

**APPENDICES**

**ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่**  
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## APPENDIX A

### Media for cultivation and buffer and reagent for DNA extraction

#### 1. Media for cultivation

##### 1.1 Mueller Hinton Agar

Mueller Hinton	21	gm
Agar	17	
Distilled water	1,000	ml

Powder of dehydrated SDA and agar were suspended in distilled water. Then, the medium was sterilized by using steam heated at 121 °C, 15 psi for 15 min.

##### 1.2 Lysogeny Broth

Tryptone	10	g
Yeast extracts	5	g
NaCl	5	g

Add distilled water to make 1,000 ml. The pH of dissolved medium was adjusted to 7.5 for making agar medium, 3 g of agar was adds to each 200 ml of liquid medium

#### 2. Reagent and buffer

##### 2.1 Loading dye

Bromophenol blue	0.25	g
Glycerol	3	ml
Distilled water	7	ml

##### 2.2 Agarose gel (1%)

Agarose gel powder	1	g
TAE buffer (0.5x)	100	ml

Suspend agarose gel powder in TBE buffer. Bring to boil to dissolve completely.

### 2.3 5X TBE buffer stock

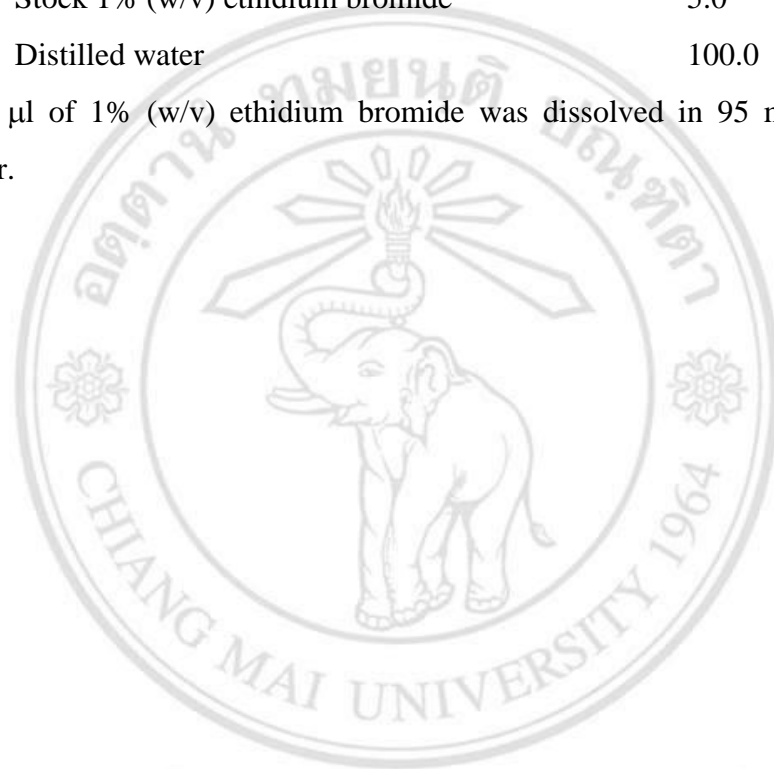
Tris base	54	g
Boric Acid	27.5	g
EDTA	2.92	g

Add distilled water to 1000 ml and autoclaved at 121 °C, 15 psi for 15 min.

### 2.4 Working 0.5 µg/ml ethidium bromide

Stock 1% (w/v) ethidium bromide	5.0	µl
Distilled water	100.0	ml

Five µl of 1% (w/v) ethidium bromide was dissolved in 95 ml of distilled water.



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## APPENDIX B

### Data of clinical specimens

1. Test group

**Table 1 Data of clinical specimens from patient of Maharaj Nakorn Chiang Mai Hospital, Faculty of Medicine, Chiang Mai University, Chiang Mai during April to May 2010.**

CM No.	HN	Specimen	ESBL (Confirm tests)							AmpC Tests		
			Combine Disc test						DDST		FOX-CLX	Cefoxitin
			CTX Combine Disc			CAZ Combine Disc			CTX	CAZ		Inhibition
			CTX	CTX+CLA	Result	CAZ	CAZ+CLA	Result				zone size
CM0453-001	2654100	Urine	10	27	+	19	25	+	+	+	-	20
CM0453-002	3260612	Urine	0	27	+	17	25	+	+	+	-	22
CM0453-003	2787386	Urine	18	30	+	25	26	-	+	+	-	21
CM0453-004	1808423	Urine	13	27	+	24	27	-	+	+	-	23
CM0453-005	1450055	Urine	20	21	-	19	21	-	+	+	+	12

