API & ID 32 IDENTIFICATION DATABASES

BIOMÉRIEUX

PIONEERING DIAGNOSTICS

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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 1.2.1 to version 1.3.0

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.

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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.

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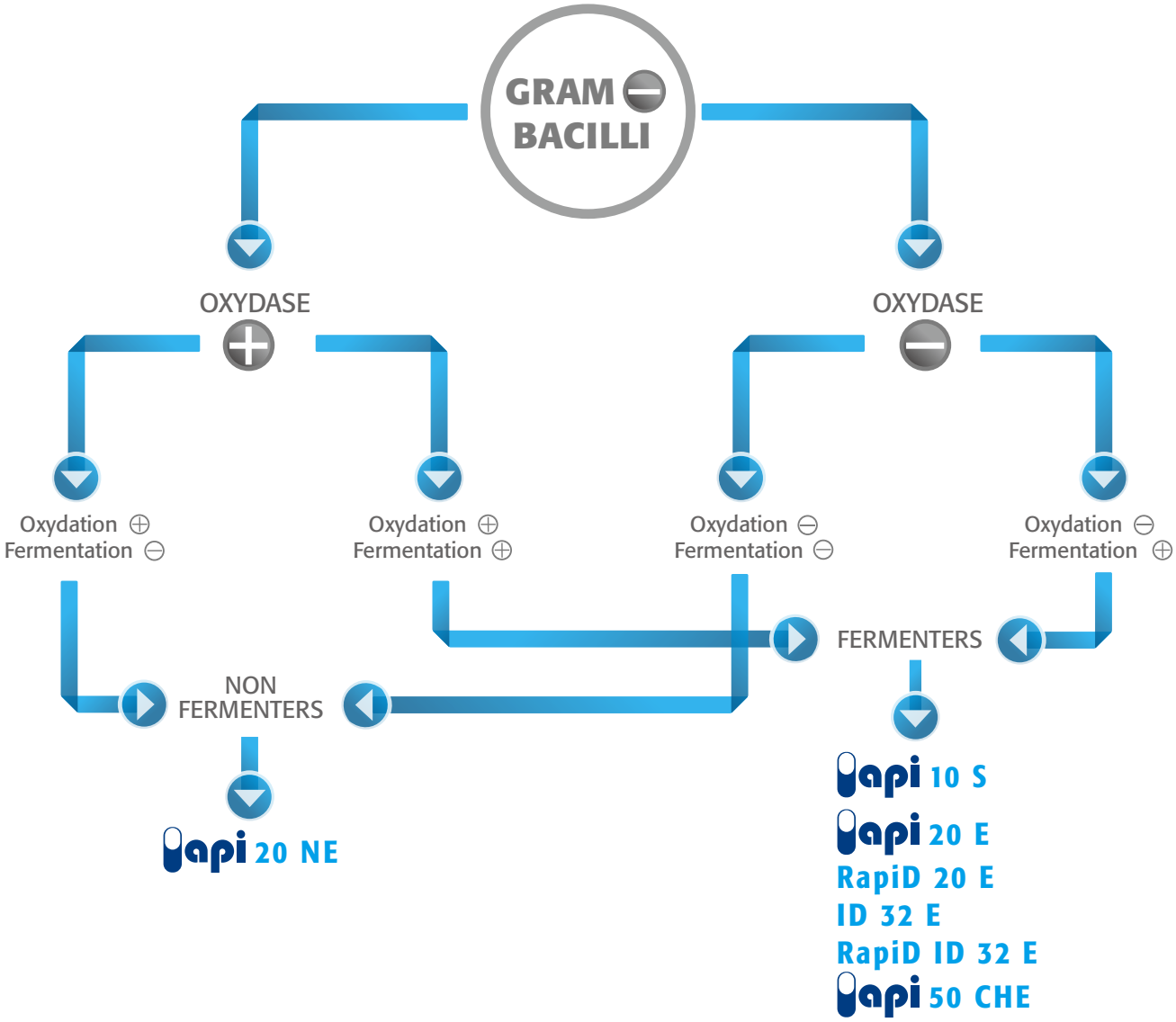
WHAT'S CHANGED IN THE DATABASES?

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⊖ BACILLI



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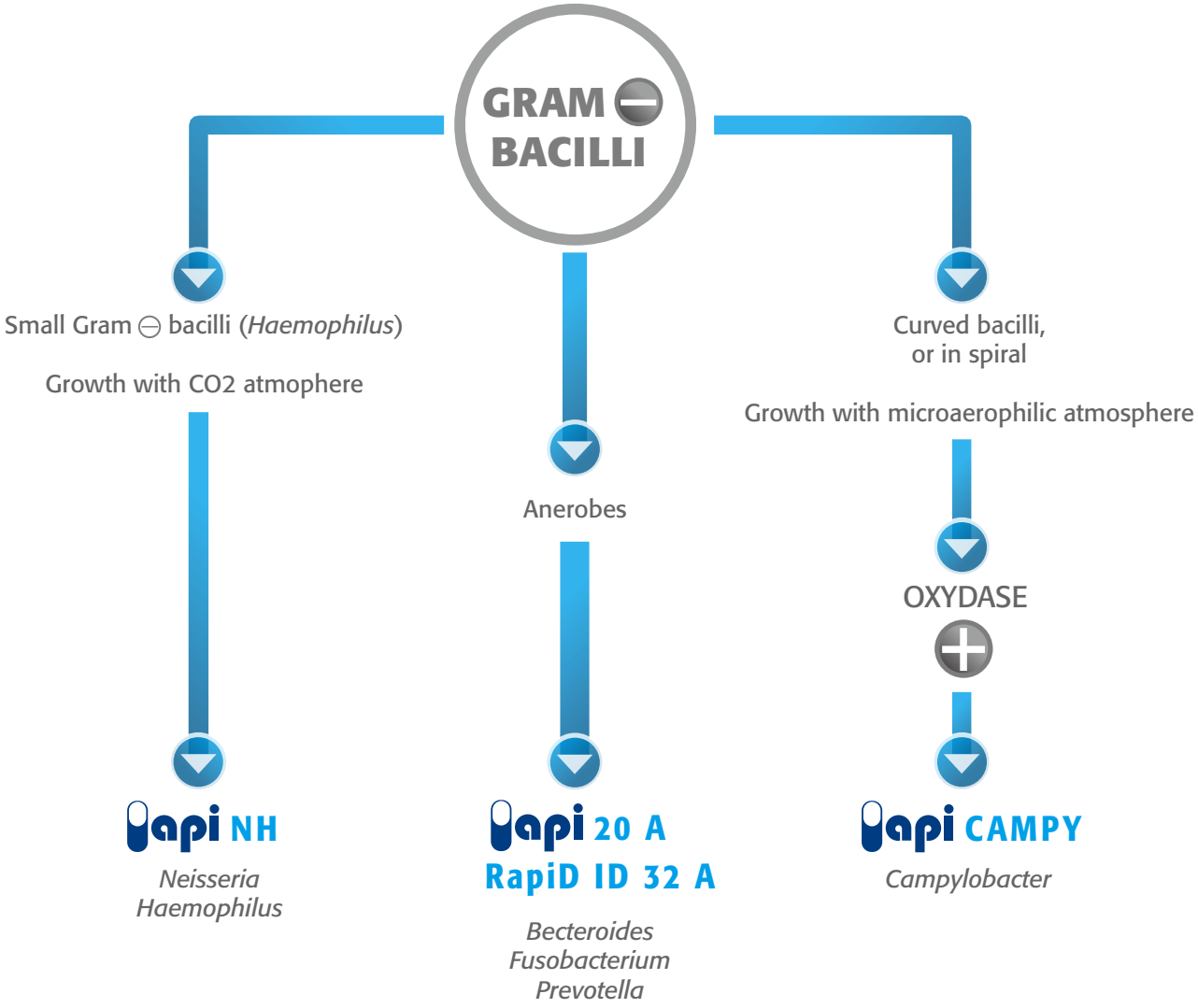
ORIENTATION TESTS
OTHER GRAM⊖ BACILLI



