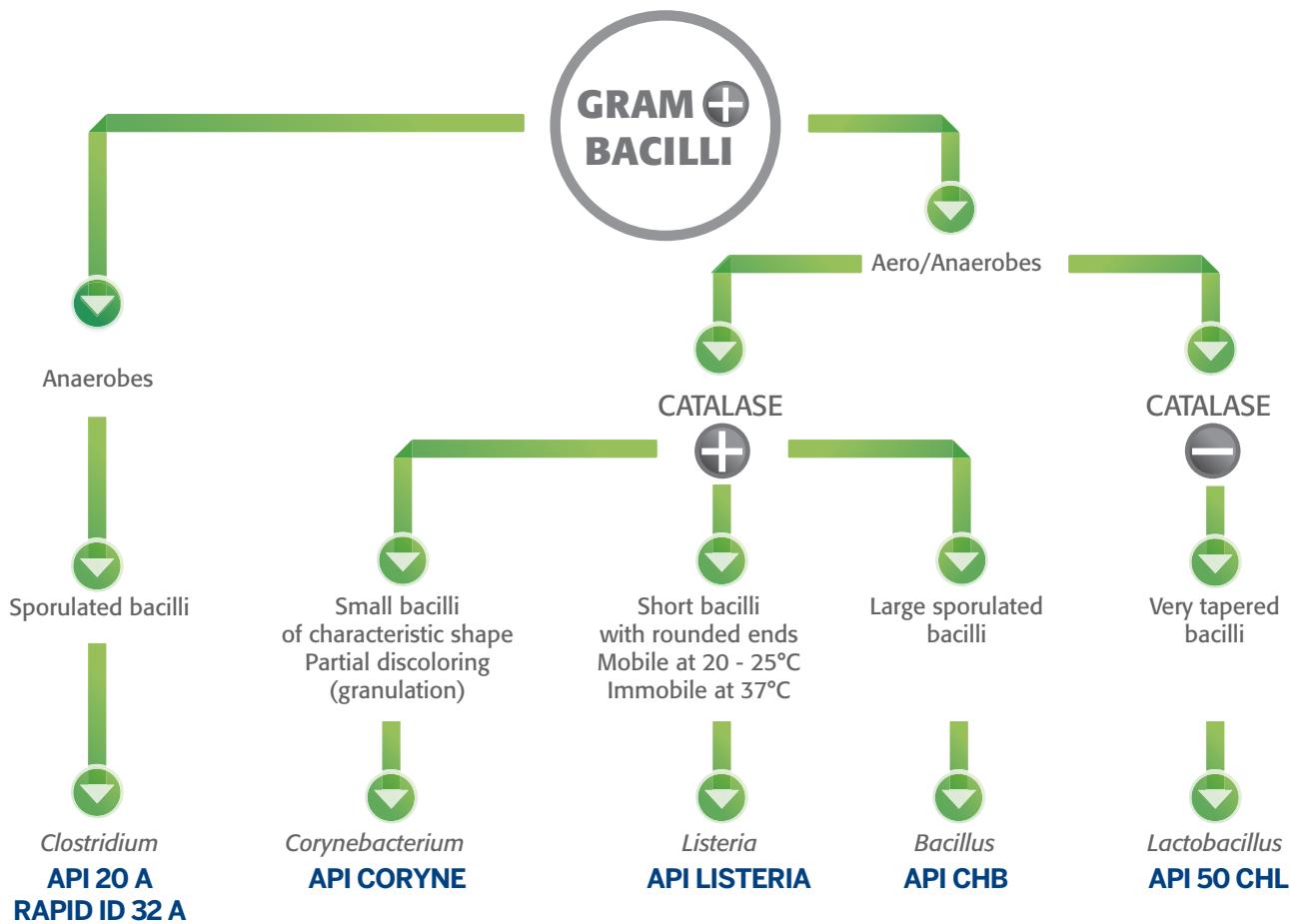
ORIENTATION TESTS

OTHER GRAM \ominus BACILLI



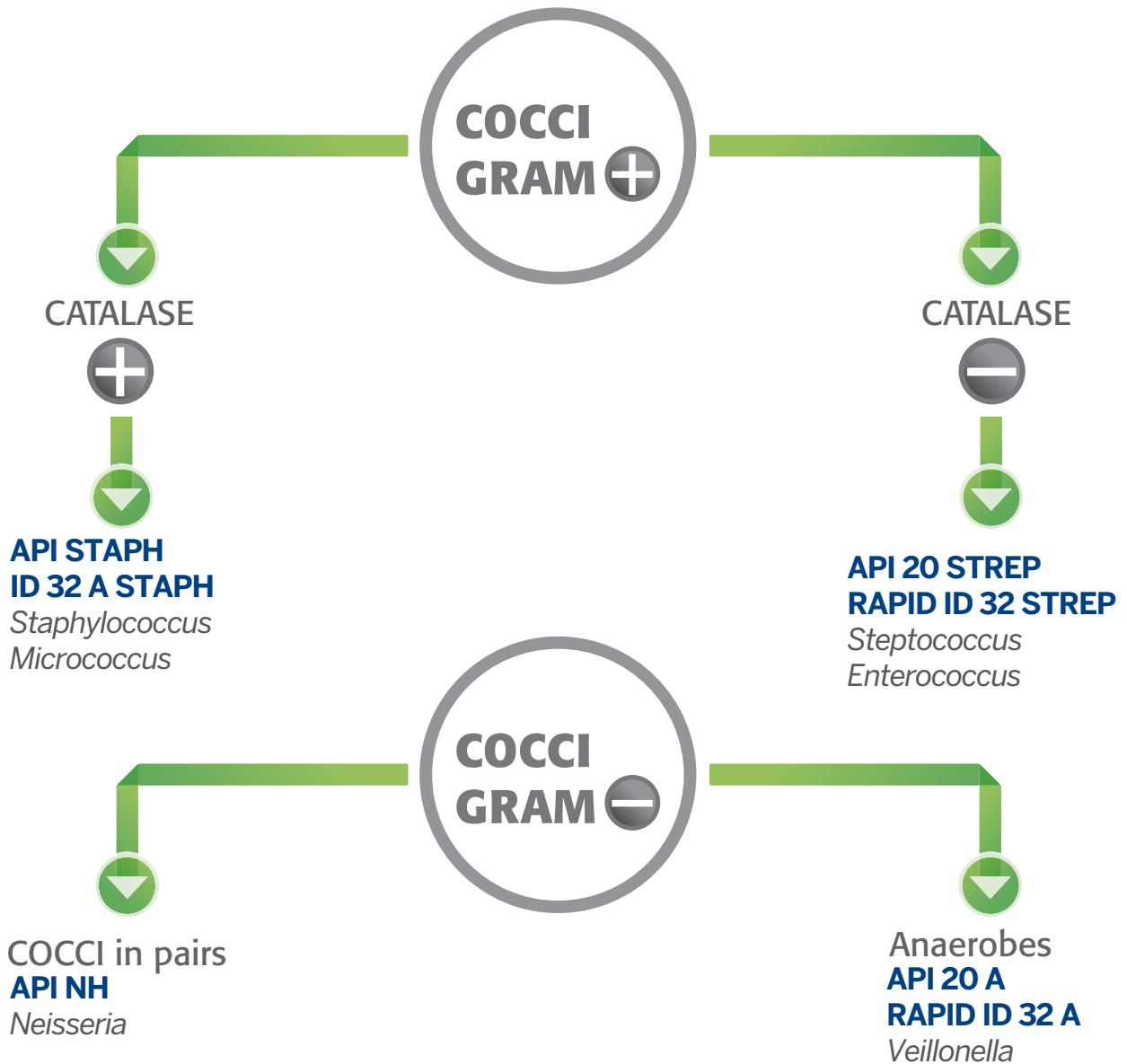
ORIENTATION TESTS

GRAM + BACILLI



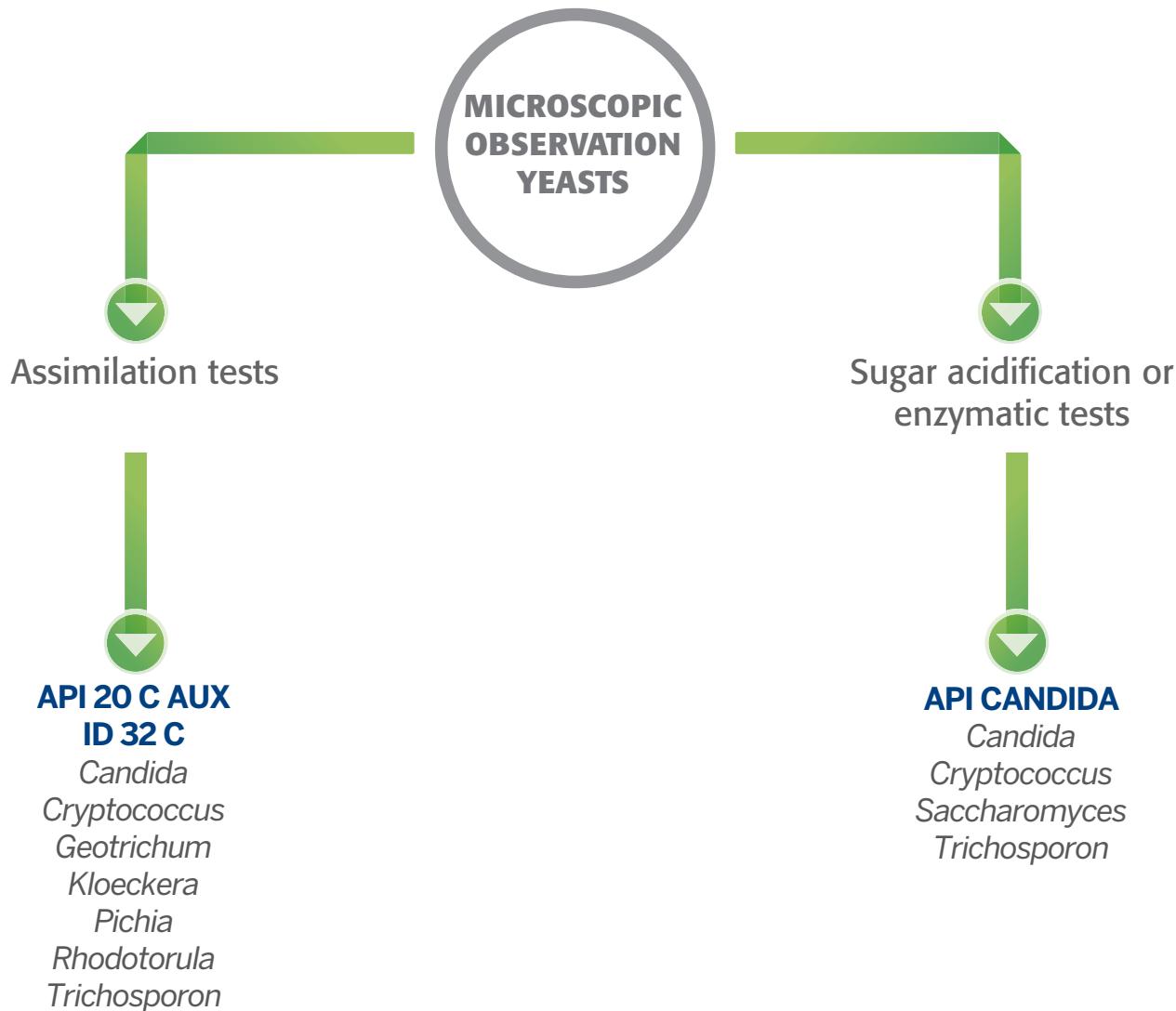
ORIENTATION TESTS

COCCI



ORIENTATION TESTS

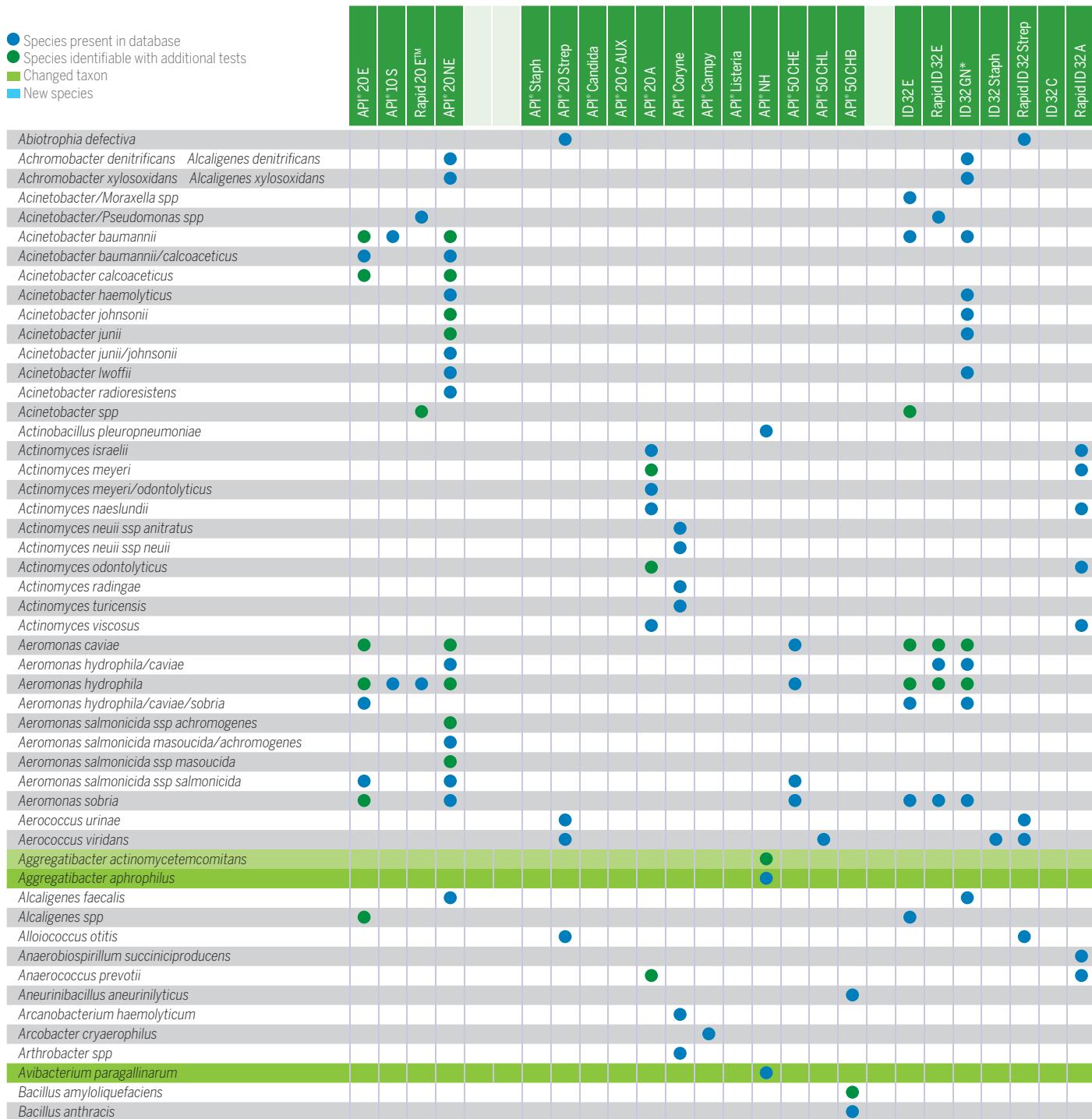
YEASTS



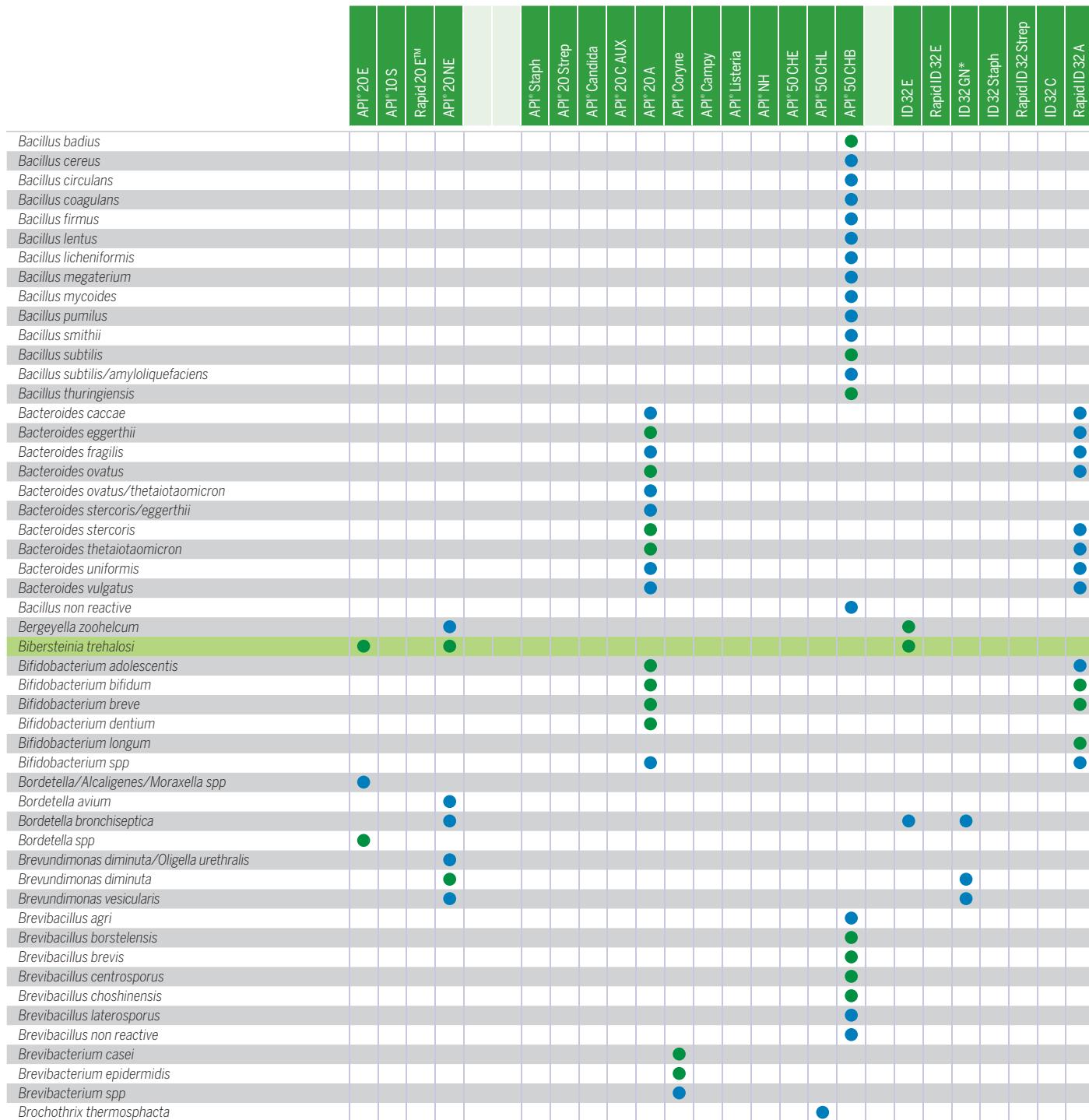
SPECIES IDENTIFIABLE BY THE VARIOUS IDENTIFICATION SYSTEMS

API® 20 E	Gram-negative bacilli
API® 10 S	Gram-negative bacilli
Rapid 20E™	<i>Enterobacteriaceae</i>
API® 20 NE	Gram-negative non- <i>Enterobacteriaceae</i>
API® Staph	Staphylococci
API® 20 Strep	Streptococci
API® Candida	Yeast
API® 20 C AUX	Yeast
API® 20 A	Anaerobes
API® Coryne	Corynebacteria
API® Campy	<i>Campylobacter</i>
API® Listeria	<i>Listeria</i>
API® NH	<i>Neisseria, Haemophilus</i>
API® 50 CHE	<i>Enterobacteriaceae</i>
API® 50 CHL	Lactic bacteria
API® 50 CHB	Bacillus
ID 32 E	Gram-negative bacilli
Rapid ID 32 E	<i>Enterobacteriaceae</i>
ID 32 GN	Gram-negative bacilli
ID 32 STAPH	Staphylococci
Rapid ID 32 STREP	Streptococci
ID 32 C	Yeast
Rapid ID 32 A	Anaerobes