**Table 1 (continued)**

CM No.	HN	Specimen	ESBL (Confirm tests)								AmpC Tests		
			Combine Disc test						DDST		FOX-CLX	Cefoxitin	
			CTX Combine Disc			CAZ Combine Disc			CTX	CAZ		Inhibition	
			CTX	CTX+CLA	Result	CAZ	CAZ+CLA	Result				zone size	
CM0453-006	2435173	Urine	12	28	+	22	29	+	+	+	-	23	
CM0453-007	2791427	Urine	0	22	+	10	23	+	+	+	-	24	
CM0453-008	2943494	Urine	9	28	+	17	26	+	+	+	-	24	
CM0453-009	1568428	Urine	0	24	+	11	24	+	+	+	-	13	
CM0453-010	2587306	Urine	16	18	-	15	16	-	+	+	+	0	
CM0453-011	0-414066	Urine	21	21	-	18	18	-	+	+	+	10	
CM0453-012	3140359	Sputum	0	18	+	14	28	+	+	+	-	25	
CM0453-013	3253542	Urine	11	26	+	22	25	-	+	+	-	22	

**Table 1 (continued)**

CM No.	HN	Specimen	ESBL (Confirm tests)								AmpC Tests	
			Combine Disc test						DDST		FOX-CLX	Cefoxitin
			CTX Combine Disc			CAZ Combine Disc			CTX	CAZ		Inhibition
			CTX	CTX+CLA	Result	CAZ	CAZ+CLA	Result				zone size
CM0453-014	3228369	Urine	8	27	+	17	26	+	+	+	-	22
CM0453-015	2537835	Urine	10	28	+	14	26	+	+	+	-	22
CM0453-017	3209683	Pus	13	24	+	0	25	+	+	+	-	12
CM0453-018	2987386	Urine	0	24	+	9	23	+	+	+	-	21
CM0453-019	2676564	Urine	7	26	+	15	26	+	+	+	-	24
CM0453-021	3259736	Urine	7	26	+	14	24	+	+	+	-	20
CM0453-022	2191864	Sputum	0	29	+	16	22	+	+	+	-	22
CM0453-024	3259736	Urine	8	25	+	14	25	+	+	+	-	20

**Table 1 (continued)**

CM No.	HN	Specimen	ESBL (Confirm tests)								AmpC Tests	
			Combine Disc test						DDST		FOX-CLX	Cefoxitin
			CTX Combine Disc			CAZ Combine Disc			CTX	CAZ		Inhibition
			CTX	CTX+CLA	Result	CAZ	CAZ+CLA	Result				zone size
CM0453-025	2976657	Urine	11	25	+	17	26	+	+	+	-	19
CM0453-026	3259736	Urine	7	27	+	13	24	+	+	+	-	20
CM0453-027	2537835	Urine	8	25	+	15	16	-	+	+	-	22
CM0453-028	2057968	Urine	0	22	+	18	24	+	+	+	-	21
CM0453-029	3266187	Pus	0	27	+	9	24	+	+	-	-	15
CM0453-030	2699028	Urine	7	30	+	13	25	+	+	+	-	20
CM0453-031	2421622	Pus	9	27	+	16	26	+	+	+	-	25
CM0453-032	1883200	Sputum	0	26	+	8	24	+	+	+	-	24

**Table 1 (continued)**

CM No.	HN	Specimen	ESBL (Confirm tests)								AmpC Tests	
			Combine Disc test						DDST		FOX-CLX	Cefoxitin
			CTX Combine Disc			CAZ Combine Disc			CTX	CAZ		Inhibition
			CTX	CTX+CLA	Result	CAZ	CAZ+CLA	Result				zone size
CM0453-033	0-675698	Sputum	9	26	+	13	25	+	+	+	-	24
CM0453-034	0-765492	Urine	15	27	+	23	25	-	+	+	-	24
CM0453-036	2652592	Urine	0	31	+	11	28	+	+	+	-	24
CM0453-037	3265462	Urine	12	27	+	21	26	+	+	+	-	20
CM0453-038	2546505	Urine	14	24	+	22	25	-	+	+	-	25
CM0453-039	2987386	Hemo-cluture	0	29	+	13	26	+	+	+	-	25
CM0453-041	1288299	Pus	14	30	+	25	29	-	+	+	-	13
CM0453-042	3267544	Pus	17	17	-	13	14	-	+	+	+	8



**Table 1 (continued)**

CM No.	HN	Specimen	ESBL (Confirm tests)								AmpC Tests	
			Combine Disc test						DDST		FOX-CLX	Cefoxitin
			CTX Combine Disc			CAZ Combine Disc			CTX	CAZ		Inhibition
			CTX	CTX+CLA	Result	CAZ	CAZ+CLA	Result				zone size
CM0453-043	3241750	Urine	0	26	+	16	28	+	+	+	-	24
CM0453-044	2332769	Urine	0	28	+	21	26	+	+	+	-	19
CM0453-046	3267686	Urine	0	28	+	8	27	+	+	+	-	25
CM0453-047	2642253	Urine	0	30	+	16	34	+	+	+	-	16
CM0453-048	2343675	Urine	10	26	+	21	26	+	+	+	-	22
CM0453-049	3267686	Pus	8	28	+	16	26	+	+	+	-	25
CM0453-050	3091748	Pus	10	28	+	12	26	+	+	+	-	28
CM0453-051	3261122	Urine	10	28	+	18	27	+	+	+	-	24

