Matrix EQA 2024 TEST FORMS – Introduction

Selective isolation of presumptive ESBL-, AmpC- and carbapenemase-producing *Escherichia coli* from mixed cultures mimicking meat samples

These test forms are an overview of the data needed for submission of the Matrix EQA 2024 (EQA9) results into the webtool.

Methods

1- Method used for selective isolation of ESBL/AmpC in this EQA:

Selective isolation procedure using the EURL recommended procedure that refer to the EU regulation 652/2013/EU – briefly described in the EQAsia protocol

☐ The protocol was used without modifications (please jump to question 2)

☐ The protocol was used, however, the selective isolation procedures were modified (please respond question 1.1)

☐ The protocol was used, however, the incubation conditions in the selective plating were modified (please respond question 1.2)

1.1- If you made changes in the selective isolation procedure:

Different concentration of cefotaxime: _____ mg/L

Different antimicrobial: _____

Different medium: _____

Please justify these changes: _____

1.2- If you used different incubation conditions in the selective plating, please indicate the conditions used: _____°C/_____h;

Please justify these changes: _____

2- Method used for selective isolation of carbapenemase-producers (in case you run this method) in this EQA:

☐ We did not perform carbapenemase selective isolation
☐ We performed carbapenemase selective isolation

Plates used (brand/type): _____
Comments: _____

3- Method used for confirmation of *E. coli* species identification. Please indicate the primary *E. coli* identification method used (choose only one option; if you used more than one method, please explain in the comments field)

☐ PCR using published methods
☐ PCR using in-house method
☐ Biochemical tests
☐ MALDI-ToF
☐ DNA Sequencing
☐ Chromogenic media

Comments or additional information:
_____

4- Method used for general antimicrobial susceptibility testing of the strains (choose only one option)

☐ MIC – Broth microdilution (automated)
☐ MIC – Broth microdilution (conventional)
☐ MIC – Broth macrodilution (tubes)
☐ MIC – Agar dilution
☐ Gradient test
☐ Disk diffusion

5- Additional comments: _____

Test form – Sample ‘EQAsia 24.M1’

Please describe the growth observed on ESBL/AmpC-selective plates? (Choose only one option)

☐ Mixed culture containing typical *E. coli* colonies
☐ Mixed culture without typical *E. coli* colonies
☐ Pure culture of typical *E. coli* colonies
☐ Pure culture without typical *E. coli* colonies
☐ No growth

Results of species identification: (choose only one option)

☐ Presumptive ESBL/AmpC isolate identified as *E. coli* (sample considered positive)
☐ Not *E. coli* / Not tested (sample considered negative)

Comments: ___
_____

Did you perform carbapenemase selective plating?
Yes ☐ / No ☐

Growth on CARBA-selective plates:
Yes ☐ / No ☐ / Not applicable ☐

Growth on OXA-48 selective plates:
Yes ☐ / No ☐ / Not applicable ☐

Additional comments: _____

AST results

The highlighted antimicrobials could be omitted by the Human Health laboratories.

Sample	Antimicrobial	Interpretation		
		≤; =; >	MIC-value (mg/L) or Zone diameter (mm)	S/I/R
EQAsia 24.M1 **Identification** ☐ Sample positive ☐ Sample negative ☐ Not tested	Amikacin, AMK			
	Ampicillin, AMP			
	Azithromycin, AZI			
	Cefepime, FEP			
	Cefotaxime, FOT			
	Cefotaxime + clavulanic acid, F/C			
	Cefoxitin, FOX			
	Ceftazidime, TAZ			
	Ceftazidime + clavulanic acid, T/C			
	Chloramphenicol, CHL			
	Ciprofloxacin, CIP			
	Colistin, COL			
	Doripenem, DOR			
	Ertapenem, ETP			
	Gentamicin, GEN			
	Imipenem, IMI			
	Levofloxacin, LEVO			
	Meropenem, MERO			
	Nalidixic acid, NAL			
	Piperacillin/tazobactam, PT4			
	Sulfamethoxazole, SMX			
	Tetracycline, TET			
	Tigecycline, TGC			
	Tobramycin, TOB			
	Trimethoprim, TMP			
	Trimethoprim/sulfamethoxazole, SXT			

Please select the detected ESBL-phenotype (see guideline in the EQA protocol):

☐ ESBL-phenotype
☐ AmpC-phenotype
☐ ESBL + AmpC-phenotype
☐ Carbapenemase-phenotype
☐ Other phenotype