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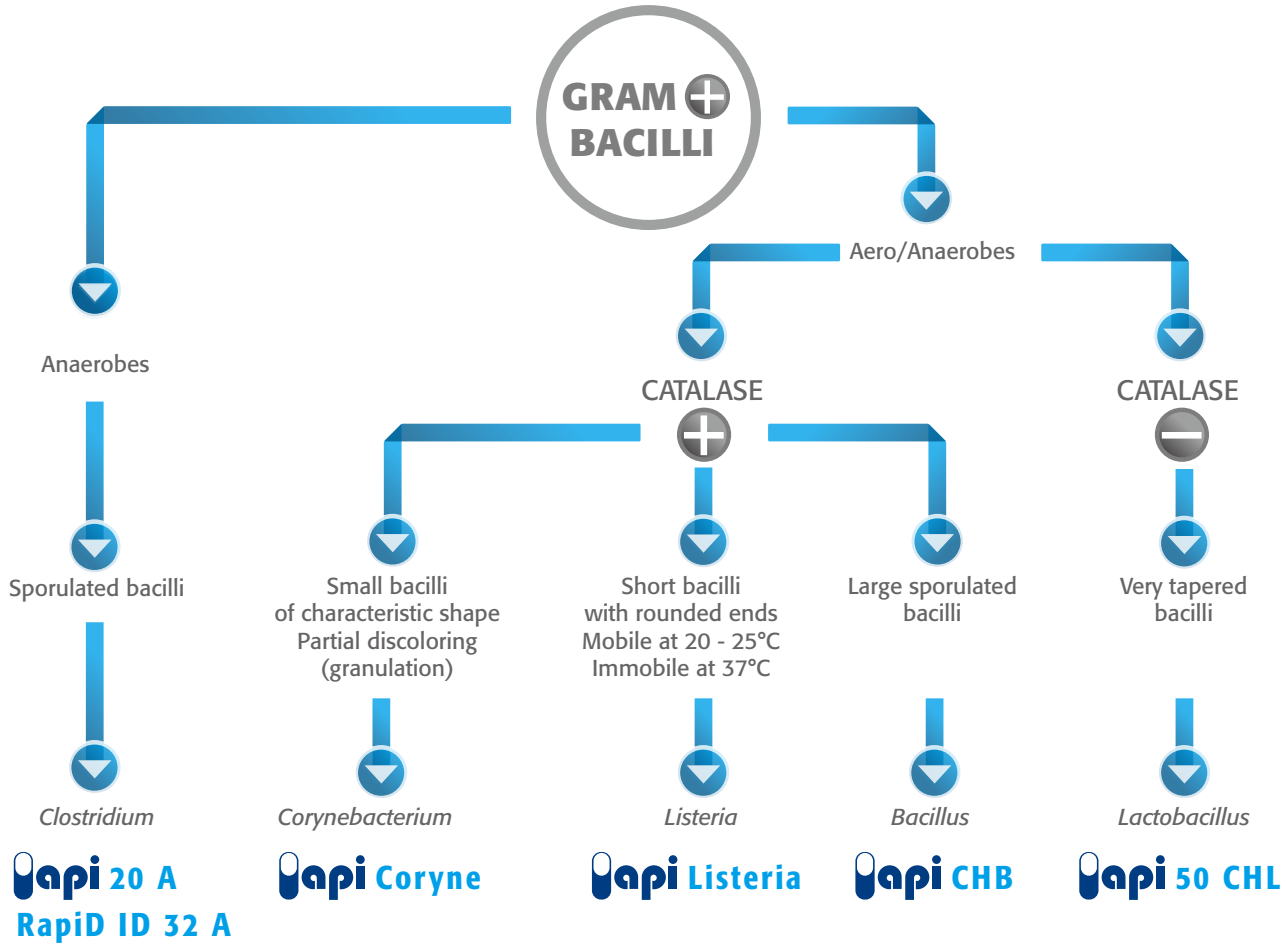

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ORIENTATION TESTS

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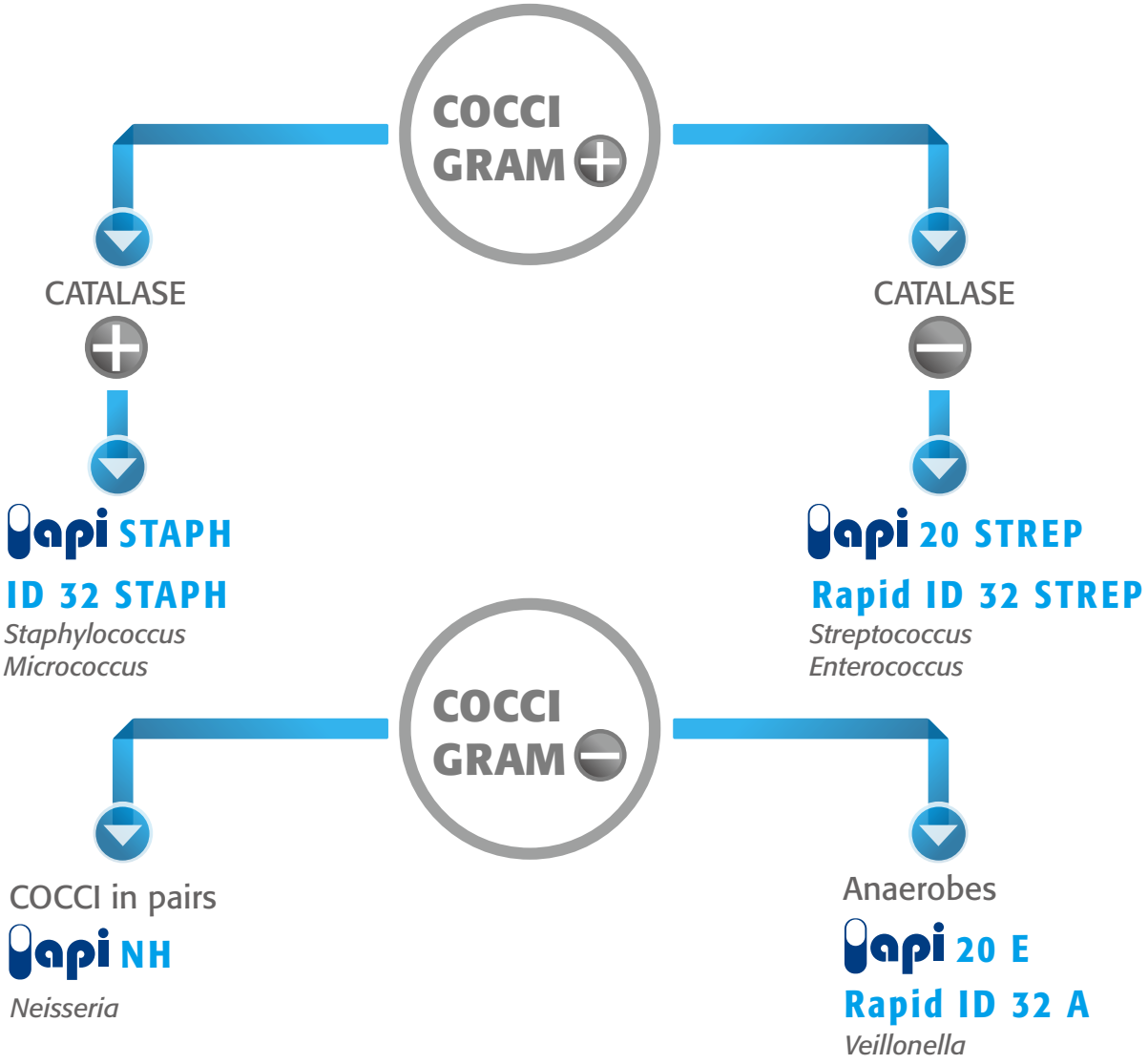

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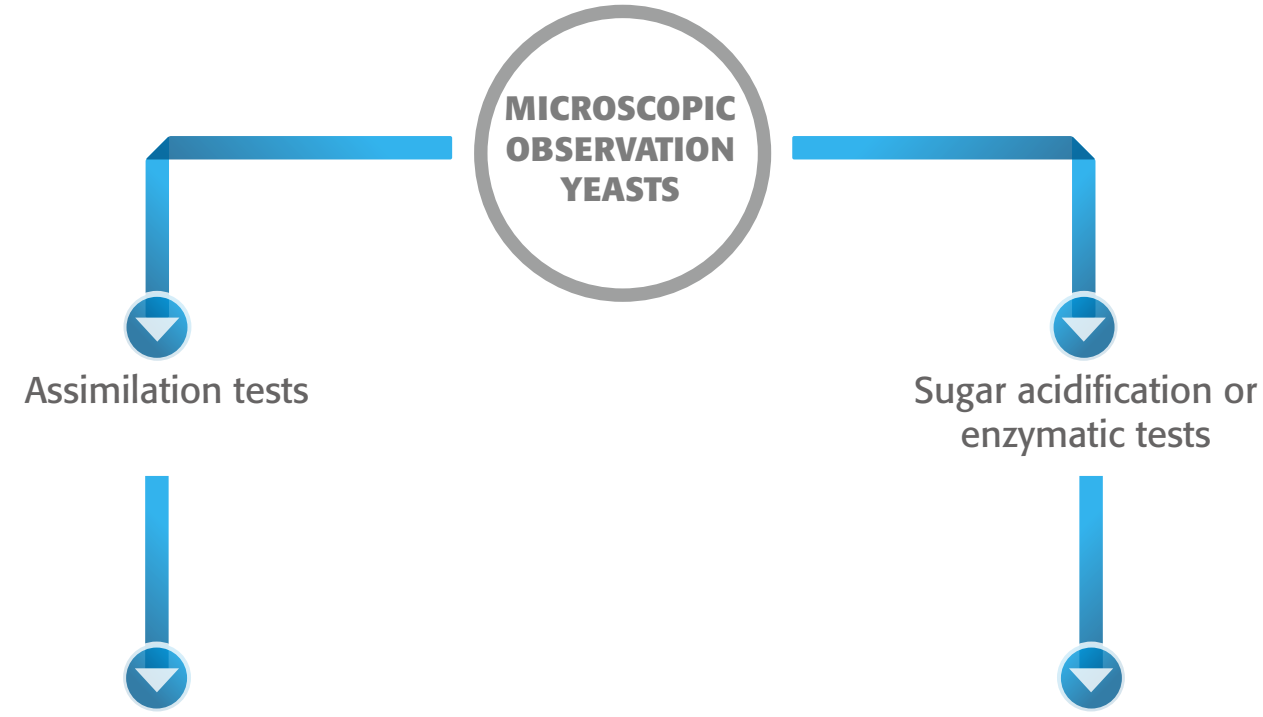
YEASTS