- Species present in database
- Species identifiable with additional tests
- Changed taxon
- New species

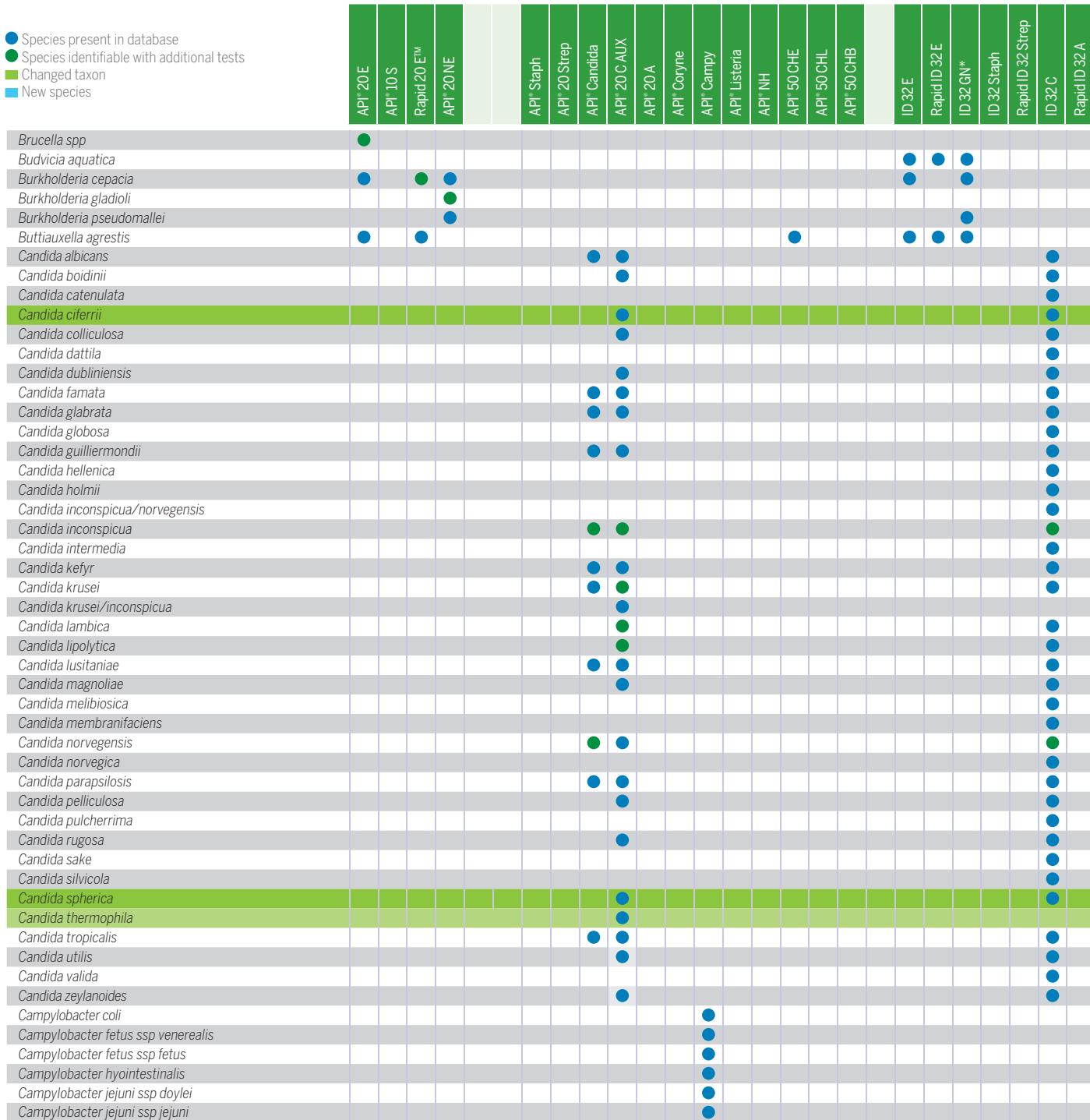


*For ID 32 GN : automatic reading and identification interpretation exclusively, APIWEB™ can not be used

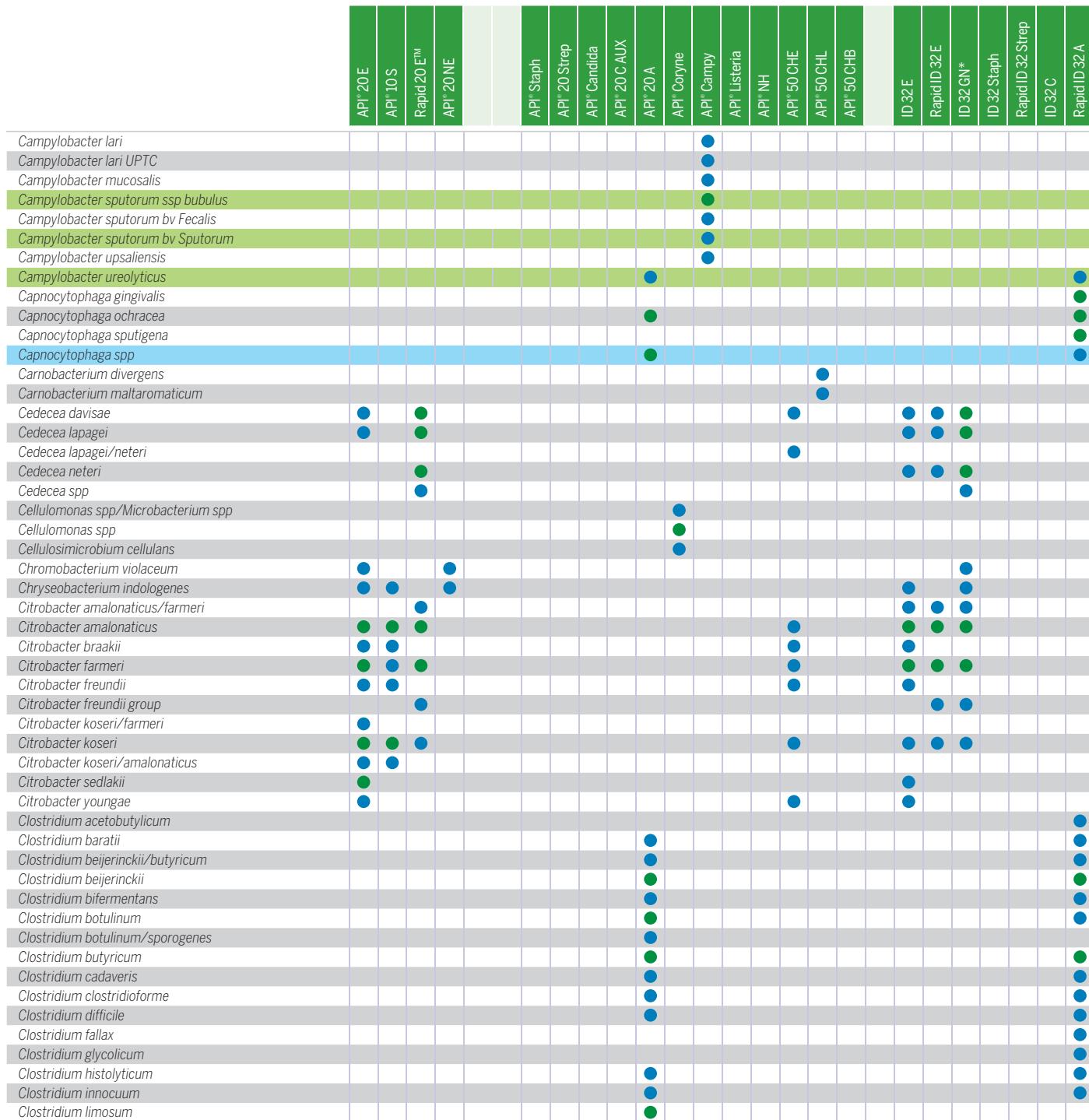


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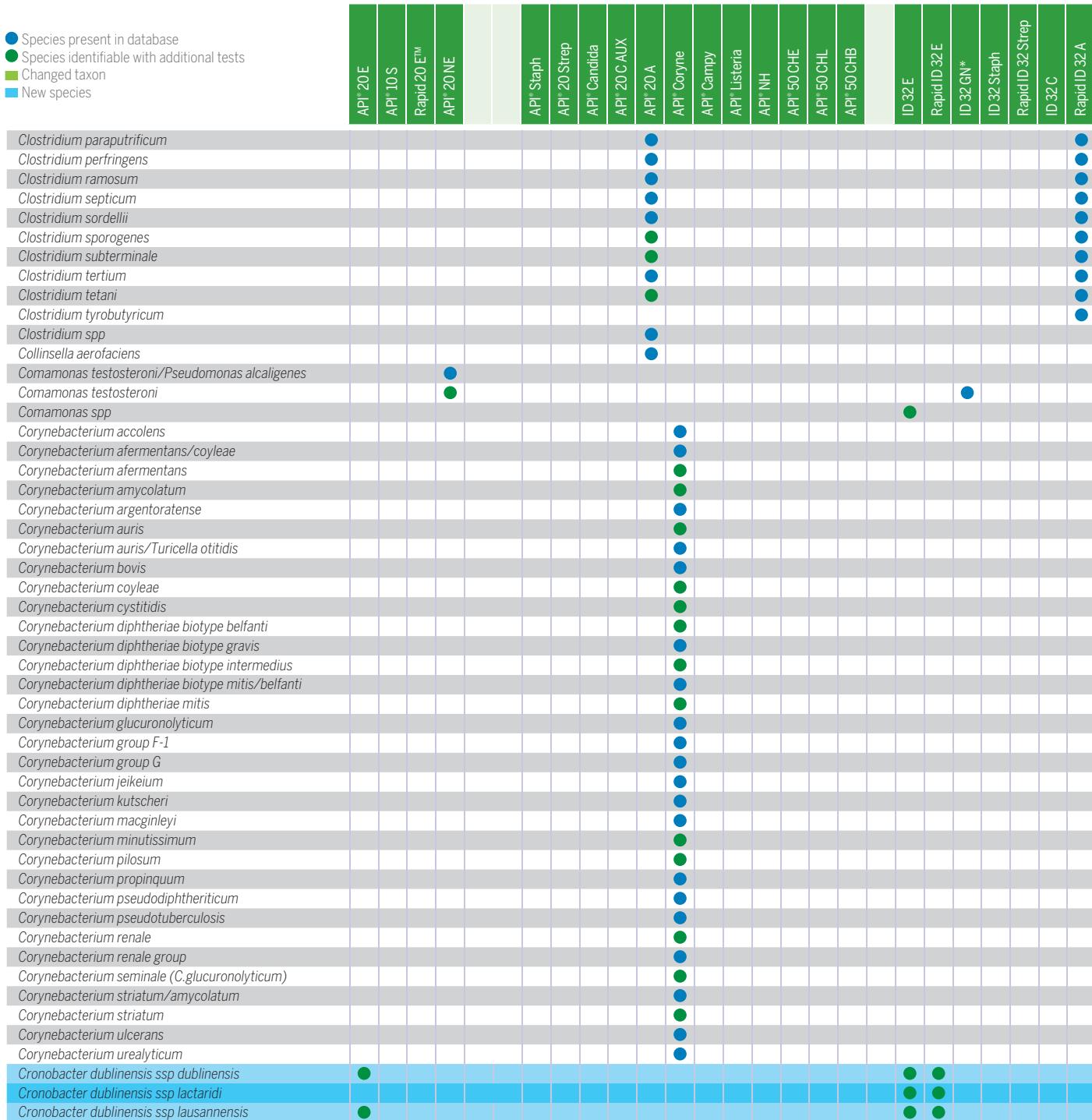