Comments (include optional genotype or other results): _____

Test form – Sample 'EQAsia 24.M2'

Please describe the growth observed on ESBL/AmpC-selective plates? (Choose only one option)

☐ Mixed culture containing typical *E. coli* colonies
☐ Mixed culture without typical *E. coli* colonies
☐ Pure culture of typical *E. coli* colonies
☐ Pure culture without typical *E. coli* colonies
☐ No growth

Results of species identification: (choose only one option)

☐ Presumptive ESBL/AmpC isolate identified as *E. coli* (sample considered positive)
☐ Not *E. coli* / Not tested (sample considered negative)

Comments: ___
_____

Did you perform carbapenemase selective plating?
Yes ☐ / No ☐

Growth on CARBA-selective plates:
Yes ☐ / No ☐ / Not applicable ☐

Growth on OXA-48 selective plates:
Yes ☐ / No ☐ / Not applicable ☐

Additional comments: _____

AST results

The highlighted antimicrobials could be omitted by the Human Health laboratories.

Sample	Antimicrobial	Interpretation		
		≤; =; >	MIC-value (mg/L) or Zone diameter (mm)	S/I/R
EQAsia 24.M2 **Identification** ☐ Sample positive ☐ Sample negative ☐ Not tested	Amikacin, AMK			
	Ampicillin, AMP			
	Azithromycin, AZI			
	Cefepime, FEP			
	Cefotaxime, FOT			
	Cefotaxime + clavulanic acid, F/C			
	Cefoxitin, FOX			
	Ceftazidime, TAZ			
	Ceftazidime + clavulanic acid, T/C			
	Chloramphenicol, CHL			
	Ciprofloxacin, CIP			
	Colistin, COL			
	Doripenem, DOR			
	Ertapenem, ETP			
	Gentamicin, GEN			
	Imipenem, IMI			
	Levofloxacin, LEVO			
	Meropenem, MERO			
	Nalidixic acid, NAL			
	Piperacillin/tazobactam, PT4			
	Sulfamethoxazole, SMX			
	Tetracycline, TET			
	Tigecycline, TGC			
	Tobramycin, TOB			
	Trimethoprim, TMP			
	Trimethoprim/sulfamethoxazole, SXT			

Please select the detected ESBL-phenotype (see guideline in the EQA protocol):

☐ ESBL-phenotype
☐ AmpC-phenotype
☐ ESBL +AmpC-phenotype
☐ Carbapenemase-phenotype
☐ Other phenotype

Comments (include optional genotype or other results): _____

Test form – Sample ‘EQAsia 24.M3’

Please describe the growth observed on ESBL/AmpC-selective plates? (Choose only one option)

☐ Mixed culture containing typical *E. coli* colonies
☐ Mixed culture without typical *E. coli* colonies
☐ Pure culture of typical *E. coli* colonies
☐ Pure culture without typical *E. coli* colonies
☐ No growth

Results of species identification: (choose only one option)

☐ Presumptive ESBL/AmpC isolate identified as *E. coli* (sample considered positive)
☐ Not *E. coli* / Not tested (sample considered negative)

Comments: ___
_____

Did you perform carbapenemase selective plating?
Yes ☐ / No ☐

Growth on CARBA-selective plates:
Yes ☐ / No ☐ / Not applicable ☐

Growth on OXA-48 selective plates:
Yes ☐ / No ☐ / Not applicable ☐

Additional comments: _____

AST results

The highlighted antimicrobials could be omitted by the Human Health laboratories.

Sample	Antimicrobial	Interpretation		
		≤; =; >	MIC-value (mg/L) or Zone diameter (mm)	S/I/R
EQAsia 24.M3 **Identification** ☐ Sample positive ☐ Sample negative ☐ Not tested	Amikacin, AMK			
	Ampicillin, AMP			
	Azithromycin, AZI			
	Cefepime, FEP			
	Cefotaxime, FOT			
	Cefotaxime + clavulanic acid, F/C			
	Cefoxitin, FOX			
	Ceftazidime, TAZ			
	Ceftazidime + clavulanic acid, T/C			
	Chloramphenicol, CHL			
	Ciprofloxacin, CIP			
	Colistin, COL			
	Doripenem, DOR			
	Ertapenem, ETP			
	Gentamicin, GEN			
	Imipenem, IMI			
	Levofloxacin, LEVO			
	Meropenem, MERO			
	Nalidixic acid, NAL			
	Piperacillin/tazobactam, PT4			
	Sulfamethoxazole, SMX			
	Tetracycline, TET			
	Tigecycline, TGC			
	Tobramycin, TOB			
	Trimethoprim, TMP			
	Trimethoprim/sulfamethoxazole, SXT			