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SPECIES IDENTIFIABLE BY THE VARIOUS IDENTIFICATION SYSTEMS

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

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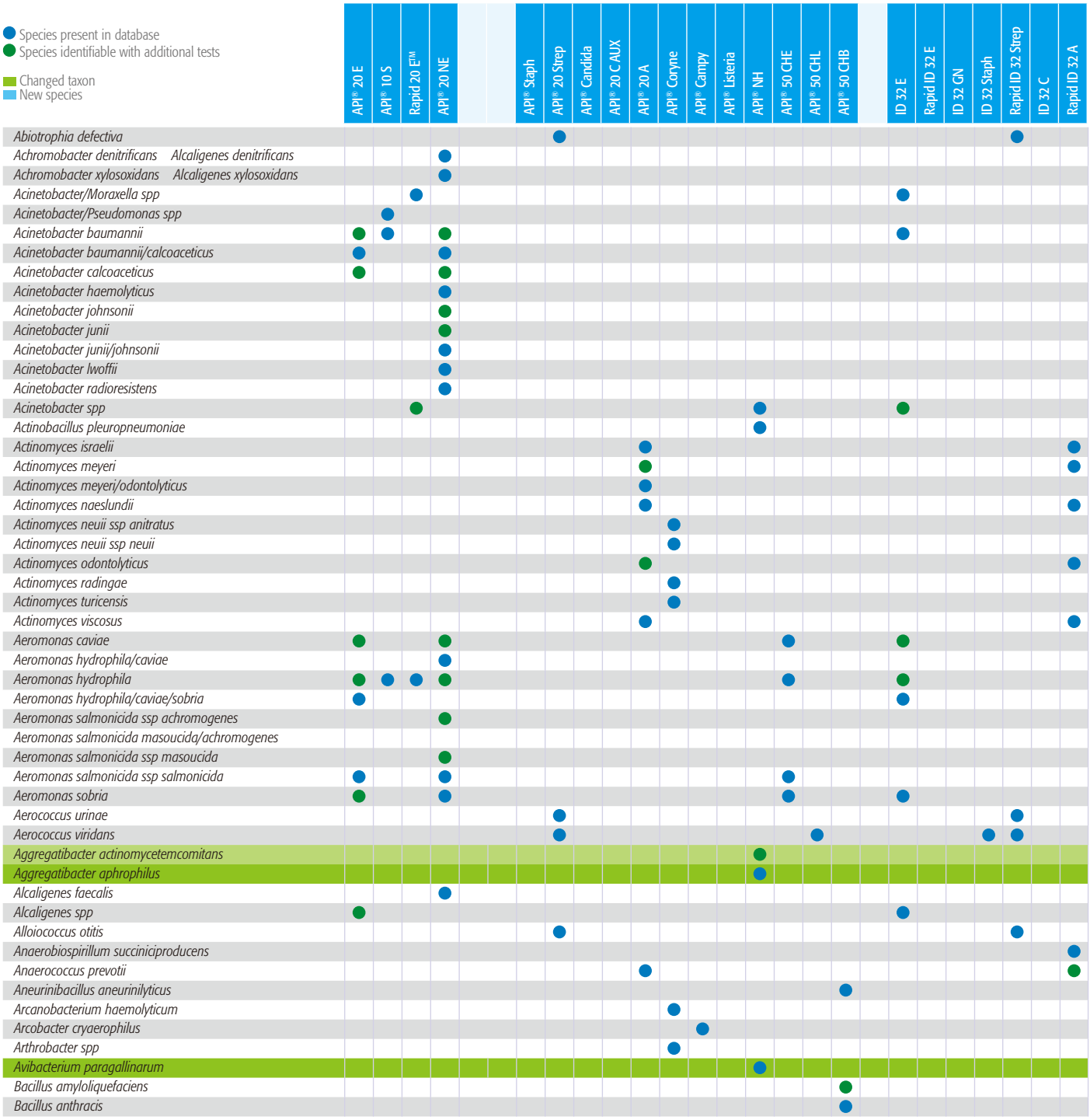

