



Matrix EQA 2022 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 2022 (EQA5) 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 EQAS:

- 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 22.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 22.M1 Identification <input type="checkbox"/> Sample positive <input type="checkbox"/> Sample negative <input type="checkbox"/> 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 22.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 22.M2 Identification <input type="checkbox"/> Sample positive <input type="checkbox"/> Sample negative <input type="checkbox"/> 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 22.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 22.M3 Identification <input type="checkbox"/> Sample positive <input type="checkbox"/> Sample negative <input type="checkbox"/> 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 22.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 22.M4 Identification <input type="checkbox"/> Sample positive <input type="checkbox"/> Sample negative <input type="checkbox"/> 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 22.M5’

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 22.M5 Identification <input type="checkbox"/> Sample positive <input type="checkbox"/> Sample negative <input type="checkbox"/> 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

Strain – <i>Escherichia coli</i> ATCC 25922/ CCM 3954	Antimicrobial	MIC value (mg/L) or Zone Diameter (mm)
	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 – <i>Escherichia coli</i> NCTC 13846/ CCM 8874	Antimicrobial	MIC value (mg/L) or Zone Diameter (mm)
	Colistin, COL	