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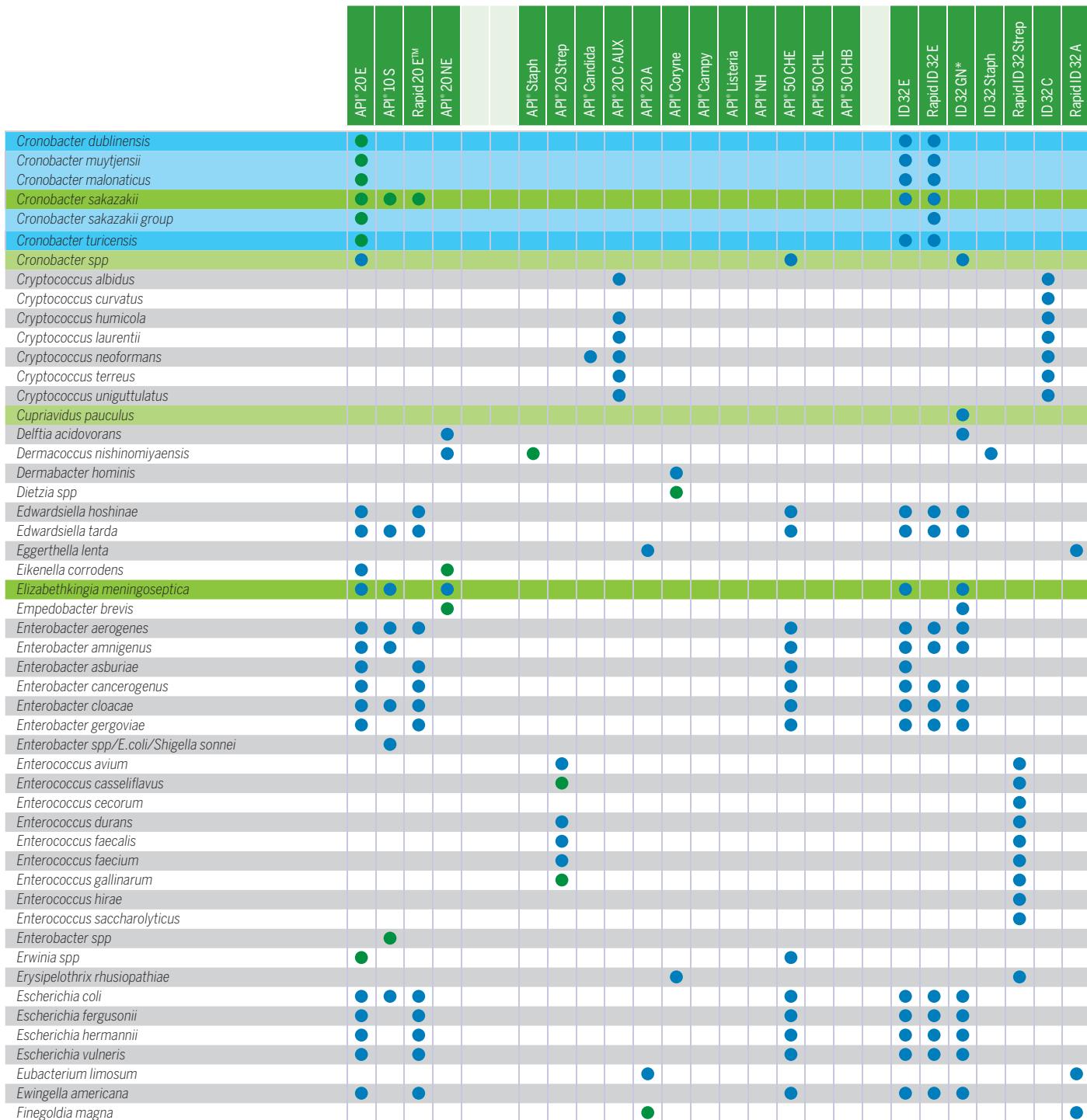


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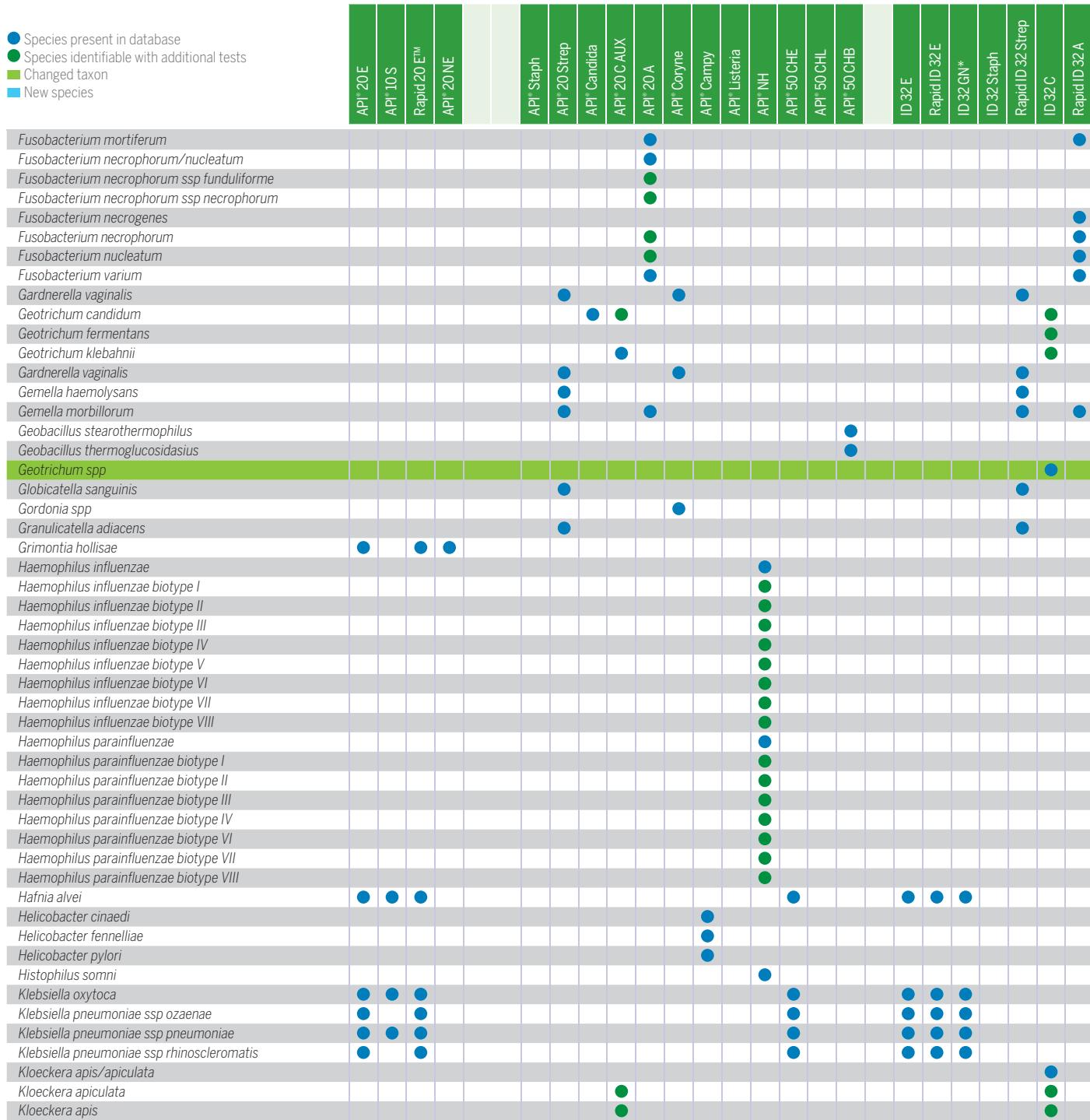