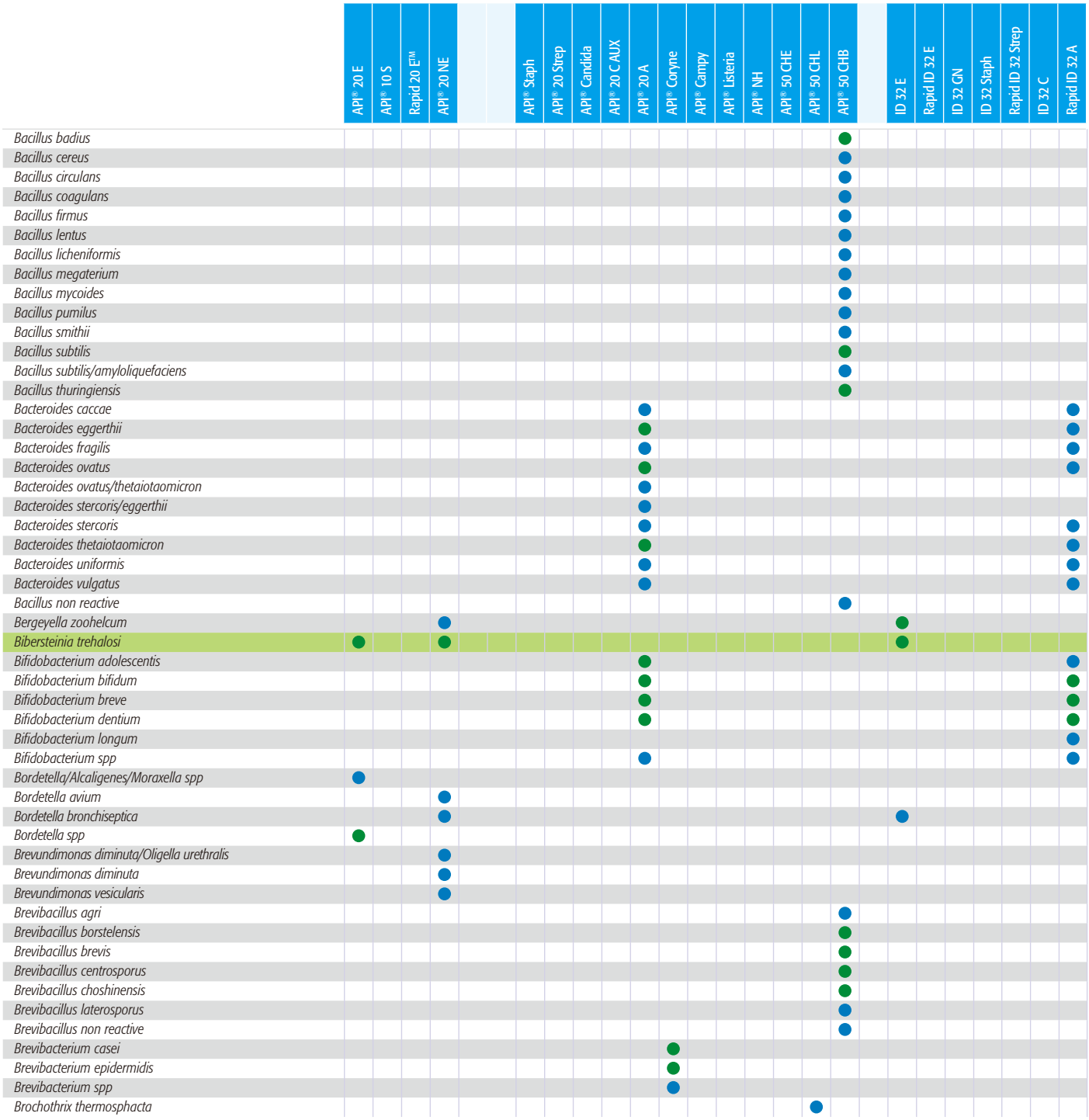

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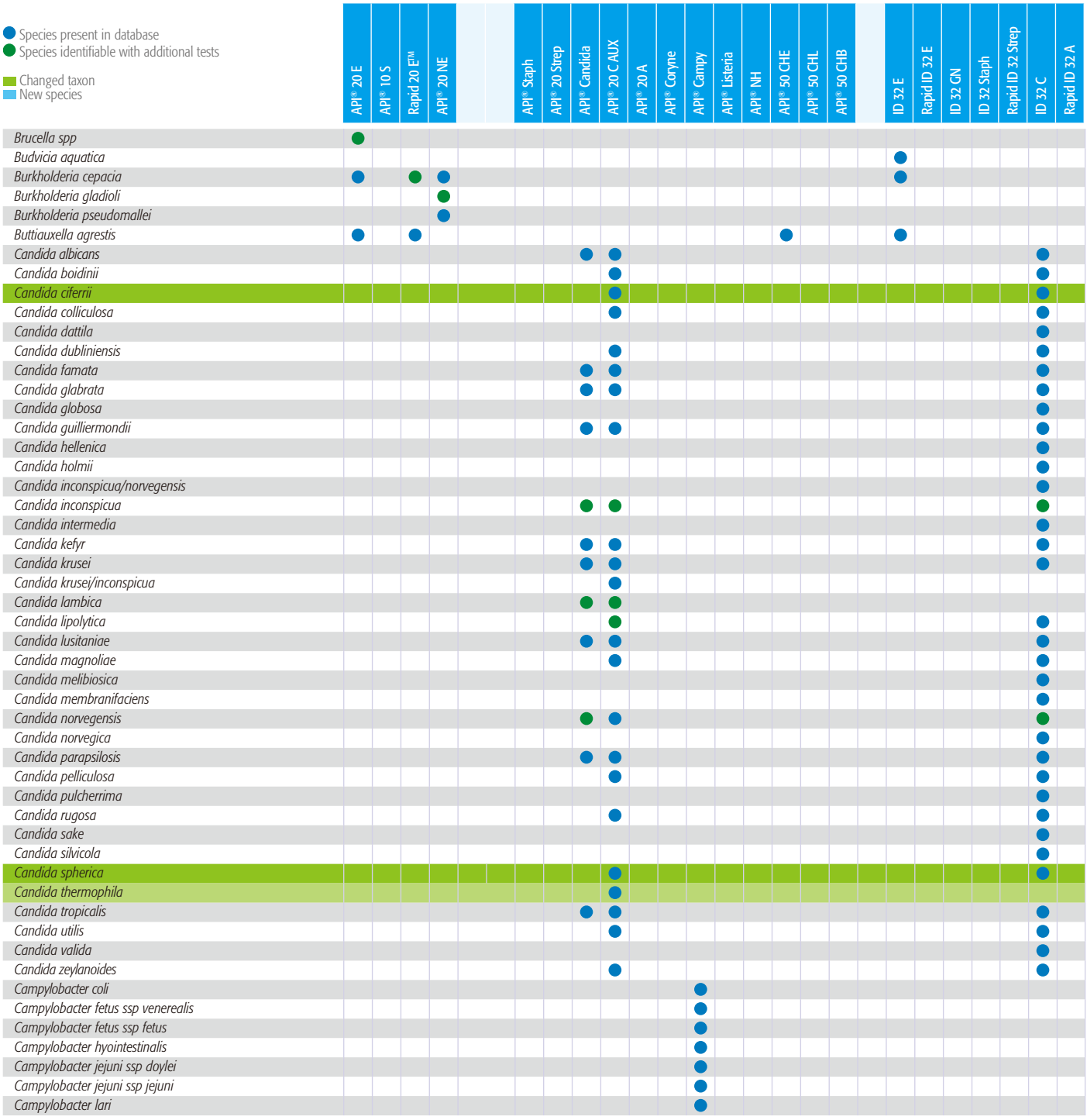

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	API® 20 E	API® 10 S	Rapid 20 E™	API® 20 NE	API® Staph	API® 20 Strep	API® Candida	API® 20 C AUX	API® 20 A	API® Coryne	API® Campy	API® Listeria	API® NH	API® 50 CHE	API® 50 CHL	API® 50 CHB	ID 32 E	Rapid ID 32 E	ID 32 GN	ID 32 Staph	Rapid ID 32 Strep	ID 32 C	Rapid ID 32 A
Campylobacter lari UPTC											●												
Campylobacter mucosalis											●												
Campylobacter sputorum ssp bubulus											●												
Campylobacter sputorum bv Fecalis											●												
Campylobacter sputorum bv Sputorum											●												
Campylobacter upsaliensis											●												
Campylobacter ureolyticus									●														●
Capnocytophaga gingivalis																							●
Capnocytophaga ochracea																							●
Capnocytophaga sputigena																							●
Capnocytophaga spp																							●
Carnobacterium divergens															●								
Carnobacterium maltaromaticum															●								
Cedecea davisae	●		●											●			●						
Cedecea lapagei	●		●														●						
Cedecea lapagei/neteri														●									
Cedecea neteri			●														●						
Cedecea spp			●																				
Cellulomonas spp/Microbacterium spp										●													
Cellulomonas spp										●													
Cellulosimicrobium cellulans										●													
Chromobacterium violaceum	●			●																			
Chryseobacterium indologenes	●	●		●													●						
Citrobacter amalonaticus/farmeri			●														●						
Citrobacter amalonaticus	●		●											●			●						
Citrobacter braakii	●	●												●			●						
Citrobacter farmeri	●	●	●											●			●						
Citrobacter freundii	●	●												●			●						
Citrobacter freundii group			●																				
Citrobacter koseri/farmeri	●																						
Citrobacter koseri	●		●											●			●						
Citrobacter koseri/amalonaticus	●	●																					
Citrobacter sedlakii																	●						
Citrobacter youngae	●													●			●						
Clostridium acetobutylicum																							●
Clostridium baratii									●														●
Clostridium beijerinckii/butyricum									●														●
Clostridium beijerinckii									●														●
Clostridium bifermentans									●														●
Clostridium botulinum									●														●
Clostridium botulinum/sporogenes									●														
Clostridium butyricum									●														●
Clostridium cadaveris									●														●
Clostridium clostridioforme									●														●
Clostridium difficile									●														●
Clostridium fallax																							●
Clostridium glycolicum																							●
Clostridium histolyticum									●														●
Clostridium innocuum									●														●
Clostridium limosum									●														
Clostridium paraputrificum									●														●

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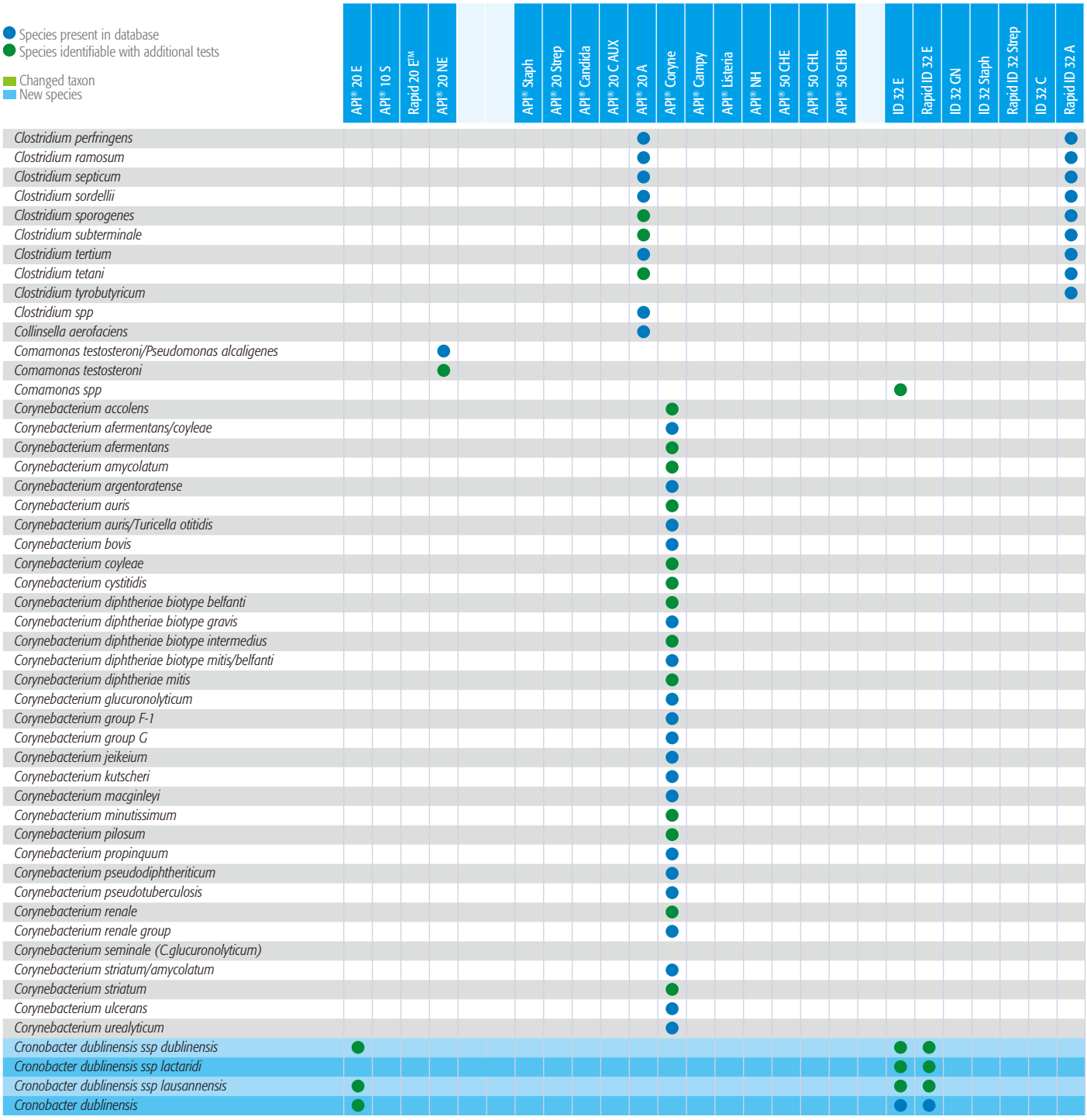