**Table 1 (continued)**

CM No.	HN	Specimen	ESBL (Confirm tests)								AmpC Tests	
			Combine Disc test						DDST		FOX-CLX	Cefoxitin
			CTX Combine Disc			CAZ Combine Disc			CTX	CAZ		Inhibition
			CTX	CTX+CLA	Result	CAZ	CAZ+CLA	Result				zone size
CM0453-052	3244079	Urine	0	26	+	0	26	+	+	+	-	21
CM0453-053	2067591	Urine	19	19	-	13	17	-	+	+	+	0
CM0453-054	3265462	Urine	11	29	+	24	29	+	+	+	-	20
CM0453-056	1289956	Urine	9	28	+	21	26	+	+	+	-	17
CM0453-057	3267686	Pus	8	27	+	17	28	+	+	+	-	26
CM0453-058	2599881	Pus	0	26	+	11	20	+	+	+	-	20
CM0453-059	2599881	Pus	0	26	+	0	24	+	+	+	-	26
CM0453-060	3059430	Sputum	0	26	+	12	23	+	+	+	-	23

**Table 1 (continued)**

CM No.	HN	Specimen	ESBL (Confirm tests)								AmpC Tests	
			Combine Disc test						DDST		FOX - CLX	Cefoxitin
			CTX Combine Disc			CAZ Combine Disc			CTX	CAZ		Inhibition
			CTX	CTX+CLA	Result	CAZ	CAZ+CLA	Result			zone size	
CM0453-061	3268322	Urine	0	23	+	13	23	+	+	+	-	23
CM0453-062	2642253	Hemo-cluture	0	24	+	12	25	+	+	+	-	16
CM0453-064	3267686	Pus	8	26	+	16	25	+	+	+	-	27
CM0453-065	3244318	Urine	10	26	+	9	25	+	+	+	-	23
CM0453-066	3101353	Urine	8	27	+	16	28	+	+	+	-	27
CM0453-067	2772226	Sputum	0	26	+	0	25	+	+	+	-	21
CM0453-068	3209683	Pus	0	26	+	13	23	+	+	+	-	16
CM0453-072	2971532	Urine	14	30	+	26	31	+	+	+	-	23

**Table 1 (continued)**

CM No.	HN	Specimen	ESBL (Confirm tests)								AmpC Tests	
			Combine Disc test						DDST		FOX - CLX	Cefoxitin
			CTX Combine Disc			CAZ Combine Disc			CTX	CAZ		Inhibition
			CTX	CTX+CLA	Result	CAZ	CAZ+C LA	Result				zone size
CM0453-073	2953602	Urine	12	26	+	25	26	-	+	+	-	27
CM0453-074	0-698635	Urine	10	26	+	14	24	+	+	+	-	25
CM0453-075	2652592	Urine	7	28	+	12	26	+	+	+	-	27
CM0453-076	3005863	Urine	10	26	+	17	26	+	+	+	-	24
CM0453-077	2209313	Urine	9	27	+	17	25	+	+	+	-	25
CM0453-078	1401710	Urine	7	15	+	15	23	+	+	+	-	22
CM0453-079	2956215	Urine	15	25	+	24	26	-	+	+	-	26
CM0453-080	3016665	Urine	14	24	+	24	26	-	+	+	-	26

**Table 1 (continued)**

CM No.	HN	Specimen	ESBL (Confirm tests)								AmpC Tests	
			Combine Disc test						DDST		FOX - CLX	Cefoxitin
			CTX Combine Disc			CAZ Combine Disc			CTX	CAZ		Inhibition
			CTX	CTX+CLA	Result	CAZ	CAZ+CLA	Result			zone size	
CM0453-081	3101353	Hemo-clulture	8	29	+	17	27	+	+	+	-	27
CM0453-082	2699028	Hemo-clulture	0	23	+	12	26	+	+	+	-	25
CM0453-083	3236733	Hemo-clulture	10	24	+	16	24	+	+	+	-	25
CM0453-084	2178405	Hemo-clulture	8	28	+	15	25	+	+	+	-	21
CM0453-085	3268854	Hemo-clulture	0	25	+	14	25	+	+	+	-	25
CM0453-086	2209313	Sputum	10	26	+	16	27	+	+	+	-	26
CM0453-087	3267376	Sputum	14	30	+	22	28	+	+	+	-	26
CM0453-088	3043233	Urine	16	30	+	21	28	+	+	+	-	25

Table 1 (continued)