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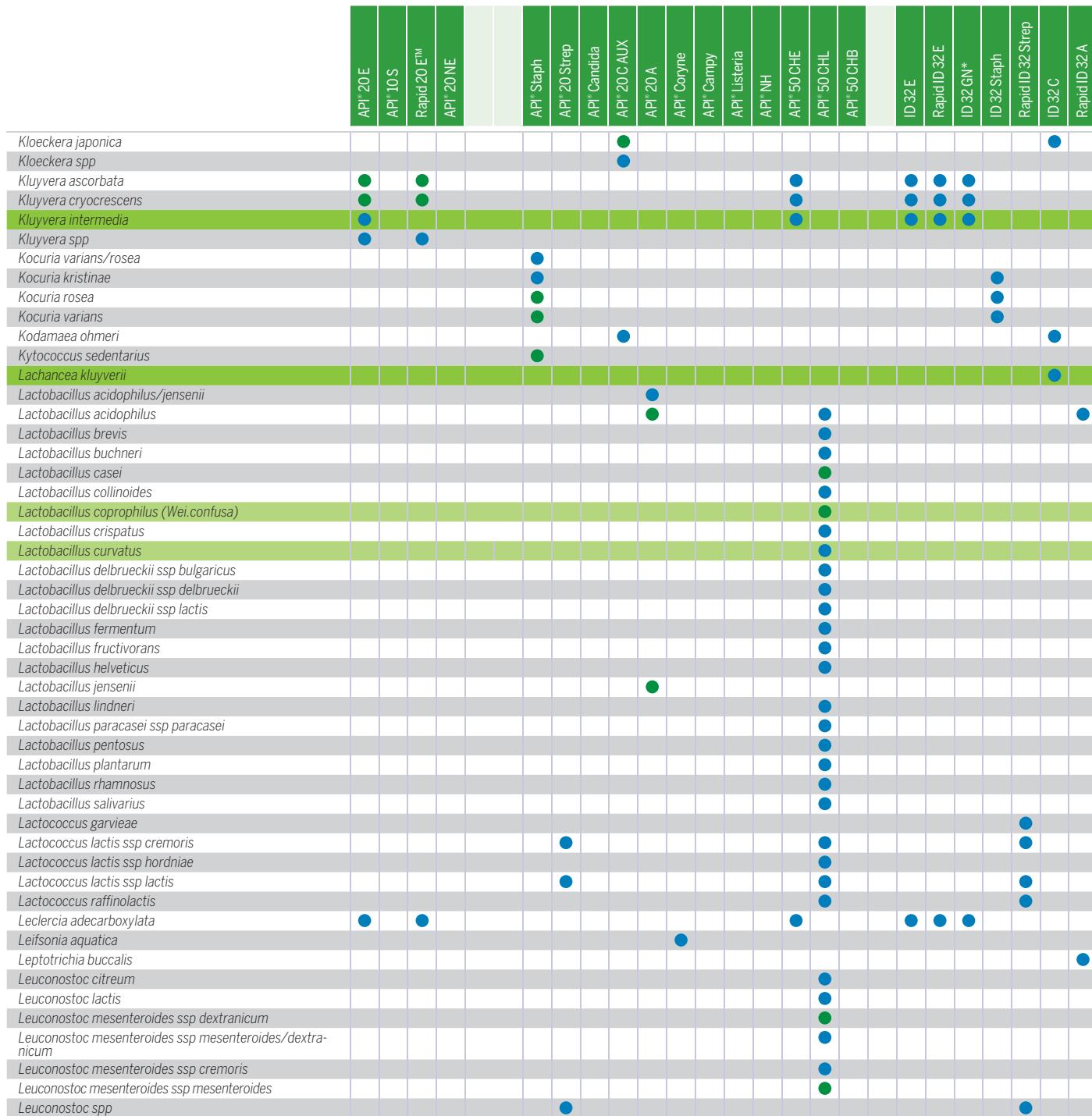


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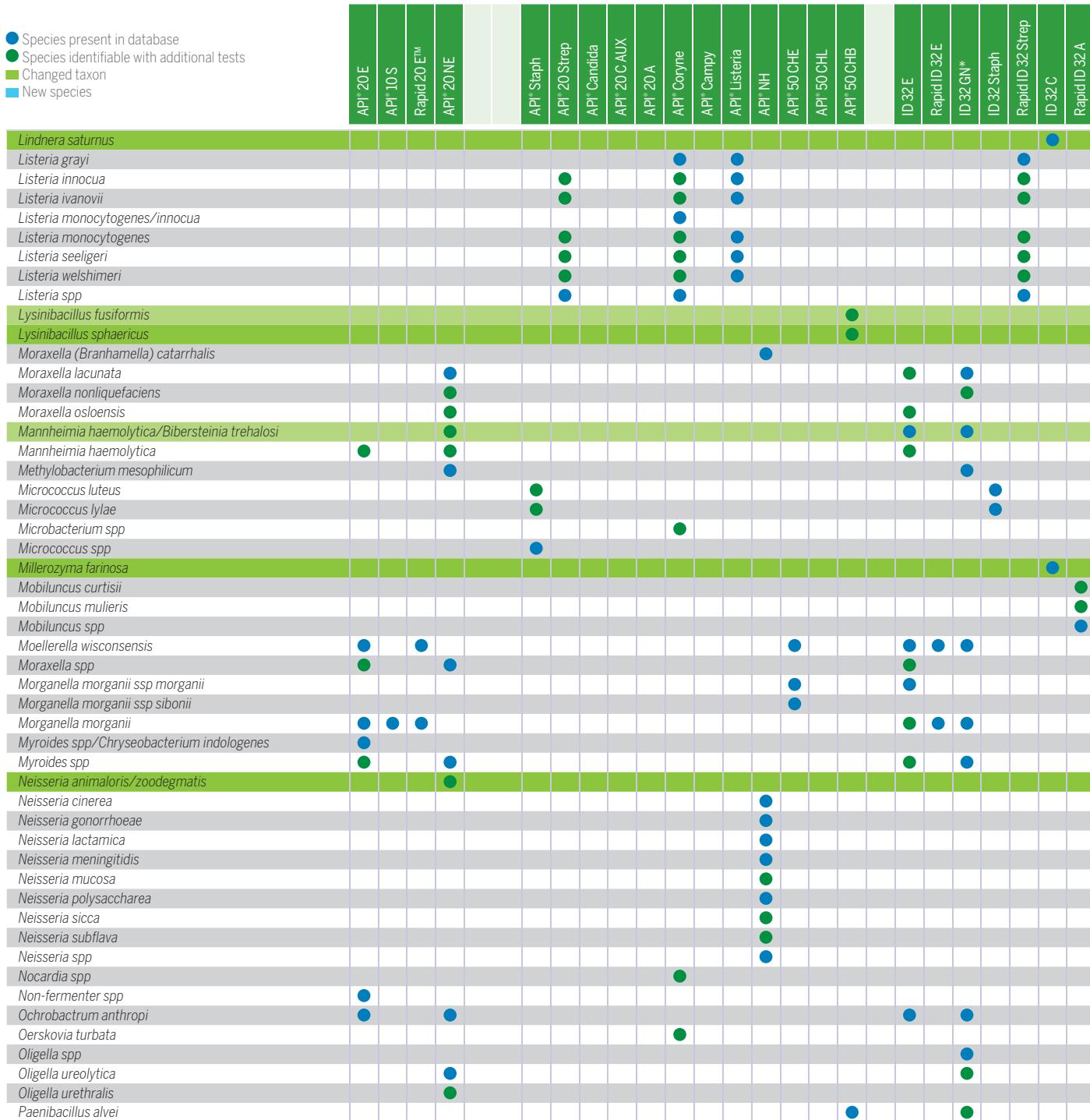


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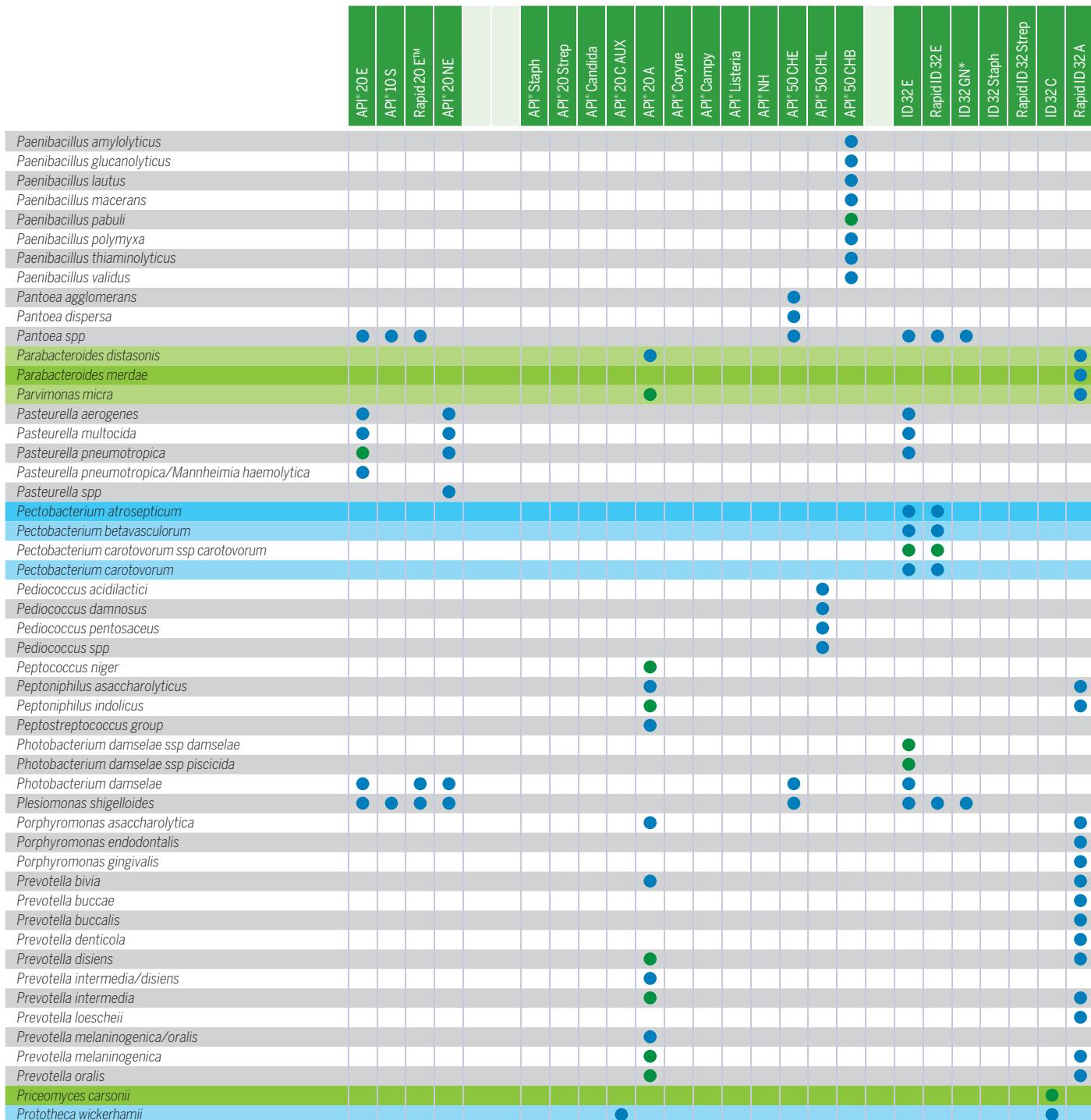


