

INTRODUCTION

CPS® ID3 is a new chromogenic medium for the diagnosis of urinary tract infections, enabling the enumeration of micro-organisms, the identification of *Escherichia coli* and *Proteus*, as well as the preliminary identification of Enterococci and the *Klebsiella-Enterobacter-Serratia-Citrobacter* group (KESC). **CPS ID3** is an evolution of the CPS ID2 medium in terms of colour intensity for each enzymatic activity and of nutrient capacity for Gram-positive bacteria and yeasts.

The purpose of this study is to evaluate the compatibility between CPS ID3 and bioMérieux VITEK®2 identification and susceptibility reagents. Results are compared with those obtained with colonies isolated on CPS ID2, the previous formula, and a non-chromogenic medium, both being recommended as isolation medium before VITEK 2 testing.

RESULTS

When compared with CPS ID2 or the recommended medium, identifications obtained are not affected by isolation on **CPS ID3** (Figure 4). The results show an agreement rate of 95% for ID-GNB, 81.7% for ID-GPC and 91.7% for ID-YST between **CPS ID3** and CBA or SGC. **CPS ID3** gives 96.7%, 83.3% and 98.3% of correct identifications (identifications to one choice or low discriminations) respectively on the different cards.

Concerning susceptibility test results, there is no statistically significant difference between MICs obtained on **CPS ID3** and CBA (Figure 5). An agreement rate (± 1 dilution) superior or equal to 90 % is observed for all drugs. The rate of 82.6% obtained for the Benzylpenicillin on AST-P524 is close to the rate of 86.9% given by CPS ID2 and is 90% statistically equivalent (there is no trend to induce a higher susceptibility or resistance). Furthermore, for all antimicrobial agents, MIC deviation distributions show no significant tendency (Figure 6).

Figure 4 : Influence of CPS ID3 as a preculture medium on the identification with ID-GNB, ID-GPC and ID-YST cards.

ID-GNB	CPS ID3	1	2	3	4
CBA					
1		52	2	1	
2			3		
3				1	
4	1				

95% correlation

ID-GPC	CPS ID3	1	2	3	4
CBA					
1		39	1		3
2		2	5		2
3	1				
4	1	1			5

81,7% correlation

ID-YST	CPS ID3	1	2	3	4
SGC					
1		54	4		
2		1			
3				1	
4					

91,7% correlation

Figure 1 : Identification of 120 strains with the appropriate card after preculture on CPS ID3, CPS ID2 or Columbia Blood Agar (CBA) media.

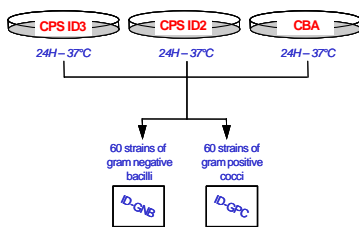


Figure 2 : Susceptibility testing of 117 strains with the appropriate card after preculture on CPS ID3, CPS ID2 or Columbia Blood Agar (CBA) media.

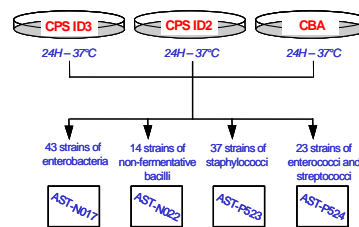


Figure 3 : Identification of 60 yeasts after preculture on CPS ID3, CPS ID2 or Sabouraud Gentamicine Chloramphenicol (SGC) media.

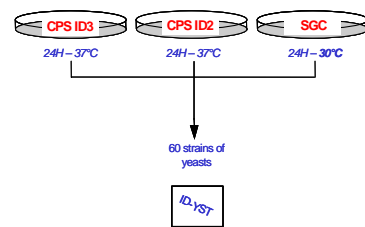


Figure 5 : MIC agreement (± 1 dilution) between CPS ID2 and CBA or between CPS ID3 and CBA (%)

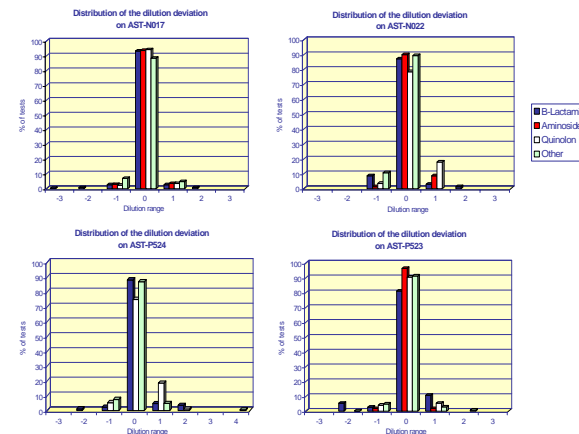
AST-N017	CPS ID2	CPS ID3
Ampicillin	97.7	97.7
Ticar / Clavulanic Ac.	100	97.7
Piper / Tazobactam	97.7	97.7
Cefotaxim	97.7	97.7
Cefotaxim	100	97.7
Cefotaxim	97.7	100
Impenem	100	95.3
Other tests	100	100

AST-P524	CPS ID2	CPS ID3
Benzylpenicillin	86.9	82.6
Clindamycin	95.6	95.6
Norfloxacin	95.6	95.6
Other tests	100	100

AST-P523	CPS ID2	CPS ID3
Benzylpenicillin	100	94.6
Kanamycin	97.3	100
Tobramycin	97.3	100
Teicoplanin	91.9	94.6
Fusidic Acid	94.6	91.9
Other tests	100	100

AST-N022	CPS ID2	CPS ID3
Piperacillin	100	92.9
Ceftazidim	100	92.9
Pefloxacin	92.3	100
Other tests	100	100

Figure 6 : Influence of CPS ID3 as a preculture medium on the MIC determination with VITEK® 2



CONCLUSION

CPS ID3 is therefore fully compatible with bioMérieux VITEK®2 products for the identification and susceptibility testing of common uropathogens. The use of **CPS ID3** medium and VITEK 2 system is a complete solution perfectly adapted for the diagnosis of urinary infections, reducing both time and cost for simple and complex specimens.