CM No.	HN	Specimen	ESBL (Confirm tests)								AmpC Tests	
			Combine Disc test						DDST		FOX - CLX	Cefoxitin
			CTX Combine Disc			CAZ Combine Disc			CTX	CAZ		Inhibition
			CTX	CTX+CLA	Result	CAZ	CAZ+CLA	Result			zone size	
CM0453-089	0-675698	Urine	10	28	+	18	28	+	+	+	-	26
CM0453-090	3085336	Urine	0	28	+	16	26	+	+	+	-	28
CM0453-091	3045163	Pus	14	28	+	24	28	-	+	+	-	27
CM0453-092	3216974	Fluid	8	26	+	22	27	+	+	+	-	22
CM0453-094	2272700	Urine	0	27	+	13	26	+	+	+	-	27
CM0453-095	2272700	Urine	11	28	+	18	26	+	+	+	-	21
CM0453-096	3267982	Urine	15	28	+	24	26	-	+	+	-	29
CM0453-097	1147155	Fluid	9	26	+	16	24	+	+	+	-	25

Table 1 (continued)

CM No.	HN	Specimen	ESBL (Confirm tests)								AmpC Tests	
			Combine Disc test						DDST		FOX - CLX	Cefoxitin
			CTX Combine Disc			CAZ Combine Disc			CTX	CAZ		Inhibition
			CTX	CTX+CLA	Result	CAZ	CAZ+CLA	Result			zone size	
CM0453-098	3269641	Pus	13	26	+	22	27	+	+	+	-	24
CM0453-099	3216993	Pus	13	24	+	20	25	+	+	+	-	24
CM0453-101	2892508	Urine	8	24	+	16	26	+	+	+	-	14
CM0453-102	3263745	Urine	8	26	+	16	27	+	+	+	-	16
CM0453-103	3268831	Pus	12	26	+	18	26	+	+	+	-	27
CM0453-104	1147155	Pus	14	28	+	18	26	+	+	+	-	29
CM0453-105	0-726212	Pus	0	24	+	9	24	+	+	+	-	22
CM0453-106	2911401	Urine	16	18	-	14	17	-	+	+	+	0

Table 1 (continued)

CM No.	HN	Specimen	ESBL (Confirm tests)								AmpC Tests	
			Combine Disc test						DDST		FOX - CLX	Cefoxitin
			CTX Combine Disc			CAZ Combine Disc			CTX	CAZ		Inhibition
			CTX	CTX+CLA	Result	CAZ	CAZ+CLA	Result			zone size	
CM0453-107	2945146	Urine	12	26	+	18	26	+	+	+	-	26
CM0453-108	3015379	Urine	14	28	+	26	28	-	+	+	-	22
CM0453-109	3270286	Urine	12	26	+	21	26	+	+	+	-	25
CM0453-110	3035515	Urine	0	30	+	12	26	+	+	+	-	21
CM0453-111	3268831	Fluid	16	26	+	24	28	-	+	+	-	28
CM0453-112	3228319	Fluid	10	28	+	18	27	+	+	+	-	26
CM0453-113	3268831	Pus	16	28	+	24	28	-	+	+	-	26
CM0453-114	3270307	Pus	10	26	+	18	26	+	+	+	-	24

Table 1 (continued)



CM No.	HN	Specimen	ESBL (Confirm tests)								AmpC Tests	
			Combine Disc test						DDST		FOX - CLX	Cefoxitin
			CTX Combine Disc			CAZ Combine Disc			CTX	CAZ		Inhibition
			CTX	CTX+CLA	Result	CAZ	CAZ+CLA	Result			zone size	
CM0453-115	2523473	Urine	12	26	+	24	28	-	+	-	-	27
CM0453-116	3143842	Urine	12	28	+	20	26	+	+	+	-	27
CM0453-117	943317	Urine	10	26	+	16	28	+	+	+	-	16
CM0453-118	3035515	Urine	8	28	+	12	26	+	+	+	-	13
CM0453-119	3251062	Urine	9	25	+	18	30	+	+	+	-	27
CM0453-120	2252784	Urine	8	30	+	14	26	+	+	+	-	16
CM0453-121	1988442	Urine	14	34	+	20	28	+	+	+	-	26
CM0453-122	3182877	Urine	12	26	+	16	24	+	+	+	-	25

Table 1 (continued)

CM No.	HN	Specimen	ESBL (Confirm tests)								AmpC Tests	
			Combine Disc test						DDST		FOX - CLX	Cefoxitin
			CTX Combine Disc			CAZ Combine Disc			CTX	CAZ		Inhibition
			CTX	CTX+CLA	Result	CAZ	CAZ+CLA	Result			zone size	
CM0453-123	1915969	Urine	12	26	+	18	26	+	+	+	-	21
CM0453-124	3016665	Urine	8	26	+	20	26	+	+	+	-	25
CM0453-125	3269713	Urine	10	26	+	14	26	+	+	+	-	25
CM0453-126	1882949	Urine	10	30	+	18	28	+	+	+	-	26
CM0453-127	2897849	Fluid	14	30	+	22	30	+	+	+	-	25
CM0453-128	838550	Urine	8	27	+	12	28	+	+	+	-	26
CM0453-129	3253676	Urine	10	28	+	14	26	+	+	+	-	27
CM0453-130	1882949	Urine	10	28	+	18	28	+	+	+	-	27