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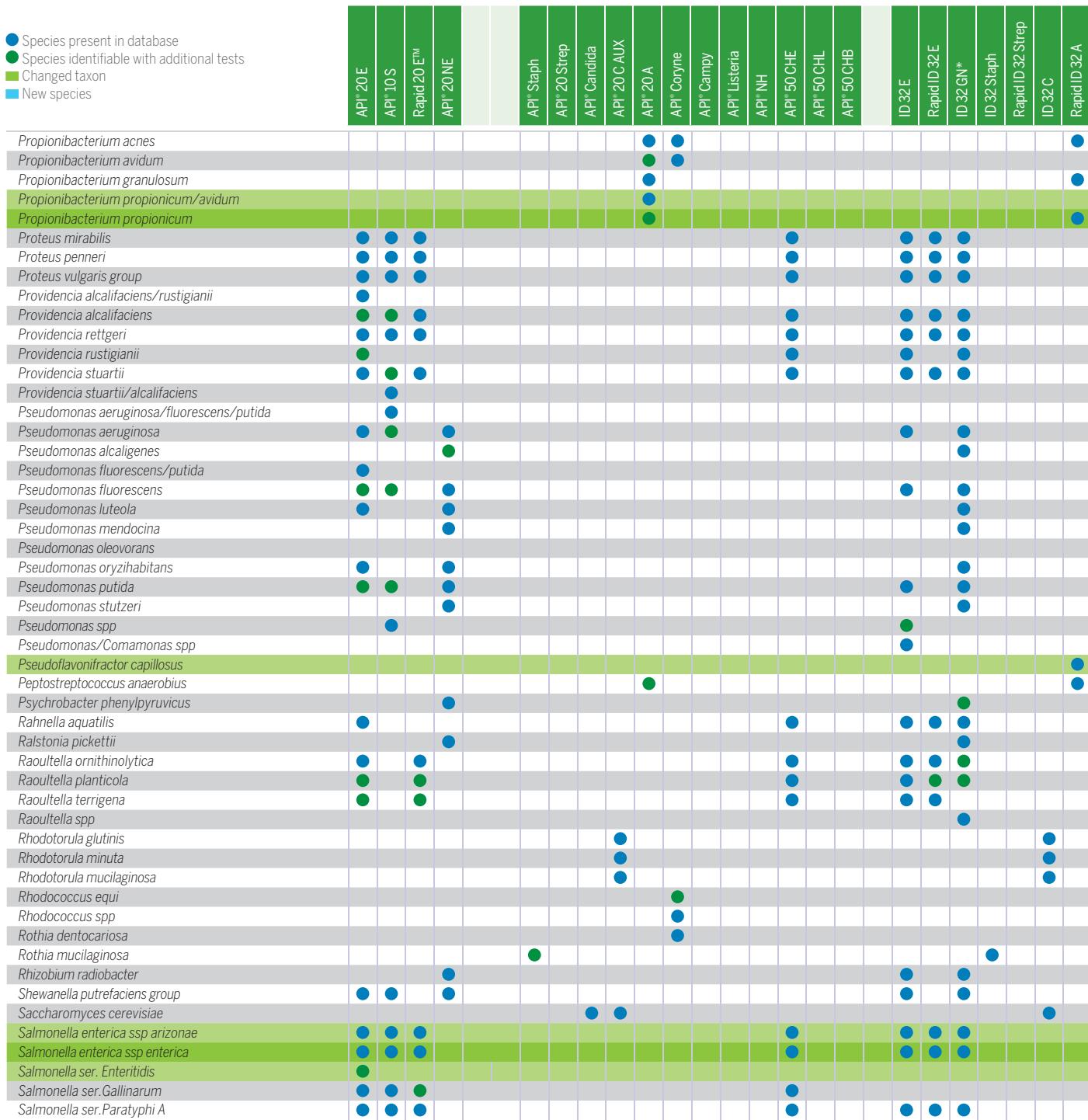


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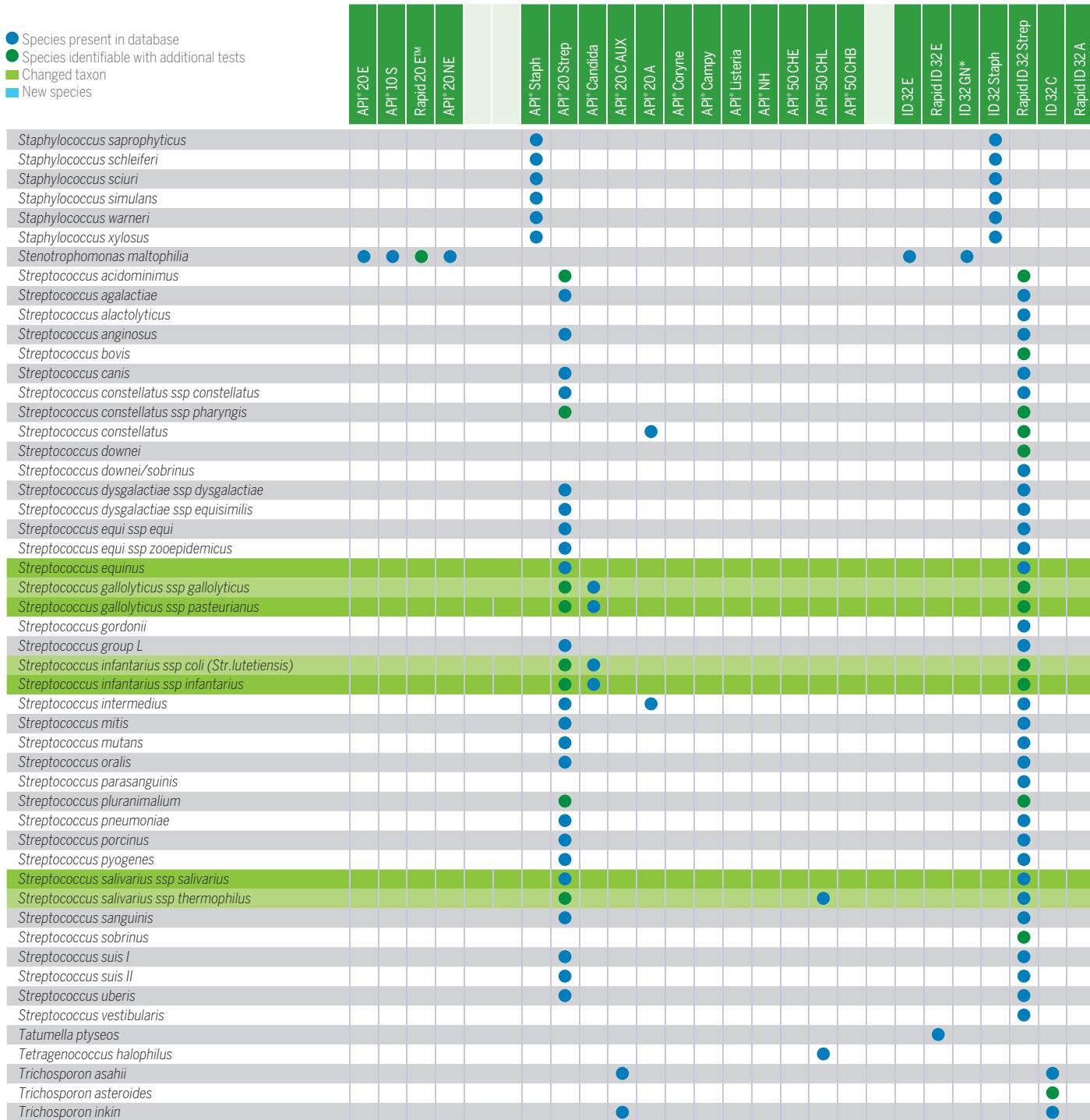


