VITEK 2 EXPECTED QC RESULTS

AST-GP67

QUALITY CONTROL

Antimicrobic	Code	CLSI® Quality Control Organisms VITEK 2 Results					
		E. faecalis ATCC® 29212™	*S. aureus* ATCC® 29213™	*E. faecalis* ATCC® 51299™	*S. aureus* ATCC® BAA-1026™	*S. aureus* ATCC® BAA-976™	*S. aureus* ATCC® BAA-977™
Ampicillin *Enterococcus* spp. *S. agalactiae*	AM	≤2	0.5 – 2	-	-	-	-
Benzylpenicillin *Enterococcus* spp. *Staphylococcus* spp. *S. agalactiae*	P	1 – 4	0.25 – ≥0.5	-	-	-	-
Cefoxitin Screen	OXSF	-	NEG	-	POS	-	-
Ciprofloxacin	CIP	≤0.5 – 2	≤0.5	-	-	-	-
Clindamycin	CM	4 – ≥8	≤0.25	-	-	-	-
Erythromycin	E	1 – 4	≤0.25 – 1	-	-	-	-
Gentamicin	GM	-	≤0.5 – 1	-	-	-	-
Gentamicin High Level (synergy)	HLG	S	-	R	-	-	-
Inducible Clindamycin Resistance	ICR	-	-	-	-	NEG	POS
Levofloxacin	LEV	0.25 – 2	≤0.12 – 0.5	-	-	-	-
Linezolid	LNZ	1 – 4	1 – 4	-	-	-	-
Moxifloxacin	MXF	≤0.25 – 0.5	≤0.25	-	-	-	-
Nitrofurantoin	FT	≤16	≤16 – 32	-	-	-	-
Oxacillin	OX1	-	≤0.25 – 0.5	-	-	-	-
Quinupristin/Dalfopristin	QDA	2 – 8	≤0.25 – 1	-	-	-	-
Rifampicin	RA	-	≤0.5	-	-	-	-
Streptomycin High Level (synergy)	HLS	S	-	R	-	-	-
Tetracycline	TE	8 – ≥16	≤1	-	-	-	-
Tigecycline[NS]	TGC	≤0.12	≤0.12 – 0.25	-	-	-	-
Trimethoprim/Sulfamethoxazole[c]	SXT	-	≤10 (0.5/9.5)	-	-	-	-
Vancomycin	VA	1 – 4	≤0.5 – 2	-	-	-	-

Numerical values are expressed in µg/ml.
NEG = Negative
POS = Positive
[NS] = The current absence of resistant isolates precludes defining any results other than susceptible. Isolates yielding MIC results suggestive of Nonsusceptible category should be submitted to a reference laboratory for further testing.
[c] = Category agreement was established at the time of FDA clearance. Essential agreement was not established since test contains less than five discrete dilutions.