Table 1 (continued)

CM No.	HN	Specimen	ESBL (Confirm tests)								AmpC Tests	
			Combine Disc test						DDST		FOX - CLX	Cefoxitin
			CTX Combine Disc			CAZ Combine Disc			CTX	CAZ		Inhibition
			CTX	CTX+CLA	Result	CAZ	CAZ+CLA	Result			zone size	
CM0453-131	3271351	Urine	0	26	+	11	26	+	+	+	-	20
CM0453-132	1882949	Urine	10	28	+	18	28	+	+	+	-	25
CM0453-133	3261874	Pus	12	24	+	19	24	+	+	+	-	26
CM0453-134	2694269	Pus	7	24	+	12	22	+	+	+	-	25
CM0453-135	3271402	Urine	14	22	+	24	26	-	+	-	-	25
CM0453-136	3115584	Pus	8	30	+	14	16	-	+	+	+	0
CM0453-137	559218	Urine	10	26	+	16	24	+	+	+	-	21
CM0453-138	3078549	Urine	14	28	+	22	26	-	+	+	-	27

Table 1 (continued)

CM No.	HN	Specimen	ESBL (Confirm tests)								AmpC Tests	
			Combine Disc test						DDST		FOX - CLX	Cefoxitin
			CTX Combine Disc			CAZ Combine Disc			CTX	CAZ		Inhibition
			CTX	CTX+CLA	Result	CAZ	CAZ+CLA	Result			zone size	
CM0453-139	3264767	Urine	10	24	+	14	24	+	+	+	-	22
CM0453-140	2339014	Urine	16	30	+	26	27	-	+	-	-	24
CM0453-141	3254480	Urine	0	19	+	9	16	+	+	+	+	8
CM0453-142	3078892	Urine	16	30	+	7	30	+	+	+	-	26
CM0453-143	2421622	Urine	0	16	+	7	16	+	+	+	+	8
CM0453-144	3271932	Urine	12	27	+	20	24	-	+	+	-	26
CM0553-145	3216993	Pus	10	27	+	22	27	+	+	+	-	27
CM0553-146	3264304	Pus	9	19	+	11	16	+	+	+	+	10

Table 1 (continued)

CM No.	HN	Specimen	ESBL (Confirm tests)								AmpC Tests	
			Combine Disc test						DDST		FOX - CLX	Cefoxitin
			CTX Combine Disc			CAZ Combine Disc			CTX	CAZ		Inhibition
			CTX	CTX+CLA	Result	CAZ	CAZ+CLA	Result			zone size	
CM0553-147	3264304	Pus	17	19	-	25	26	-	+	+	-	25
CM0553-148	1288299	Pus	0	24	+	19	27	+	+	+	-	17
CM0553-149	2890590	Pus	13	27	+	20	27	+	+	+	-	25
CM0553-150	3257909	Urine	0	27	+	12	27	+	+	+	-	22
CM0553-151	2892508	Urine	8	27	+	16	26	+	+	+	-	22
CM0553-152	3021307	Urine	8	27	+	14	30	+	+	+	-	28
CM0553-153	2496584	Urine	0	25	+	10	24	+	+	+	-	19
CM0553-154	3272140	Urine	10	27	+	20	28	+	+	+	-	20

Table 1 (continued)

CM No.	HN	Specimen	ESBL (Confirm tests)								AmpC Tests	
			Combine Disc test						DDST		FOX - CLX	Cefoxitin
			CTX Combine Disc			CAZ Combine Disc			CTX	CAZ		Inhibition
			CTX	CTX+CLA	Result	CAZ	CAZ+CLA	Result			zone size	
CM0553-155	2921379	Urine	14	28	+	24	27	-	+	+	-	27
CM0553-156	2965584	Urine	14	30	+	21	27	+	+	+	-	24
CM0553-157	2496584	Hemo-cluture	0	27	+	9	28	+	+	+	-	23
CM0553-158	3268357	Urine	8	28	+	18	27	+	+	+	-	27
CM0553-159	3270032	Urine	13	27	+	23	26	-	+	+	-	24
CM0553-160	2926089	Urine	16	30	+	25	28	-	+	+	-	25
CM0553-163	3162432	Urine	14	15	-	14	16	-	+	+	+	0
CM0553-164	3268831	Pus	10	29	+	20	28	+	+	+	-	25

Table 1 (continued)

CM No.	HN	Specimen	ESBL (Confirm tests)								AmpC Tests	
			Combine Disc test						DDST		FOX - CLX	Cefoxitin
			CTX Combine Disc			CAZ Combine Disc			CTX	CAZ		Inhibition
			CTX	CTX+CLA	Result	CAZ	CAZ+CLA	Result			zone size	
CM0553-165	2480490	Urine	0	28	+	12	25	+	+	+	-	16
CM0553-166	2510993	Pus	13	26	+	24	24	-	+	+	-	25
CM0553-167	3152955	Sputum	8	28	+	16	25	+	+	+	-	25
CM0553-168	3095879	Urine	12	25	+	16	26	+	+	+	-	22
CM0553-169	2546072	Urine	8	30	+	16	31	+	+	+	-	27
CM0553-170	3215313	Urine	0	25	+	19	22	-	+	+	-	16
CM0553-172	3250880	Urine	14	28	+	18	24	+	+	+	-	25
CM0553-173	3220998	Urine	14	28	+	24	26	-	+	+	-	20