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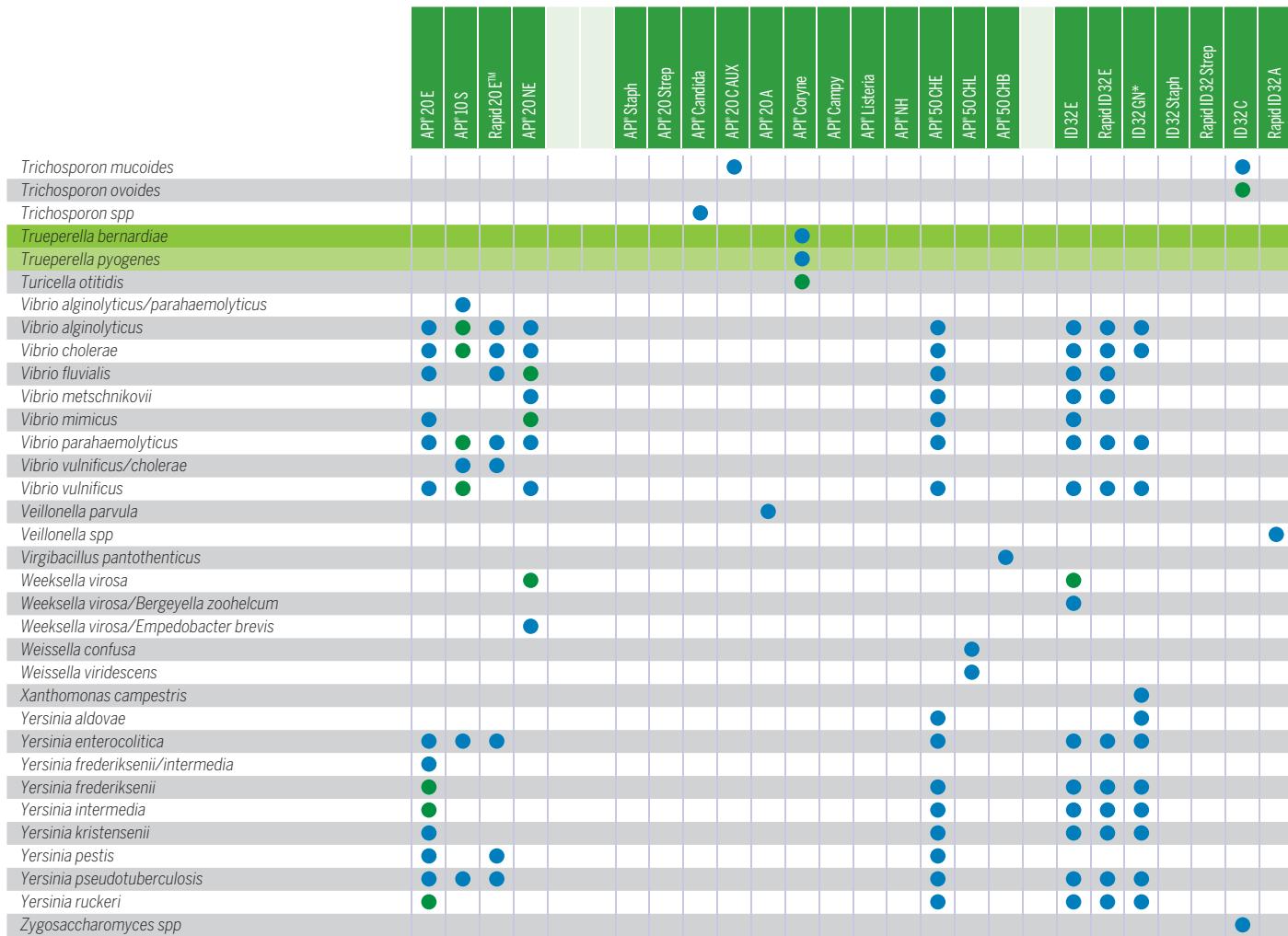
	API® 20E	API® 10 S	Rapid 20 F™	API® 20NE		API® Staph	API® 20 Strept	API® Candida	API® 20 CAUX	API® 20 A	API® Coryne	API® Campy	API® Listeria	API® NH	API® 50 CHE	API® 50 CHL	API® 50 CHB		ID 32 E	Rapid ID 32 E	ID 32 GN*	ID 32 Staph	Rapid ID 32 Strep	ID 32 C	Rapid ID 32 A
<i>Salmonella</i> ser. <i>Paratyphi B</i>	●																								
<i>Salmonella</i> ser. <i>Pullorum</i>	●	●	●	●															●						
<i>Salmonella</i> ser. <i>Typhi</i>	●	●	●	●																●	●	●			
<i>Salmonella</i> ser. <i>Typhimurium</i>	●																		●						
<i>Salmonella</i> spp	●	●	●	●																●	●	●			
<i>Saprochaete</i> <i>capitata</i>																									
<i>Schwanniomyces etchellsii</i> / <i>Priceomyces carsonii</i>																									
<i>Schwanniomyces etchellsii</i>																									
<i>Schwanniomyces polymorphus</i>																									
<i>Serratia</i> <i>ficaria</i>	●																		●						
<i>Serratia</i> <i>fonticola</i>	●																		●	●	●	●			
<i>Serratia</i> <i>grimesii</i>																									
<i>Serratia</i> <i>liquefaciens</i>	●	●	●	●														●		●	●	●			
<i>Serratia</i> <i>liquefaciens</i> / <i>plymuthica</i>																									
<i>Serratia</i> <i>marcescens</i>	●	●	●	●														●		●	●	●			
<i>Serratia</i> <i>odorifera</i>	●	●	●	●														●		●	●	●			
<i>Serratia</i> <i>plymuthica</i>	●																	●		●	●	●	●	●	
<i>Serratia</i> <i>proteamaculans</i>																									
<i>Serratia</i> <i>proteamaculans</i>																									
<i>Serratia</i> <i>rubidaea</i>	●																	●							
<i>Shigella</i> <i>boydii</i>	●																	●							
<i>Shigella</i> <i>dysenteriae</i>	●																	●							
<i>Shigella</i> <i>flexneri</i>	●																	●							
<i>Shigella</i> <i>sonnei</i>	●	●	●	●														●		●	●	●			
<i>Shigella</i> spp	●	●	●	●														●		●	●	●			
<i>Sphingobacterium</i> <i>multivorum</i>																									
<i>Sphingobacterium</i> <i>spiritivorum</i>																									
<i>Sphingomonas</i> <i>paucimobilis</i>																									
<i>Sporobolomyces</i> <i>salmonicolor</i>																									
<i>Staphylococcus</i> <i>arlettae</i>																									
<i>Staphylococcus</i> <i>aureus</i>																									
<i>Staphylococcus</i> <i>auricularis</i>																									
<i>Staphylococcus</i> <i>capitis</i>																									
<i>Staphylococcus</i> <i>caprae</i>																									
<i>Staphylococcus</i> <i>carnosus</i>																									
<i>Staphylococcus</i> <i>chromogenes</i>																									
<i>Staphylococcus</i> <i>cohnii</i> ssp <i>cohnii</i>																		●							
<i>Staphylococcus</i> <i>cohnii</i> ssp <i>urealyticus</i>																		●							
<i>Staphylococcus</i> <i>epidermidis</i>																		●							
<i>Staphylococcus</i> <i>equorum</i>																									
<i>Staphylococcus</i> <i>gallinarum</i>																									
<i>Staphylococcus</i> <i>haemolyticus</i>																									
<i>Staphylococcus</i> <i>hominis</i>																									
<i>Staphylococcus</i> <i>hyicus</i>																									
<i>Staphylococcus</i> <i>intermedius</i>																									
<i>Staphylococcus</i> <i>kloosii</i>																									
<i>Staphylococcus</i> <i>lentus</i>																									
<i>Staphylococcus</i> <i>lugdunensis</i>																									
<i>Staphylococcus</i> <i>pseudointermedius</i>																									
<i>Staphylococcus</i> <i>saccharolyticus</i>																			●						

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YEASTS

NOMENCLATURE

Name in the database	Imperfect State	Perfect State	Other names
<i>Candida albicans</i>	<i>Candida albicans</i>		
<i>Candida boidinii</i>	<i>Candida boidinii</i>		
<i>Candida catenulata</i>	<i>Candida catenulata</i>		
<i>Candida ciferrii</i>	<i>Candida ciferrii</i>	<i>Trichomonascus ciferrii</i>	<i>Stephanoascus ciferrii</i>
<i>Candida colliculosa</i>	<i>Candida colliculosa</i>	<i>Torulaspora delbrueckii</i>	
<i>Candida dattila</i>	<i>Candida dattila</i>	<i>Lachancea thermotolerans</i>	<i>Kluyveromyces thermotolerans</i>
<i>Candida dubliniensis</i>	<i>Candida dubliniensis</i>		
<i>Candida famata</i>	<i>Candida famata</i>	<i>Debaryomyces hansenii</i>	
<i>Candida glabrata</i>	<i>Candida glabrata</i>		
<i>Candida globosa</i>	<i>Candida globosa</i>	<i>Citeromyces matritensis</i>	
<i>Candida guilliermondii</i>	<i>Candida guilliermondii</i>	<i>Meyerozyma guilliermondii</i>	
<i>Candida hellenica</i>	<i>Candida hellenica</i>	<i>Zygoascus meyeriae</i>	
<i>Candida holmii</i>	<i>Candida holmii</i>	<i>Kazachstania exigua</i>	<i>Saccharomyces exiguum</i>
<i>Candida inconspicua</i>	<i>Candida inconspicua</i>		
<i>Candida intermedia</i>	<i>Candida intermedia</i>		
<i>Candida kefyr</i>	<i>Candida kefyr</i>	<i>Kluyveromyces marxianus</i>	
<i>Candida krusei</i>	<i>Candida krusei</i>	<i>Pichia kudriavzevii</i>	
<i>Candida lambica</i>	<i>Candida lambica</i>	<i>Pichia fermentans</i>	
<i>Candida lipolytica</i>	<i>Candida lipolytica</i>	<i>Yarrowia lipolytica</i>	
<i>Candida lusitaniae</i>	<i>Candida lusitaniae</i>	<i>Clavispora lusitaniae</i>	
<i>Candida magnoliae</i>	<i>Candida magnoliae</i>		
<i>Candida melibiosica</i>	<i>Candida melibiosica</i>		
<i>Candida membranifaciens</i>	<i>Candida membranifaciens</i>		
<i>Candida norvegensis</i>	<i>Candida norvegensis</i>	<i>Pichia norvegensis</i>	
<i>Candida norvegica</i>	<i>Candida norvegica</i>		
<i>Candida parapsilosis</i>	<i>Candida parapsilosis</i>		
<i>Candida pelliculosa</i>	<i>Candida pelliculosa</i>	<i>Wickerhamomyces anomalus</i>	
<i>Candida pulcherrima</i>	<i>Candida pulcherrima</i>	<i>Metschnikowia pulcherrima</i>	
<i>Candida rugosa</i>	<i>Candida rugosa</i>		
<i>Candida sake</i>	<i>Candida sake</i>		