APPENDIX AP49

VITEK 2 EXPECTED QC RESULTS

AST-N812

CLSI® Quality Control Organisms VITEK® 2 Results									
Antimicrobic	Code	*E. coli* ATCC® 25922™	*P. aeruginosa* ATCC® 27853™	*E. coli* ATCC® 35218™	*K. pneumoniae* ssp. *pneumoniae* ATCC® 700603™	*K. pneumoniae* ATCC® BAA-1705™	*K. pneumoniae* ATCC® BAA-2814™	*E. coli* NCTC 13846‡	*P. aeruginosa* ATCC® BAA-3144™
Amoxicillin/ Clavulanic Acid	amc01n	≤ 2/1 - 8/4	-	4/2 - 16/8	-	-	-	-	-
Ampicillin	am01n	≤ 2 - 8	-	≥ 32†	-	-	-	-	-
Cefazolin	cz05n	≤ 1 - 4 (FDA/CLSI Broth Microdilution expected QC range = 1 - 4 µg/mL)	-	2 - 8****	-	-	-	-	-
Cefepime	fep03n	≤ 0.12 (FDA/CLSI Broth Microdilution expected QC range = 0.015 - 0.12 µg/mL)	0.5 - 4	-	-	-	-	-	-
Cefoxitin	fox01n	≤ 4 - 8	-	-	-	-	-	-	-
Cefpodoxime	cpd01n	≤ 0.25 - 1	-	-	-	-	-	-	-
Ceftriaxone	cro02n	≤ 0.25 (FDA/CLSI Broth Microdilution expected QC range = 0.03 - 0.12 µg/mL)	8 - ≥ 64	-	-	-	-	-	-
Ciprofloxacin	cip02n	≤ 0.06 (FDA/ CLSI Broth Microdilution expected QC range = 0.004 - 0.015 µg/mL)	0.25 - 1*** (FDA/CLSI Broth Microdilution expected QC range = 0.12 - 1 µg/mL)	-	-	-	-	-	-
Ertapenem	etp02n	≤ 0.12Δ	-	-	-	-	-	-	-
Gentamicin	gm02n	≤ 1 (FDA/CLSI Broth Microdilution expected QC range = 0.25 - 1 µg/mL)	≤ 1 - 2 (FDA/CLSI Broth Microdilution expected QC range = 0.5 - 2 µg/mL)	-	-	-	-	-	-
Levofloxacin	lev02n	≤ 0.12	0.5 - 4	-	-	-	-	-	-
Meropenem	mem02n	≤ 0.25	≤ 0.25 - 1	-	-	-	-	-	-
Nitrofurantoin	ft01n	≤ 16	-	-	-	-	-	-	-
Piperacillin/ Tazobactam	tzp03n	≤ 4/4* Δ *(FDA/CLSI Broth Microdilution expected QC range = 1/4 - 4/4 µg/mL)	≤ 4/4 - 8/4* Δ *(FDA/CLSI Broth Microdilution expected QC range = 1/4 - 8/4 µg/mL)	≤ 4/4* Δ†Ж *(FDA/CLSI Broth Microdilution expected QC range = 0.5/4 - 2/4 µg/mL)	-	-	-	-	-
Tetracycline	te01n	≤ 1 - 2	8 - ≥ 16	-	-	-	-	-	-
Tobramycin	tm02n	≤ 1 (FDA/CLSI Broth Microdilution expected QC range = 0.25 - 1 µg/mL)	≤ 1 (FDA/CLSI Broth Microdilution expected QC range = 0.25 - 1 µg/mL)	-	-	-	-	-	-
Trimethoprim/ Sulfamethoxazole	sxt02n	≤ 20 (1/19)	160 (8/152) - ≥ 320 (16/304)	-	-	-	-	-	-

Numerical values are expressed in µg/mL.

† Per CLSI M100, Escherichia coli ATCC® 35218™ is not intended for routine QC testing of ampicillin, piperacillin, or ticarcillin. This organism isrecommended only for routine QC of ß-lactamase inhibitor combinations. However, since this strain contains a plasmid-encoded ß-lactamase (non-ESBL), it is resistant to many penicillinase-labile antimicrobials, but susceptible to ß-lactamase/ß-lactamase inhibitor combinations. To ensure that the plasmid is present, testing of the ß-lactam alone (e.g., AM, PIP, TIC), in addition to the ß-lactamase/ß-lactamase inhibitor combination (e.g., AMC, SAM, TZP, TCC), can be performed. If the strain has lost its plasmid, it will be susceptible to the ß-lactam alone (i.e., AM, PIP, TIC), indicating that the QC test is invalid, and a new culture of Escherichia coli ATCC® 35218™ must be used.

ΔDoes not include the full CLSI/FDA recommended dilution range for QC testing with this organism.

‡NCTC = National Collection of Type Cultures, Public Health England

ЖE.coli ATCC® 35218™ was not tested with piperacillin to confirm the integrity of the respective QC strain per CLSI M100 Ed 31 recommendations of >64.