Table 1 (continued)

CM No.	HN	Specimen	ESBL (Confirm tests)								AmpC Tests	
			Combine Disc test						DDST		FOX - CLX	Cefoxitin
			CTX Combine Disc			CAZ Combine Disc			CTX	CAZ		Inhibition
			CTX	CTX+CLA	Result	CAZ	CAZ+CLA	Result			zone size	
CM0553-174	2611336	Fluid	14	26	+	24	25	-	+	-	-	25
CM0553-175	1634129	Pus	12	28	+	17	26	+	+	+	-	24
CM0553-176	3274226	Pus	0	24	+	12	24	+	+	+	-	23
CM0553-177	3152955	Sputum	10	26	+	14	23	+	+	+	-	24
CM0553-178	2947442	Sputum	14	28	+	24	26	-	+	+	-	26
CM0553-179	3093275	Urine	18	25	+	23	27	-	+	-	-	24
CM0553-180	2611336	Urine	15	26	+	22	26	-	+	-	-	25
CM0553-181	3268272	Urine	9	25	+	12	24	+	+	+	-	24

Table 1 (continued)



CM No.	HN	Specimen	ESBL (Confirm tests)								AmpC Tests	
			Combine Disc test						DDST		FOX - CLX	Cefoxitin
			CTX Combine Disc			CAZ Combine Disc			CTX	CAZ		Inhibition
			CTX	CTX+CLA	Result	CAZ	CAZ+CLA	Result			zone size	
CM0553-182	3005863	Urine	14	27	+	16	26	+	+	+	-	24
CM0553-183	2611336	Urine	16	28	+	25	27	-	+	+	-	26
CM0553-184	3272583	Urine	10	25	+	23	27	-	+	+	-	23
CM0553-185	2664167	Fluid	10	26	+	19	25	+	+	+	-	22
CM0553-186	2890540	Pus	11	28	+	19	26	+	+	+	-	25
CM0553-187	3241299	Urine	8	29	+	14	25	+	+	+	-	24
CM0553-189	2947442	Urine	14	30	+	24	28	-	+	+	-	26
CM0553-190	2541253	Fluid	0	26	+	11	24	+	+	+	-	23

Table 1 (continued)

CM No.	HN	Specimen	ESBL (Confirm tests)								AmpC Tests	
			Combine Disc test						DDST		FOX - CLX	Cefoxitin
			CTX Combine Disc			CAZ Combine Disc			CTX	CAZ		Inhibition
			CTX	CTX+CLA	Result	CAZ	CAZ+CLA	Result			zone size	
CM0553-191	3275008	Pus	14	26	+	22	26	-	+	+	-	19
CM0553-192	2706200	Pus	7	28	+	14	26	+	+	+	-	23
CM0553-193	3275008	Pus	14	27	+	22	26	-	+	+		22
CM0553-195	761034	Urine	11	30	+	22	30	+	+	+	-	24
CM0553-196	1848228	Urine	0	26	+	12	28	+	+	+	-	18
CM0553-197	2948804	Urine	19	30	+	12	30	+	+	+	-	24
CM0553-198	3274664	Urine	9	28	+	14	25	+	+	+	-	26
CM0553-199	2735014	Urine	8	28	+	15	28	+	+	+	-	25

Table 1 (continued)

CM No.	HN	Specimen	ESBL (Confirm tests)								AmpC Tests	
			Combine Disc test						DDST		FOX - CLX	Cefoxitin
			CTX Combine Disc			CAZ Combine Disc			CTX	CAZ		Inhibition
			CTX	CTX+CLA	Result	CAZ	CAZ+CLA	Result				zone size
CM0553-200	1631024	Urine	8	28	+	16	27	+	+	+	-	21