Name in the database	Imperfect State	Perfect State	Other names
<i>Candida silvicola</i>	<i>Candida silvicola</i>	<i>Nakazawaea holstii</i>	
<i>Candida spherica</i>	<i>Candida spherica</i>	<i>Kluyveromyces lactis</i> var <i>lactis</i>	
<i>Candida thermophila</i>	<i>Candida thermophila</i>	<i>Ogataea polymorpha</i>	<i>Hansenula polymorpha</i> , <i>Pichia angusta</i>
<i>Candida tropicalis</i>	<i>Candida tropicalis</i>		
<i>Candida utilis</i>	<i>Candida utilis</i>	<i>Lindnera jadinii</i>	
<i>Candida valida</i>	<i>Candida valida</i>	<i>Pichia membranifaciens</i>	
<i>Candida zeylanoides</i>	<i>Candida zeylanoides</i>		
<i>Cryptococcus albidus</i>	<i>Cryptococcus albidus</i>		
<i>Cryptococcus curvatus</i>	<i>Cryptococcus curvatus</i>		
<i>Cryptococcus humicola</i>	<i>Cryptococcus humicola</i>		
<i>Cryptococcus laurentii</i>	<i>Cryptococcus laurentii</i>		
<i>Cryptococcus neoformans</i>	<i>Cryptococcus neoformans</i>	<i>Filobasidiella neoformans</i>	
<i>Cryptococcus terreus</i>	<i>Cryptococcus terreus</i>		
<i>Cryptococcus uniguttulatus</i>	<i>Cryptococcus uniguttulatus</i>	<i>Filobasidium uniguttulatus</i>	
<i>Geotrichum candidum</i>	<i>Geotrichum candidum</i>	<i>Galactomyces candidus</i>	
<i>Geotrichum fermentans</i>	<i>Geotrichum fermentans</i>		
<i>Geotrichum klebahnii</i>	<i>Geotrichum klebahnii</i>		
<i>Kloeckera apiculata</i>	<i>Kloeckera apiculata</i>	<i>Hanseniaspora uvarum</i>	
<i>Kloeckera apis</i>	<i>Kloeckera apis</i>	<i>Hanseniaspora guilliermondii</i>	
<i>Kloeckera japonica</i>	<i>Kloeckera japonica</i>	<i>Hanseniaspora valbyensis</i>	
<i>Kodamaea ohmeri</i>	<i>Kodamaea ohmeri</i>		
<i>Lachancea kluyverii</i>		<i>Lachancea kluyverii</i>	<i>Saccharomyces kluyveri</i>
<i>Lindnera saturnus</i>		<i>Lindnera saturnus</i>	
<i>Millerozyma farinosa</i>	<i>Millerozyma farinosa</i>		
<i>Priceomyces carsonii</i>		<i>Priceomyces carsonii</i>	<i>Pichia carsonii</i>
<i>Prototheca wickerhamii</i>	<i>Prototheca wickerhamii</i>		
<i>Rhodotorula glutinis</i>	<i>Rhodotorula glutinis</i>		
<i>Rhodotorula minuta</i>	<i>Rhodotorula minuta</i>		
<i>Rhodotorula mucilaginosa</i>	<i>Rhodotorula mucilaginosa</i>		
<i>Saccharomyces cerevisiae</i>		<i>Saccharomyces cerevisiae</i>	
<i>Saprochaete capitata</i>	<i>Saprochaete capitata</i>	<i>Magnusiomyces capitatus</i>	
<i>Schwanniomyces etchellsii</i>		<i>Schwanniomyces etchellsii</i>	<i>Pichia etchellsii</i>
<i>Schwanniomyces polymorphus</i>		<i>Schwanniomyces polymorphus</i>	<i>Debaryomyces polymorphus</i>
<i>Sporobolomyces salmonicolor</i>	<i>Sporobolomyces salmonicolor</i>	<i>Sporidiobolus salmonicolor</i>	
<i>Trichosporon asahii</i>	<i>Trichosporon asahii</i>		
<i>Trichosporon asteroides</i>	<i>Trichosporon asteroides</i>		
<i>Trichosporon inkin</i>	<i>Trichosporon inkin</i>		
<i>Trichosporon mucoides</i>	<i>Trichosporon mucoides</i>		
<i>Trichosporon ovoides</i>	<i>Trichosporon ovoides</i>		

REAGENTS TO BE ORDERED

REF.	ADDITIONAL REAGENTS	TEST KITS																	
		API® 20 E (a)	RapiD 20E	API® 10 S	API® 20 NE	API® Staph	API® 20 Strep	API® Coryne	API® Listeria	API® Candida	API® 20 C AUX	API® 20 A	API® Campy	API® NH	API® ZYM	API® 50 CH	API® 50 CHB/E	API® 50 CH	
20100	20700	10100	20050	20500	20600	20900	10300	10500	20210	20300	20800	10400	25200	50300-50430-20100	50300-50410	50300-50410	50300-50410		
70380	Zn (2x10g)	X			X													X	
70402	TDA (2x1 ampule)	1/8		1/4													1/20		
70422	VP ₁ VP ₂ (2x2 ampules)	1/8	1/8		1/8	1/8		1/20						1/20			1/20		
70442	NIT ₁ NIT ₂ (2x2 ampules)	1/8		1/4	1/8	1/8								1/20			1/20		
70494	ZYM A (2x1 ampule)					1/8	1/8	1/20									1/5		
70493	ZYM B (2x1 ampule)					1/8	1/8	1/20									1/5		
70491	NIN (2 ampules)						1/4									1/4			
70510	BCP (1 ampule)													1/2					
70520	EHR (1 ampule)													1/2					
70530	XYL (2 ampules)													1/8					
70542	James (2x1 ampule)	1/8	1/8	1/4	1/8												1/20		
70562	FB (2x1 ampule)													1/4					
	SUSPENSION MEDIUM																		
20230	NaCl 0.85% Medium (5 ml)													X			1/10		
20040	NaCl 0.85% Medium (3 ml)													X					
20070	NaCl 0.85% Medium (2 ml)		1/4		1/4														
20150	Suspension Medium (5 ml)	1/4		1/2											1/4		1/10		
70700	Suspension Medium (2 ml)						1/4						1/4				1/10	1/10	
	ADDITIONAL PRODUCTS																		
55635	Oxidase Reagent	X	X	X	X									X					
50110	API® OF Medium					X													
50120	API® M Medium					X													
70100	Parafin oil	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
70200	Rack of 12 ampules	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

*figures = recommended quantity of additional reagent(s) for each strip kit ordered
 (eg. TDA = 1/8 => 1/8 of kit ref. 70402 (2 TDA ampoules) is required to use one kit of ref. 20100 (25 API 20 E strips))

X = additional product required
 (a) : for the API 20 E strip, use the additional reagent kit ref. 20120 (7 ampules)

REAGENTS TO BE ORDERED

REF.	ADDITIONAL REAGENTS	ID 32 Staph		ID 32 C		ID 32 E		Rapid ID 32 E		Rapid ID 32 A		Rapid ID 32 Strep	
		32500	32200	32400	32700	32300	32600						
70572	VP A VP B (2x2 ampules)	1/8										1/8	
70442	NIT1 NIT2	1/8						1/8					
70491	NIN								1/8				
70542	James				1/8	1/8	1/8						
70562	FB	1/8						1/8	1/8				

SIMPLIFIED METHODOLOGIES

STRIPS	REF	MICROORGANISMS	SUSPENSION: INOCULATOR 3 ML MANUAL 2 ML	MC FARLAND	VOLUME TRANSFERRED	MEDIUM	INCUBATION TIME	TEMP.	ATMOSPHERE
API® 20 E	20100 20160	Enterobacteriaceae and other non-fastidious Gram negative bacilli	NaCl 0.85% Medium 5 ml ou Suspension Medium 5 ml	1 colony	NA	NA	18-24h/48h	37°C	Aerobic
RapiD 20 E	20701	Enterobacteriaceae	NaCl 0.85% Medium 2 ml	0.5 McF	NA	NA	4h	37°C	Aerobic
API® 10 S	10100	Enterobacteriaceae and other non-fastidious Gram negative bacilli	NaCl 0.85% Medium 5 ml ou Suspension Medium 5 ml	1 colony	NA	NA	18-24h	37°C	Aerobic
API® 20 NE	20050	Non-Enterobacteriaceae and non-fastidious Gram negative bacilli	NaCl 0.85% Medium 2 ml	0.5 McF	200 µL	API AUX	24-48h	30°C	Aerobic
API® Staph	20500	Genres Staphylococcus, Kocuria and Micrococcus	API Staph Medium	0.5 McF	NA	Medium	18-24h	37°C	Aerobic
API® 20 Strep	20600	Streptococques	Suspension Medium 2 ml	4 McF	500 µl	NA	4h-24h	37°C	Aerobic
API® Coryne	20900	Bacteries coryneformes	Suspension Medium 3 ml	>6 McF	500 µl	Medium	24h	37°C	Aerobic
API® Listeria	10300	Listeria	Suspension Medium 2 ml	1 McF	NA	API GP	24h	37°C	Aerobic
API® Candida	10500	Yeasts	NaCl 0.85% Medium 2 ml	3 McF	NA	Medium	18-24h	37°C	Aerobic
API® 20 C AUX	20210	Yeasts	NaCl 0.85% Medium 2 ml Suspension Medium 2 ml	2 McF	100 µl	NA	48-72h	30°C	Aerobic
API® 20 A	20300	Anaerobes	API 20 A Medium	3 McF	NA	NA	24h	37°C	Anaerobic
API® Campy	20800	Campylobacter	NaCl 0.85 % Medium 3 ml	6 McF	150 µl	API C	24h	37°C	Aerobic/CO ₂
API® NH	10400	Neisseria – Haemophilus and <i>Moraxella (Branhamella) catarrhalis</i>	NaCl 0.85% Medium 2 ml	4 McF	NA	Medium	2h	37°C	Aerobic
API® ZYM	25200	Semi-quantitative enzyme activity tests	NaCl 0.85% Medium 2 ml ou Suspension Medium 2 ml	5 6 McF	NA	NA	4h	37°C	Aerobic
API® 50 CH API® 50 CHB/E	50300 50430	Bacillus	NaCl 0.85% Medium 5 ml + API 50 CHB/E Medium	2 McF 2 McF	NA	API AUX	24-48h 3/6-24h	30°C 55°C	Aerobic
API® 50 CH API® 50 CHB/E	50300 50430	Enterobacteriaceae	NaCl 0.85% Medium 5 ml + API 50 CHB/E Medium	0.5 McF 0.5 McF	NA	Medium	24-48h	37°C	Aerobic
API® 50 CH API® 50 CHL	50300 50410	Lactobacillus	API 50 CHL Medium	2 McF	NA	NA	30/48h	30/37°C	Aerobic

SIMPLIFIED METHODOLOGIES

STRIPS	REF	MICROORGANISMS	SUSPENSION INOCULATOR 3 ML MANUAL 2 ML	MC FARLAND	VOLUME TRANSFERRED	MEDIUM	VOLUME DISPENSED	INCUBATION TIME	TEMP.	ATMOSPHERE
Rapid ID 32 E	32700	Enterobacteria	NaCl 0.85% Medium	0.5	NA	NA	55 µl x 32	37°C	4h	Aerobic
Rapid ID 32 A	32300	Anaerobes	Suspension Medium	4	NA	NA	55 µl x 32	37°C	4h	Aerobic
Rapid ID 32 STREP	32600	Streptococci	Suspension Medium	4	NA	NA	55 µl x 32	37°C	4h	Aerobic
ID 32 E	32400	Enterobacteria Non Enterobacteria	NaCl 0.85% Medium	0.5	NA	NA	55 µl x 32	37°C	24h	Aerobic + humidity
ID 32 STAPH	32500	Staphylococci	Suspension Medium	0.5	NA	NA	55 µl x 32	37°C	24h	Aerobic + humidity
ID 32 C	32200	Yeast	Suspension Medium	2	250 µl	API C Medium	135 µl x 32	30°C	24/48h	Aerobic + humidity

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