VITEK 2 EXPECTED QC RESULTS

ANC

Table 7: QC Organism: *Clostridium septicum* ATCC® 12464™ (for streamlined or comprehensive quality control)

dGAL	-	dCEL	-	SAC	-	BGALi	+	MTE	-	PHOS	-	GRAM	+
LeuA	-	TyrA	-	ARB	-	AARA	v	ESC	-	IARA	-	MORPH	-
ELLM	-	APPA	-	NAG	-	AGALi	-	BdFUC	+	dRIB2	-	AERO	-
PheA	-	dGLU	-	BGLUi	-	BMAN	-	BNAGi	-	OPS	+		
ProA	-	dMNE	-	URE	-	ARG	-	AMANi	v	AARAF	-		
PyrA	v	dMAL	-	BGURi	-	PVATE	-	AIFUC	-	dXYL	-		

+ = 95% to 100% positive; v = 6% to 94% positive; – = 0% to 5% positive

Table 8: QC Organism: *Bacteroides ovatus* ATCC® BAA-1296™ (for streamlined or comprehensive quality control)

dGAL	+	dCEL	+	SAC	v	BGALi	+	MTE	+	PHOS	v	GRAM	-
LeuA	-	TyrA	-	ARB	v	AARA	+	ESC	+	IARA	+	MORPH	-
ELLM	+	APPA	+	NAG	+	AGALi	+	BdFUC	v	dRIB2	+	AERO	-
PheA	-	dGLU	+	BGLUi	v	BMAN	v	BNAGi	-	OPS	v		
ProA	-	dMNE	+	URE	-	ARG	-	AMANi	v[1]	AARAF	+		
PyrA	-	dMAL	+	BGURi	v	PVATE	v	AIFUC	v	dXYL	v		

+ = 95% to 100% positive; v = 6% to 94% positive; – = 0% to 5% positive.

[1]Reaction is mostly positive although occasional negative reaction may occur.

GN

Table 6: QC Organism: *Enterobacter hormaechei* ATCC® 700323™ (for streamlined or comprehensive quality control)

APPA	-	AGLTp	-	BXYL	+	SAC	+	SUCT	v	CMT	-
ADO	+	dGLU	+	BAlap	-	dTAG	-	NAGA	+	BGUR	v
PyrA	-	GGT	+	ProA	v	dTRE	+	AGAL	+	O129R	+
IARL	-	OFF	+	LIP	v	CIT	+	PHOS	v	GGAA	-
dCEL	+	BGLU	-	PLE	+	MNT	+	GlyA	v	IMLTa	-
BGAL	+	dMAL	+	TyrA	v	5KG	-	ODC	+	ELLM	-
H2S	-	dMAN	+	URE	-	ILATk	v	LDC	-	ILATa	-
BNAG	+	dMNE	+	dSOR	+	AGLU	-	IHISa	-		

+ = 95% to 100% positive; v = 6% to 94% positive; – = 0% to 5% positive

Table 7: QC Organism: *Stenotrophomonas maltophilia* ATCC® 17666™ (for streamlined or comprehensive quality control)

APPA	+	AGLTp	-	BXYL	-	SAC	-	SUCT	v	CMT	-
ADO	-	dGLU	-	BAlap	-	dTAG	-	NAGA	-	BGUR	-
PyrA	-	GGT	v	ProA	+	dTRE	-	AGAL	-	0129R	-
IARL	-	OFF	-	LIP	+	CIT	v	PHOS	+	GGAA	+
dCEL	-	BGLU	v	PLE	-	MNT	v	GlyA	-	IMLTa	-
BGAL	-	dMAL	-	TyrA	v	5KG	-	ODC	-	ELLM	-
H2S	-	dMAN	-	URE	-	ILATk	v	LDC	v	ILATa	-
BNAG	v	dMNE	-	dSOR	-	AGLU	v	IHISa	-		

+ = 95% to 100% positive; v = 6% to 94% positive; – = 0% to 5% positive

VITEK 2 EXPECTED QC RESULTS

GP

Table 6: QC Organism: *Enterococcus casseliflavus* ATCC® 700327™ (for streamlined or comprehensive quality control)