## APPENDIX C

### Data of clinical specimens

**Table 3 DNA sequence analysis of CTX-M-Group1 genes of *E. coli* isolates from patients**

Number	CM number	Multiplex-PCR	ESBL	Max identity
G1/6	CM0453-006	CTX-M-1 subgroup	CTX-M-15	99%
G1/9	CM0453-009	CTX-M-1 subgroup	CTX-M-15	99%
G1/12	CM0453-012	CTX-M-1 subgroup	CTX-M-15	99%
G1/14	CM0453-014	CTX-M-1 subgroup	CTX-M-55	99%
G1/15	CM0453-015	CTX-M-1 subgroup	CTX-M-55	98%
G1/16	CM0453-016	CTX-M-1 subgroup	CTX-M-55	99%
G1/18	CM0453-018	CTX-M-1 subgroup	CTX-M-15	99%
G1/19	CM0453-019	CTX-M-1 subgroup	CTX-M-55	99%
G1/21	CM0453-021	CTX-M-1 subgroup	CTX-M-15	99%
G1/22	CM0453-022	CTX-M-1 subgroup	CTX-M-55	99%
G1/24	CM0453-024	CTX-M-1 subgroup	CTX-M-15	99%
G1/26	CM0435-026	CTX-M-1 subgroup	CTX-M-15	99%
G1/27	CM0453-027	CTX-M-1 subgroup	CTX-M-55	99%
G1/29	CM0453-029	CTX-M-1 subgroup	CTX-M-55	99%
G1/30	CM0453-030	CTX-M-1 subgroup	CTX-M-15	99%

**Table 3 (continued)**

Number	CM number	Multiplex-PCR	ESBL	Max identity
G1/39	CM0453-039	CTX-M-1 subgroup	CTX-M-15	99%
G1/41	CM0453-041	CTX-M-1 subgroup	CTX-M-15	98%
G1/46	CM0453-046	CTX-M-1 subgroup	CTX-M-55	98%
G1/47	CM0453-047	CTX-M-1 subgroup	CTX-M-15	99%
G1/50	CM0453-050	CTX-M-1 subgroup	CTX-M-55	99%
G1/51	CM0453-051	CTX-M-1 subgroup	CTX-M-55	99%
G1/52	CM0453-052	CTX-M-1 subgroup	CTX-M-15	99%
G1/58	CM0453-058	CTX-M-1 subgroup	CTX-M-15	99%
G1/59	CM0453-059	CTX-M-1 subgroup	CTX-M-55	99%
G1/60	CM0453-060	CTX-M-1 subgroup	CTX-M-15	99%
G1/61	CM0453-061	CTX-M-1 subgroup	CTX-M-55	99%
G1/62	CM0453-062	CTX-M-1 subgroup	CTX-M-15	99%
G1/64	CM0453-064	CTX-M-1 subgroup	CTX-M-55	99%
G1/65	CM0453-065	CTX-M-1 subgroup	CTX-M-55	99%
G1/66	CM0453-066	CTX-M-1 subgroup	CTX-M-55	99%
G1/67	CM0453-067	CTX-M-1 subgroup	CTX-M-55	99%
G1/68	CM0453-068	CTX-M-1 subgroup	CTX-M-15	99%
G1/74	CM0453-074	CTX-M-1 subgroup	CTX-M-15	99%

**Table 3 (continued)**

Number	CM number	Multiplex-PCR	ESBL	Max identity
G1/74	CM0453-074	CTX-M-1 subgroup	CTX-M-15	99%
G1/76	CM0453-076	CTX-M-1 subgroup	CTX-M-15	99%
G1/77	CM0453-077	CTX-M-1 subgroup	CTX-M-15	99%
G1/81	CM0453-081	CTX-M-1 subgroup	CTX-M-55	99%
G1/82	CM0453-082	CTX-M-1 subgroup	CTX-M-15	99%
G1/84	CM0453-084	CTX-M-1 subgroup	CTX-M-55	99%
G1/85	CM-0453085	CTX-M-1 subgroup	CTX-M-55	99%
G1/89	CM0453-089	CTX-M-1 subgroup	CTX-M-55	99%
G1/90	CM0453-090	CTX-M-1 subgroup	CTX-M-55	99%
G1/95	CM0453-095	CTX-M-1 subgroup	CTX-M-15	99%
G1/101	CM0453-101	CTX-M-1 subgroup	CTX-M-55	99%
G1/102	CM0453-102	CTX-M-1 subgroup	CTX-M-55	99%
G1/103	CM0453-103	CTX-M-1 subgroup	CTX-M-55	99%
G1/112	CM0453-112	CTX-M-1 subgroup	CTX-M-55	99%
G1/114	CM0453-114	CTX-M-1 subgroup	CTX-M-55	99%
G1/116	CM0453-116	CTX-M-1 subgroup	CTX-M-55	99%
G1/118	CM0453-118	CTX-M-1 subgroup	CTX-M-15	99%
G1/120	CM0453-120	CTX-M-1 subgroup	CTX-M-55	99%