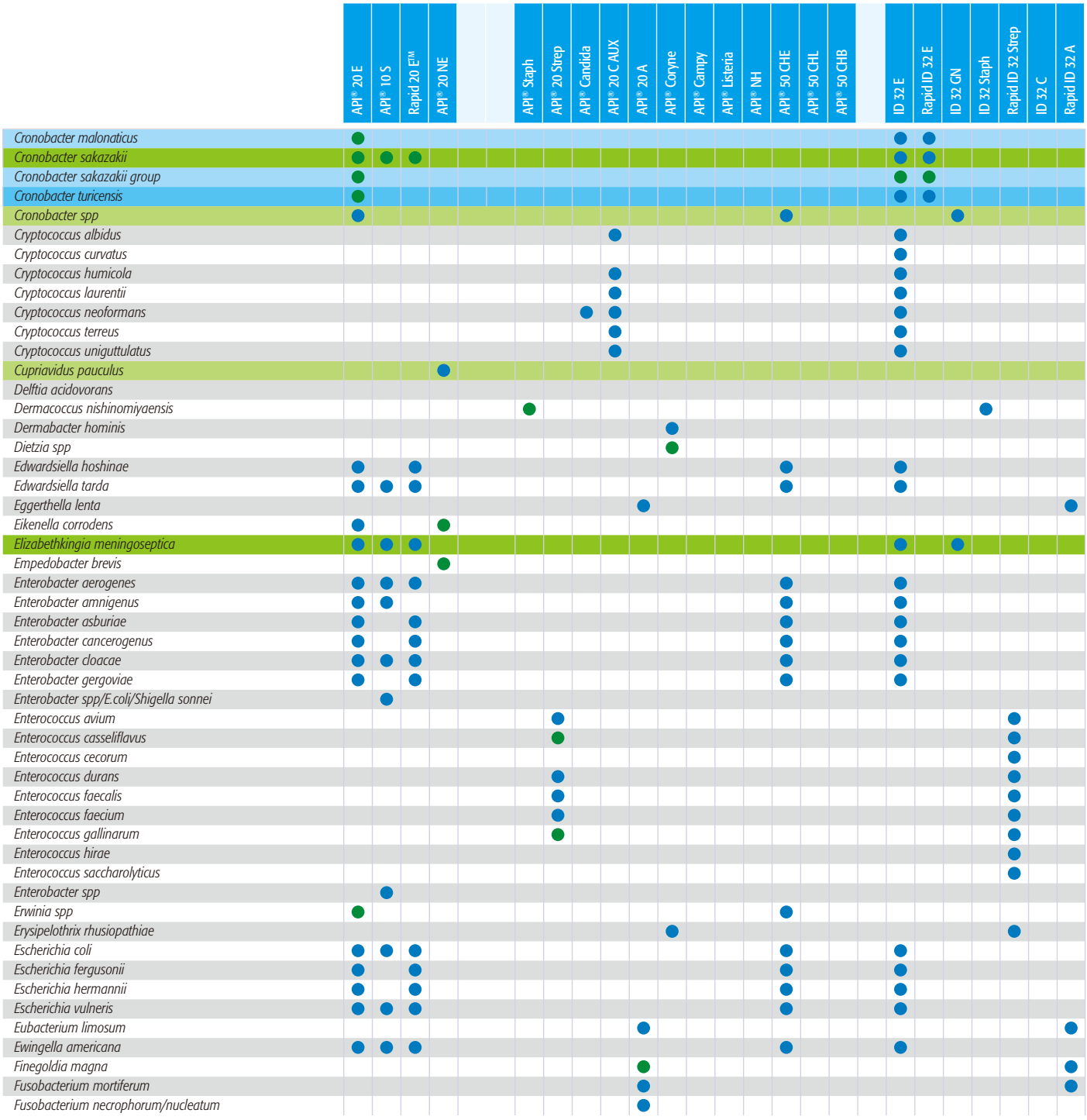

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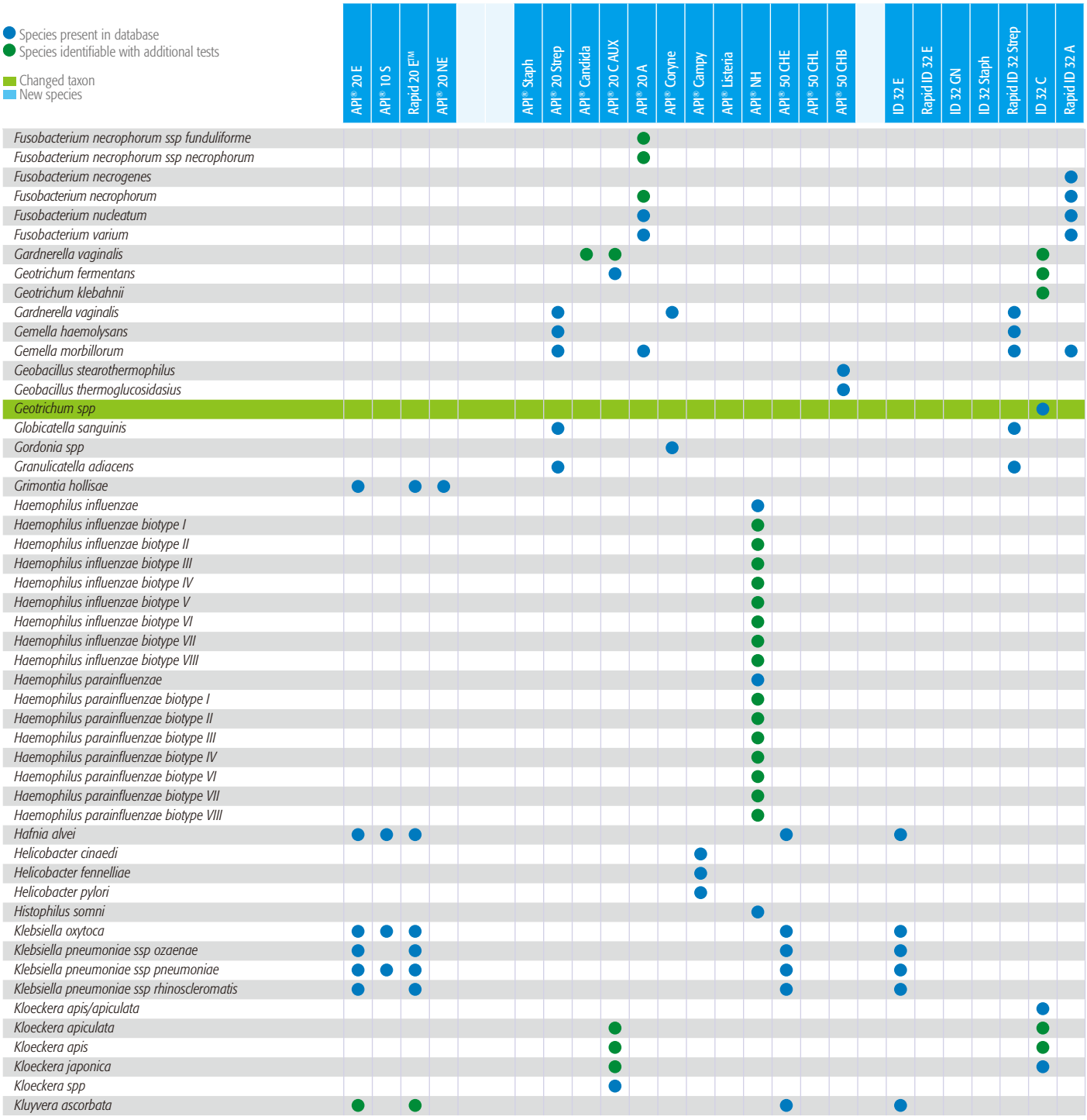