AMY	+	CDEX	-	BGURr	-	URE	-	dMAL	+	PUL	-
PIPLC	-	AspA	v[1]	AGAL	+	POLYB	+	BACI	+	dRAF	+
dXYL	+	BGAR	+	PyrA	+	dGAL	+	NOVO	+	O129R	+
ADH1	v[2]	AMAN	v	BGUR	-	dRIB	+	NC6.5	+	SAL	+
BGAL	+	PHOS	-	AlaA	v	ILATk	-	dMAN	+	SAC	+
AGLU	v	LeuA	v	TyrA	+	LAC	+	dMNE	+	dTRE	+
APPA	v	ProA	-	dSOR	v	NAG	+	MBdG	+	ADH2s	v
										OPTO	+

+ = 95% to 100% positive; v = 6% to 94% positive; – = 0% to 5% positive

[1]Reaction is mostly positive although occasional negative reaction may occur.

[2]Reaction updated to variable but will not appear in QC software until 9.02.

Table 11: QC Organism: *Staphylococcus saprophyticus* ATCC® BAA-750™ (for streamlined or comprehensive quality control)

AMY	-	CDEX	-	BGURr	-	URE	+	dMAL	+	PUL	-
PIPLC	-	AspA	-	AGAL	-	POLYB	-	BACI	v	dRAF	-
dXYL	-	BGAR	-	PyrA	v	dGAL	v	NOVO	+	O129R	v
ADH1	v	AMAN	-	BGUR	-	dRIB	v	NC6.5	+	SAL	-
BGAL	+	PHOS	v	AlaA	-	ILATk	v	dMAN	+	SAC	+
AGLU	v	LeuA	-	TyrA	-	LAC	+	dMNE	v[1]	dTRE	+
APPA	v	ProA	-	dSOR	-	NAG	v	MBdG	-	ADH2s	-
										OPTO	+

+ = 95% to 100% positive; v = 6% to 94% positive; – = 0% to 5% positive

[1]Reaction is mostly negative although occasional positive reaction may occur.

NH

Table 5: QC Organism: *Eikenella corrodens* ATCC® BAA-1152™ (for streamlined or comprehensive quality control)

ArgA	-	PheA	-	GLYG	-	BGALi	-	MTE	-
GGT	-	ProA	+	dMNE	-	ODC	+	IGLM	v
LysA	-	PyrA	-	dMAL	-	AARA	-	*PHOS**	-
dGAL	-	TyrA	-	SAC	-	PVATE	-	dRIB2	-
LeuA	+	APPA	+	NAG	-	PHC	-	OPS	-
ELLM	+	dGLU	-	URE	-	dMLT	v	dXYL	-

+ = 95% to 100% positive; v = 6% to 94% positive; – = 0% to 5% positive.

*Key well for streamlined quality control.

YST

Table 7: QC Organism: *Candida albicans* ATCC® 14053™ (for streamlined or comprehensive quality control)

LysA	-	ARBa	-	GGT	v	IRHAa	-	NO3a	-	CITa	+
IMLTa	+	AMYa	v	dMALa	+	XLTa	+	IARAa	v	GRTas	v
LeuA	+	dGALa	+	dRAFa	-	dSORa	+	dGATa	v	IPROa	+
ARG	+	GENa	-	NAGA1	+	SACa	+	ESC	-	2KGa	+
ERYa	-	dGLUa	+	dMNEa	+	URE	-	IGLTa	+	NAGa	+
GLYLa	v	LACa	-	dMELa	-	AGLU	+	dXYLa	+	dGNTa	+
TyrA	v	MAdGa	+	dMLZa	-	dTURa	+	LATa	+		
BNAG	-	dCELa	-	ISBEa	-	dTREa	+	ACEa	+		

+ = 95% to100% positive; v = 6% to 94% positive; – = 0% to 5% positive

Note: The NAGA1 well is used for streamlined quality control.