Please select the detected ESBL-phenotype (see guideline in the EQA protocol):

☐ ESBL-phenotype
☐ AmpC-phenotype
☐ ESBL + AmpC-phenotype
☐ Carbapenemase-phenotype
☐ Other phenotype

Comments (include optional genotype or other results): _____

Test form – Sample ‘EQAsia 24.M4’

Please describe the growth observed on ESBL/AmpC-selective plates? (Choose only one option)

☐ Mixed culture containing typical *E. coli* colonies
☐ Mixed culture without typical *E. coli* colonies
☐ Pure culture of typical *E. coli* colonies
☐ Pure culture without typical *E. coli* colonies
☐ No growth

Results of species identification: (choose only one option)

☐ Presumptive ESBL/AmpC isolate identified as *E. coli* (sample considered positive)
☐ Not *E. coli* / Not tested (sample considered negative)

Comments: ___
_____

Did you perform carbapenemase selective plating?
Yes ☐ / No ☐

Growth on CARBA-selective plates:
Yes ☐ / No ☐ / Not applicable ☐

Growth on OXA-48 selective plates:
Yes ☐ / No ☐ / Not applicable ☐

Additional comments: _____

AST results

The highlighted antimicrobials could be omitted by the Human Health laboratories.

Sample	Antimicrobial	Interpretation		
		≤; =; >	MIC-value (mg/L) or Zone diameter (mm)	S/I/R
EQAsia 24.M4 **Identification** ☐ Sample positive ☐ Sample negative ☐ Not tested	Amikacin, AMK			
	Ampicillin, AMP			
	Azithromycin, AZI			
	Cefepime, FEP			
	Cefotaxime, FOT			
	Cefotaxime + clavulanic acid, F/C			
	Cefoxitin, FOX			
	Ceftazidime, TAZ			
	Ceftazidime + clavulanic acid, T/C			
	Chloramphenicol, CHL			
	Ciprofloxacin, CIP			
	Colistin, COL			
	Doripenem, DOR			
	Ertapenem, ETP			
	Gentamicin, GEN			
	Imipenem, IMI			
	Levofloxacin, LEVO			
	Meropenem, MERO			
	Nalidixic acid, NAL			
	Piperacillin/tazobactam, PT4			
	Sulfamethoxazole, SMX			
	Tetracycline, TET			
	Tigecycline, TGC			
	Tobramycin, TOB			
	Trimethoprim, TMP			
	Trimethoprim/sulfamethoxazole, SXT			

Please select the detected ESBL-phenotype (see guideline in the EQA protocol):

☐ ESBL-phenotype
☐ AmpC-phenotype
☐ ESBL + AmpC-phenotype
☐ Carbapenemase-phenotype
☐ Other phenotype

Comments (include optional genotype or other results): _____

Test form – Reference strain: *Escherichia coli* ATCC 25922/CCM 3954

	Antimicrobial	MIC value (mg/L) or Zone Diameter (mm)
Strain – *Escherichia coli* ATCC 25922/ CCM 3954	Amikacin, AMK	
	Ampicillin, AMP	
	Azithromycin, AZI	
	Cefepime, FEP	
	Cefotaxime, FOT	
	Cefotaxime + clavulanic acid, F/C	
	Cefoxitin, FOX	
	Ceftazidime, TAZ	
	Ceftazidime + clavulanic acid, T/C	
	Chloramphenicol, CHL	
	Ciprofloxacin, CIP	
	Doripenem, DOR	
	Ertapenem, ETP	
	Gentamicin, GEN	
	Imipenem, IMI	
	Levofloxacin, LEVO	
	Meropenem, MERO	
	Nalidixic acid, NAL	
	Piperacillin/tazobactam, PT4	
	Sulfamethoxazole, SMX	
	Tetracycline, TET	
	Tigecycline, TGC	
	Tobramycin, TOB	
	Trimethoprim, TMP	
	Trimethoprim/sulfamethoxazole, SXT	

Test form – Reference strain: *Escherichia coli* NCTC 13846/CCM 8874 (for colistin)

Strain – *Escherichia coli* NCTC 13846/ CCM 8874	Antimicrobial	MIC value (mg/L) or Zone Diameter (mm)
	Colistin, COL	