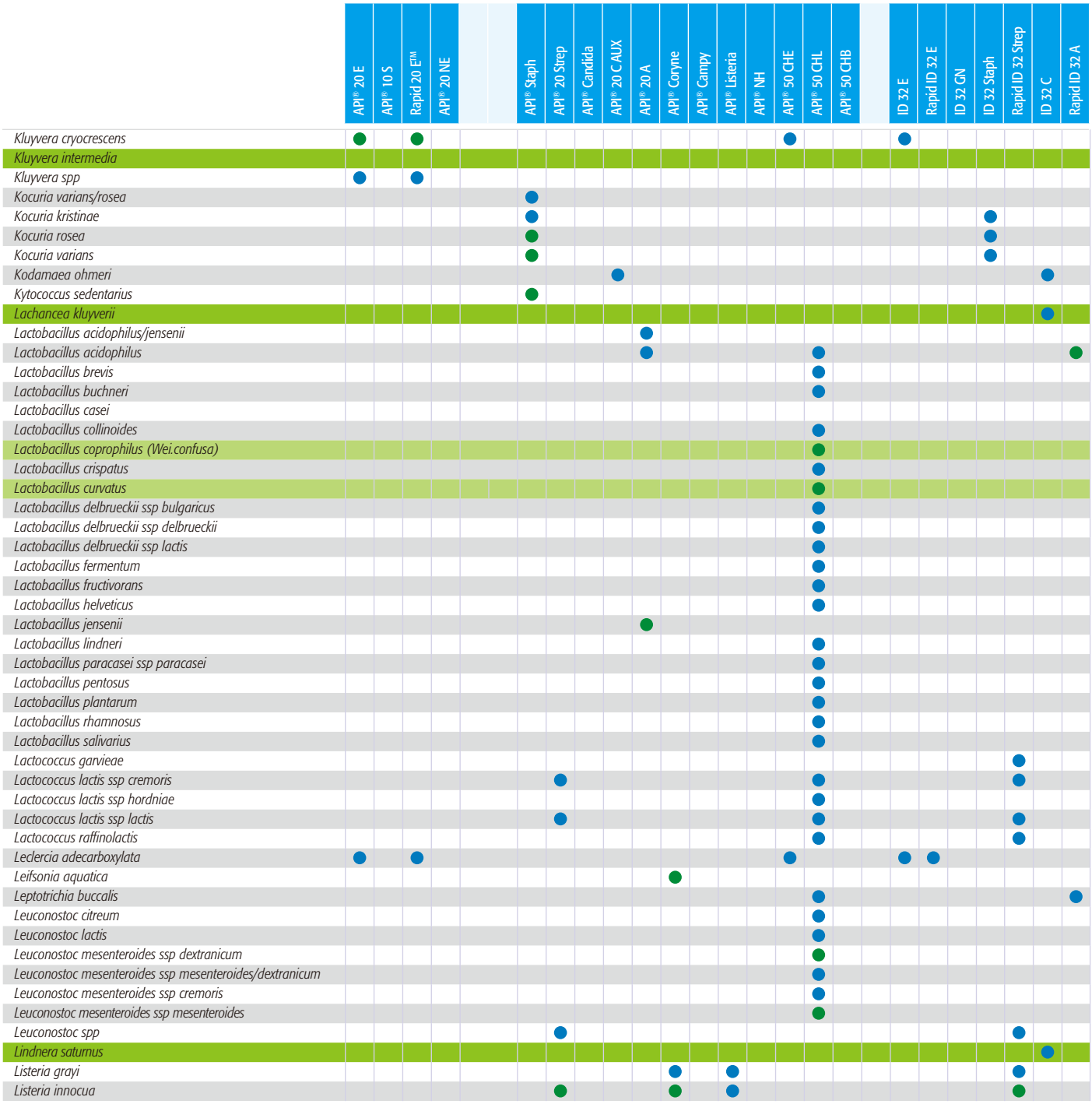

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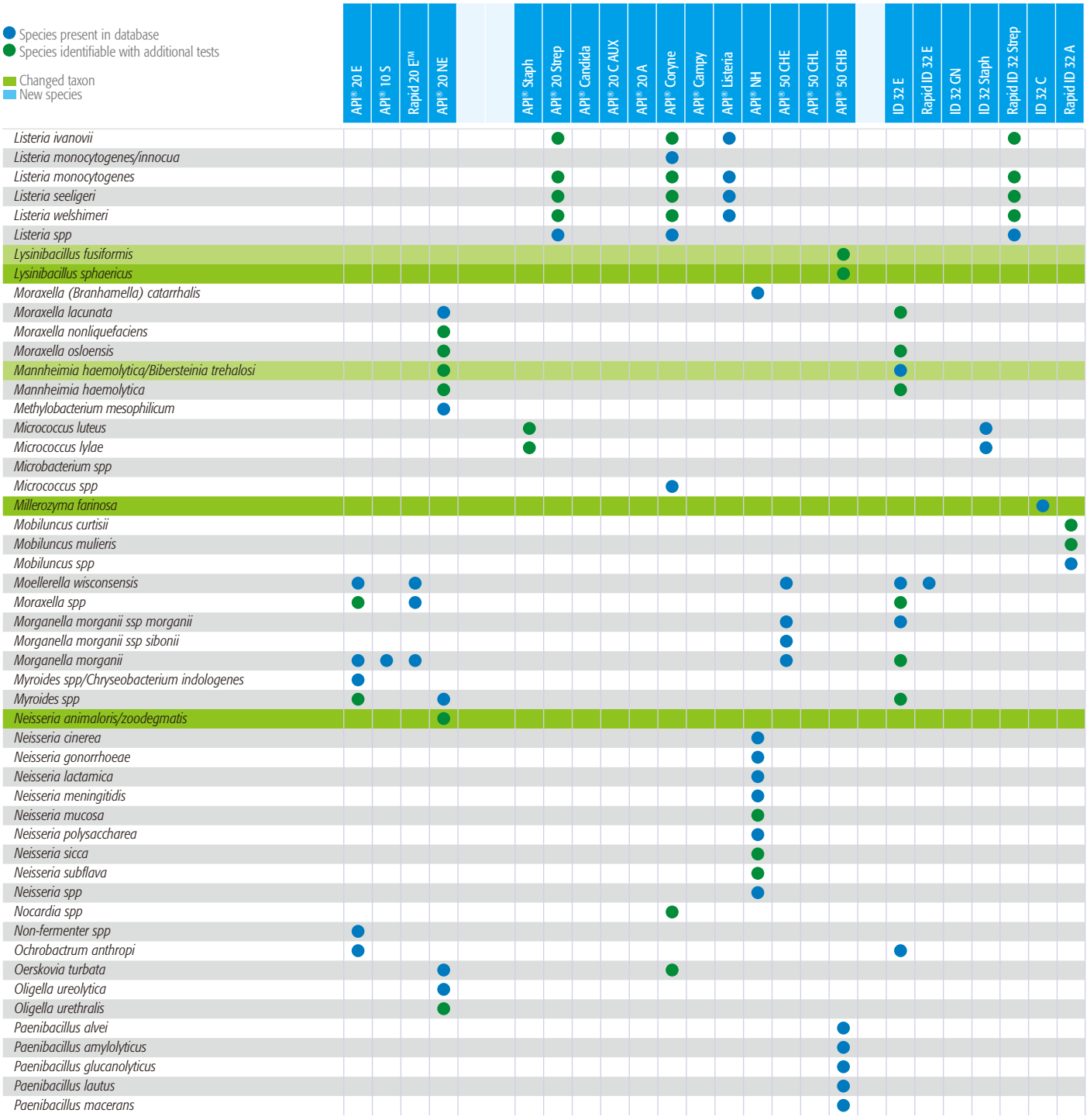

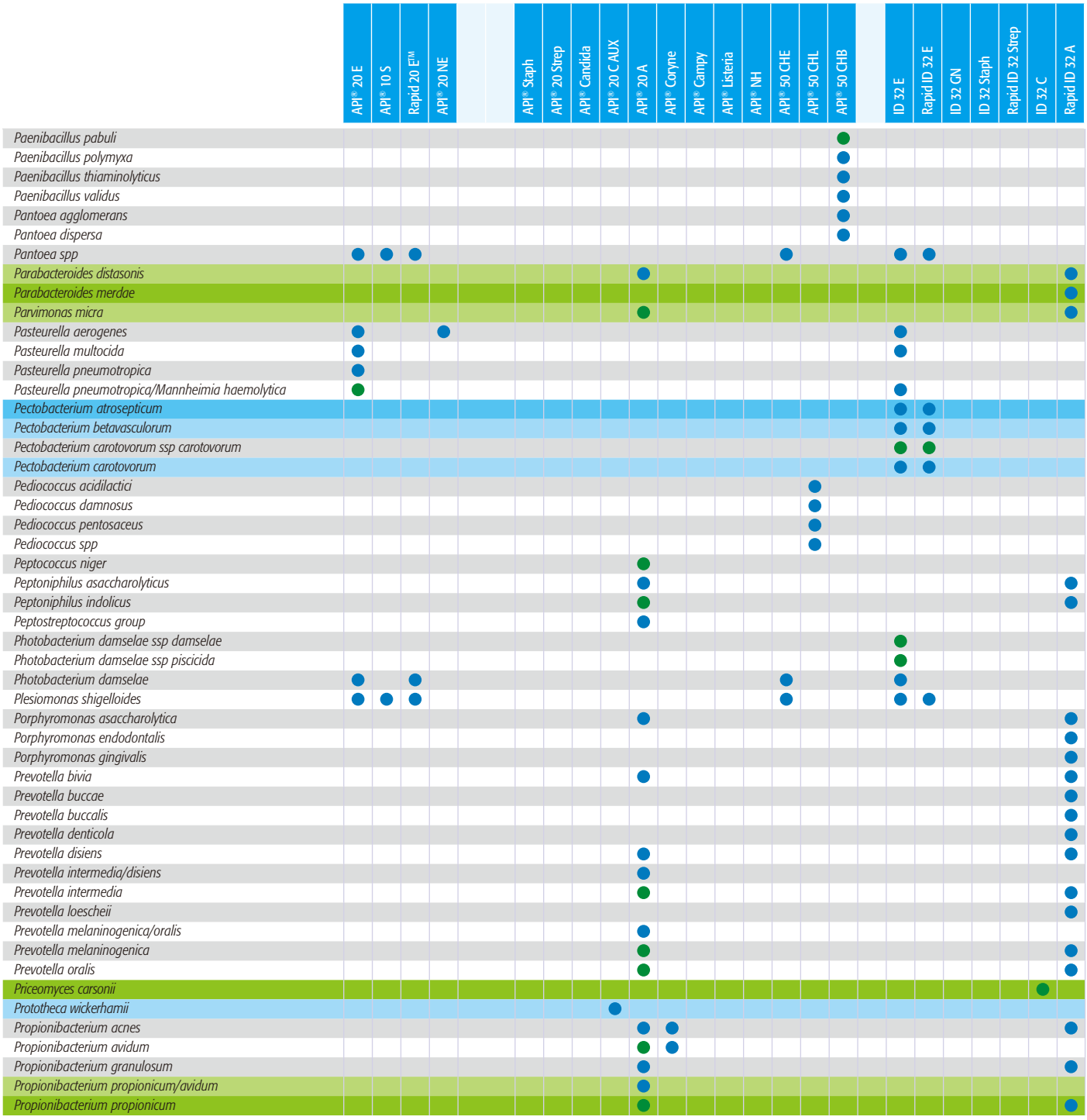

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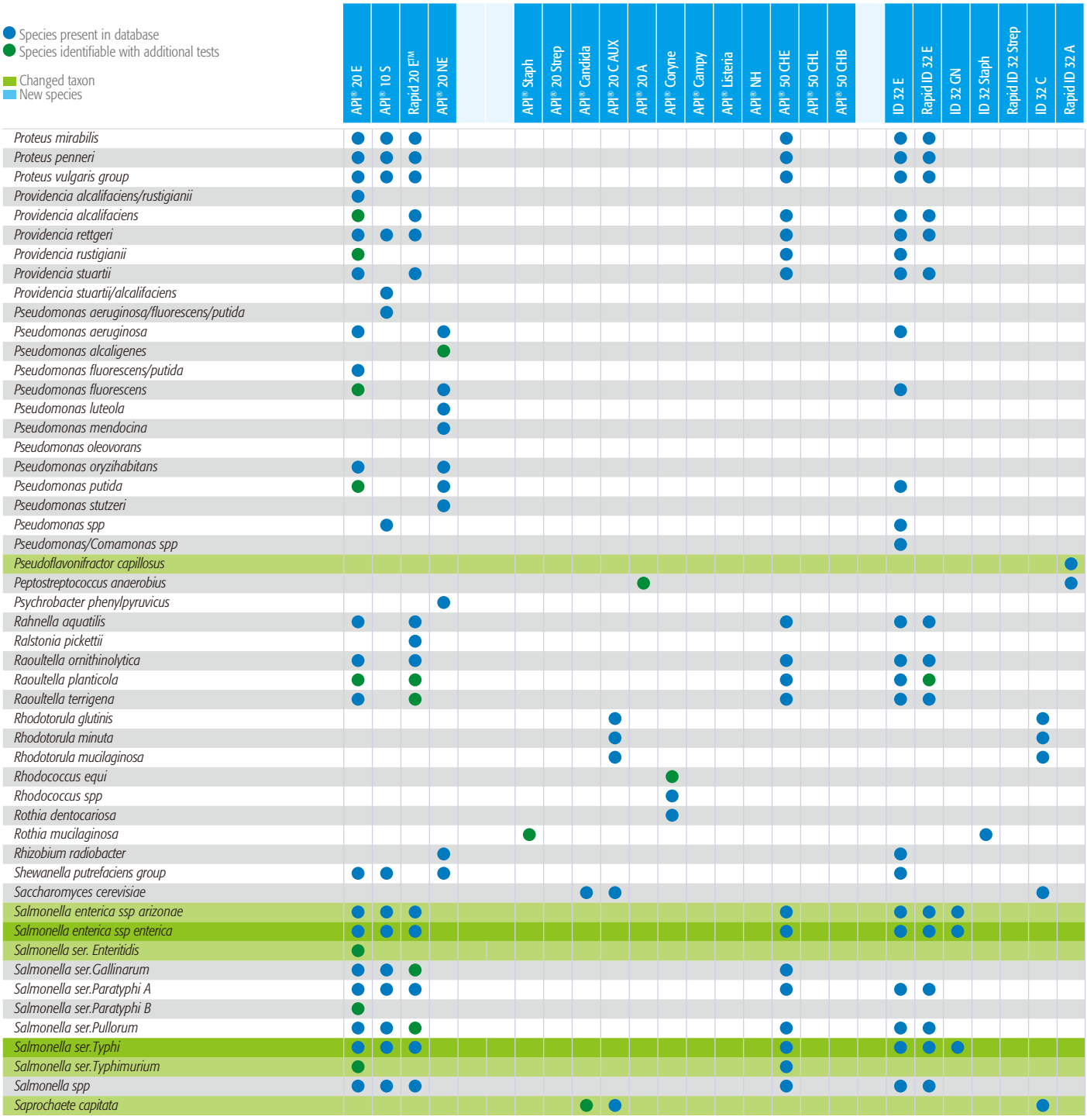

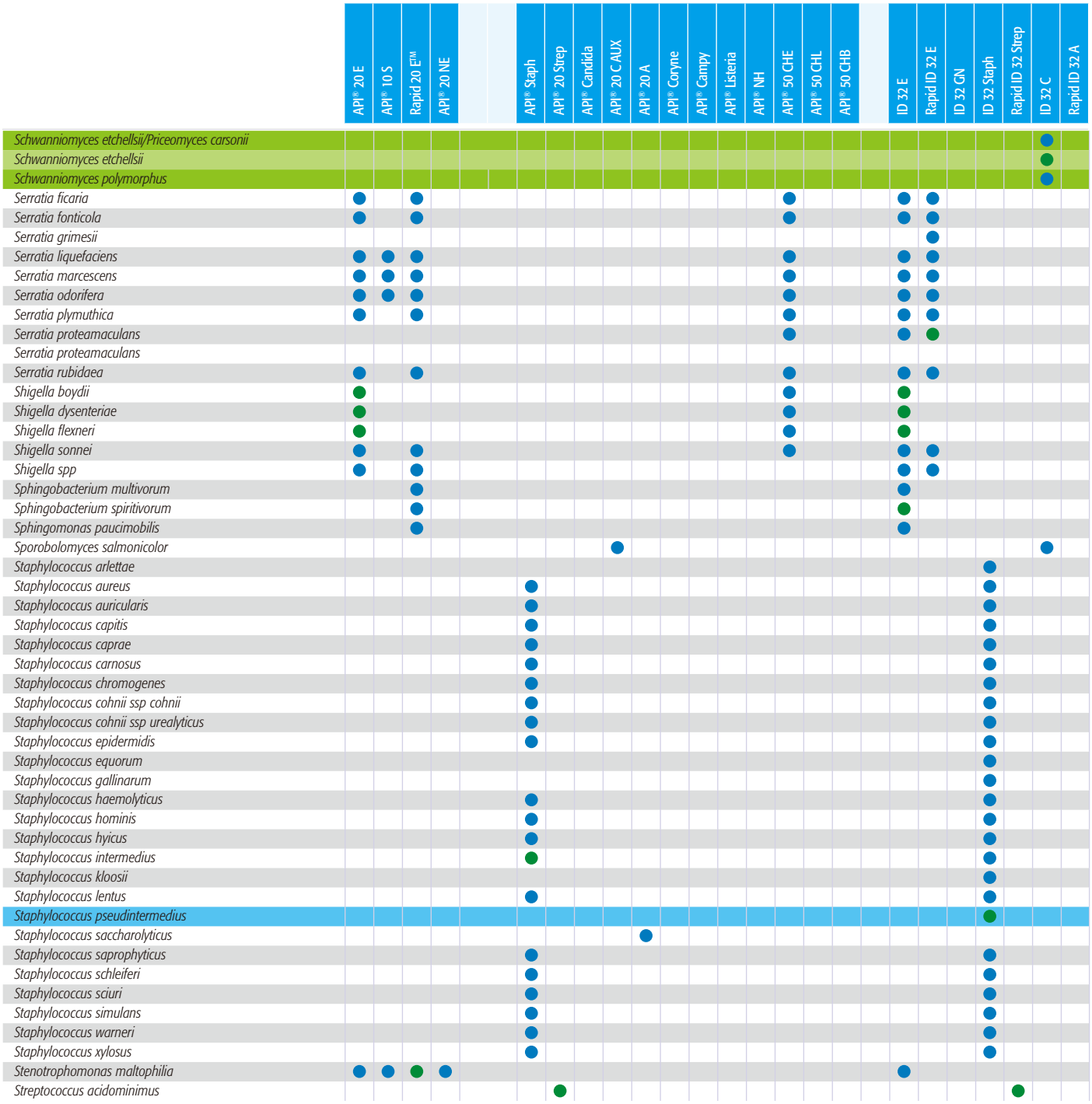

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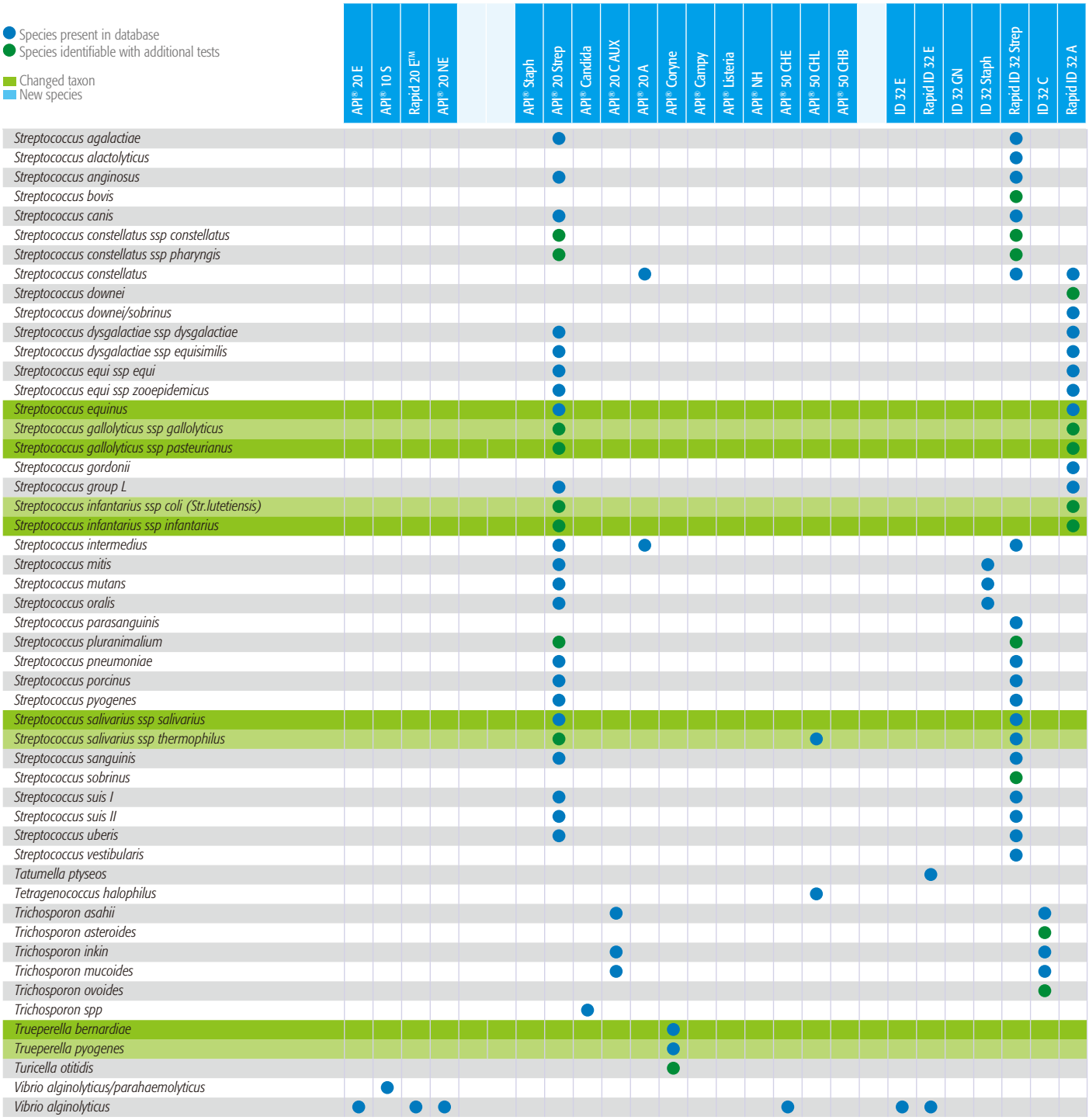

	API® 20 E	API® 10 S	Rapid 20 E™	API® 20 NE		API® Staph	API® 20 Strep	API® Candida	API® 20 C AUX	API® 20 A	API® Coryne	API® Campy	API® Listeria	API® NH	API® 50 CHE	API® 50 CHL	API® 50 CHB		ID 32 E	Rapid ID 32 E	ID 32 GN	ID 32 Staph	Rapid ID 32 Strep	ID 32 C	Rapid ID 32 A
Vibrio cholerae	●		●	●											●				●	●					
Vibrio fluvialis	●		●	●											●				●	●					
Vibrio metschnikovii				●											●				●	●					
Vibrio mimicus	●			●											●				●						
Vibrio parahaemolyticus	●			●											●				●	●					
Vibrio vulnificus/cholerae		●																							
Vibrio vulnificus	●			●											●				●	●					
Veillonella parvula										●															
Veillonella spp																									●
Virgibacillus pantothenticus																	●								
Weeksella virosa				●															●						
Weeksella virosa/Bergeyella zoohelcum																			●						
Weeksella virosa/Empedobacter brevis				●																					
Weissella confusa																●									
Weissella viridescens																●									
Yersinia aldovae															●										
Yersinia enterocolitica	●	●	●												●				●	●					
Yersinia frederiksenii/intermedia	●																								
Yersinia frederiksenii	●														●				●	●					
Yersinia intermedia	●														●				●	●					
Yersinia kristensenii	●														●				●	●					
Yersinia pestis	●		●												●										
Yersinia pseudotuberculosis	●	●	●												●				●	●					
Yersinia ruckeri	●														●				●	●					
Zygosaccharomyces spp																								●	

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YEASTS NOMENCLATURE

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

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

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REAGENTS TO BE ORDERED

	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 20 E (a)	API 50 CH 50 CHL
	20100	20700	10100	20050	20500	20600	20900	10300	10500	20210	20300	20800	10400	25200	50300 -50430 -20100	50300-50410
ADDITIONAL REAGENTS																
Zn (2x10g)	X			X											X	
TDA (2x1 ampule)	1/8		1/4												1/20	
VP 1 VP 2 (2x2 ampules)	1/8	1/8			1/8	1/8									1/20	
NIT 1 NIT 2 (2x2 ampules)	1/8		1/4	1/8	1/8		1/20								1/20	
ZYM A (2x1 ampule)					1/8	1/8	1/20					1/20		1/5		
ZYM B (2x1 ampule)					1/8	1/8	1/20							1/5		
NIN (2 ampules)						1/4										
BCP (1 ampule)											1/2	1/4				
EHR (1 ampule)											1/2					
XYL (2 ampules)											1/8					
James (2x1 ampule)	1/8	1/8	1/4	1/8											1/20	
FB (2x1 ampule)																
PYZ (2 ampules)							1/20	X				1/4				
SUSPENSION MEDIUM																
NaCl 0.85% Medium (5 ml)												X			1/10	
NaCl 0.85% Medium (3 ml)												X				
NaCl 0.85% Medium (2 ml)		1/4		1/4												
Suspension Medium (5 ml)	1/4		1/2											1/4		1/10
Suspension Medium (2 ml)						1/4				1/4					1/10	1/10
ADDITIONAL PRODUCTS																
Oxidase Reagent	X	X	X	X								X				
API® OF Medium				X												
API® M Medium				X												
ParafFin oil	X	X	X	X	X	X	X		X		X	X	X		X	X
Rack of 12 ampules	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Sterile PSIpettes (5ml)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Swabs						X	X		X		X	X	X		X	X
Mc Farland standard		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)

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REAGENTS TO BE ORDERED

	ID 32 Staph 32500	ID 32 C 32200	ID 32 E 32400	Rapid ID 32 E 32700	Rapid ID 32 A 32300	Rapid ID 32 Strep 32600
ADDITIONAL REAGENTS						
VP A VP B (2x2 ampules)	1/8					1/8
NIT 1 NIT 2	1/8				1/8	
NIN						1/8
James			1/8	1/8	1/8	
FB	1/8				1/8	1/8

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SIMPLIFIED METHODOLOGIES

STRIPS	RÉF	MICRO ORGANISMS	SUSPENSION	MC FARLAND	TRANSFERT	MEDIUM	INCUBATION	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	37°C 18-24h/48h	Aerobic
RapiD 20 E	20701	Enterobacteriaceae	NaCl 0.85% Medium 2 ml	0.5 McF	NA	NA	37°C 4h	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	37°C 18-24h	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	30°C 24-48h	Aerobic
API® Staph	20500	Genres Staphylococcus, Kocuria and Micrococcus	API Staph Medium	0.5 McF	NA	Medium	37°C 18-24h	Aerobic
API® 20 Strep	20600	Streptocoques	Suspension Medium 2 ml	4 McF	500 µl	NA	37°C 4h-24h	Aerobic
API® Coryne	20900	Bacteries coryneformes	Suspension Medium 3 ml	>6 McF	500 µl	Medium	37°C 24h	Aerobic
API® Listeria	10300	Listeria	Suspension Medium 2 ml	1 McF	NA	API GP	37°C 24h	Aerobic
API® Candida	10500	Yeasts	NaCl 0.85% Medium 2 ml	3 McF	NA	Medium	37°C 18-24h	Aerobic
API® 20 C AUX	20210	Yeasts	NaCl 0.85% Medium 2 ml Suspension Medium 2 ml	2 McF	100 µl	NA	30°C 48-72h	Aerobic
API® 20 A	20300	Anaerobes	API 20 A Medium	3 McF	NA	NA	37°C 24h	Anaerobic
API® Campy	20800	Campylobacter	NaCl 0.85 % Medium 3 ml	6 McF	150 µl	API C	37°C 24h	Aerobic/CO_2
API® NH	10400	Neisseria – Haemophilus and *Moraxella (Branhamella)* catarrhalis	NaCl 0.85% Medium 2 ml	4 McF	NA	Medium	37°C 2h	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	37°C 4h	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	30°C 24-48h 55°C 3/6-24h	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	37°C 24-48h	Aerobic
API® 50 CH **API® 50 CHL**	50300 50410	Lactobacillus	API 50 CHL Medium	2 McF	NA	NA	30/37°C 48h	Aerobic

SIMPLIFIED METHODOLOGIES

STRIPS	RÉF	BACTERIA	SUSPENSION INOCULATOR 3 ML MANUAL 2 ML	MC FARLAND	TRANSFERT	MEDIUM	VOLUME DISPENSED	TEMP. INCUBATION	ATMOSPHERE
Rapid ID 32 E	32700	Enterobacteriaceae	NaCl 0.85% Medium	0.5	NA	NA	55 µl x 32	37°C 4h	Aerobic
Rapid ID 32 A	20701	Enterobacteriaceae	Suspension Medium	0.5 McF	NA	NA	55 µl x 32	37°C 4h	Aerobic
ID 32 E	10100	Streptoccoci	Suspension Medium	1 colonie	NA	NA	55 µl x 32	37°C 4h	Aerobic
ID 32 STAPH	20050	Enterobacteriaceae Non Enterobacteriaceae	NaCl 0.85% Medium	0.5 McF	NA	NA	55 µl x 32	37°C 24h	Aerobic + humidity
API® Staph	20500	Staphylococci	Suspension Medium	0.5 McF	NA	NA	55 µl x 32	37°C 24h	Aerobic + humidity
ID 32 C	20600	Yeasts	Suspension Medium	4 McF	250 µl	API C Medium	135 µl x 32	30°C 24/48h	Aerobic + humidity

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