**Table 3 (continued)**

Number	CM number	Multiplex-PCR	ESBL	Max identity
G1/121	CM5304-121	CTX-M-1 subgroup	CTX-M-55	99%
G1/123	CM0453-123	CTX-M-1 subgroup	CTX-M-15	99%
G1/124	CM0453-124	CTX-M-1 subgroup	CTX-M-15	99%
G1/125	CM0453-125	CTX-M-1 subgroup	CTX-M-55	99%
G1/126	CM0453-126	CTX-M-1 subgroup	CTX-M-55	99%
G1/127	CM0453-127	CTX-M-1 subgroup	CTX-M-55	99%
G1/130	CM0453-130	CTX-M-1 subgroup	CTX-M-15	99%
G1/132	CM0453-132	CTX-M-1 subgroup	CTX-M-15	99%
G1/134	CM0453-134	CTX-M-1 subgroup	CTX-M-15	99%
G1/135	CM0453-135	CTX-M-1 subgroup	CTX-M-15	99%
G1/136	CM0453-136	CTX-M-1 subgroup	CTX-M-55	99%
G1/137	CM0453-137	CTX-M-1 subgroup	CTX-M-15	99%
G1/139	CM0453-139	CTX-M-1 subgroup	CTX-M-15	99%
G1/140	CM0453-140	CTX-M-1 subgroup	CTX-M-15	100%
G1/141	CM0453-141	CTX-M-1 subgroup	CTX-M-15	99%
G1/143	CM0453-143	CTX-M-1 subgroup	CTX-M-55	99%
G1/147	CM0553-147	CTX-M-1 subgroup	CTX-M-55	99%
G1/151	CM0553-151	CTX-M-1 subgroup	CTX-M-55	99%

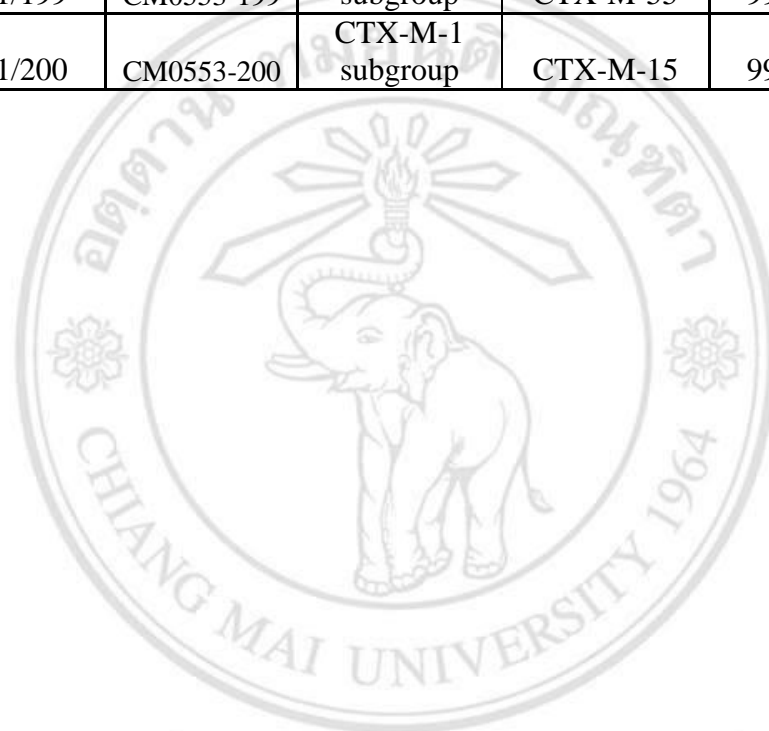
**Table 3 (continued)**

Number	CM number	Multiplex-PCR	ESBL	Max identity
G1/153	CM0553-153	CTX-M-1 subgroup	CTX-M-55	99%
G1/154	CM0553-154	CTX-M-1 subgroup	CTX-M-55	99%
G1/157	CM0553-157	CTX-M-1 subgroup	CTX-M-15	99%
G1/158	CM0553-158	CTX-M-1 subgroup	CTX-M-15	99%
G1/164	CM0553-164	CTX-M-1 subgroup	CTX-M-55	99%
G1/168	CM0553-168	CTX-M-1 subgroup	CTX-M-15	100%
G1/170	CM0553-170	CTX-M-1 subgroup	CTX-M-15	100%
G1/177	CM0553-177	CTX-M-1 subgroup	CTX-M-55	99%
G1/181	CM0553-181	CTX-M-1 subgroup	CTX-M-55	99%
G1/182	CM0553-182	CTX-M-1 subgroup	CTX-M-15	99%
G1/183	CM0553-183	CTX-M-1 subgroup	CTX-M-55	99%
G1/184	CM0553-184	CTX-M-1 subgroup	CTX-M-15	99%
G1/187	CM0553-187	CTX-M-1 subgroup	CTX-M-15	99%
G1/189	CM0553-189	CTX-M-1 subgroup	CTX-M-15	99%
G1/190	CM0553-190	CTX-M-1 subgroup	CTX-M-55	99%
G1/193	CM0553-193	CTX-M-1 subgroup	CTX-M-15	99%
G1/195	CM0553-195	CTX-M-1 subgroup	CTX-M-15	99%
G1/196	CM0553-196	CTX-M-1 subgroup	CTX-M-55	99%



**Table 3 (continued)**

Number	CM number	Multiplex-PCR	ESBL	Max identity
G1/197	CM0553-197	CTX-M-1 subgroup	CTX-M-55	99%
G1/198	CM0553-198	CTX-M-1 subgroup	CTX-M-55	99%
G1/199	CM0553-199	CTX-M-1 subgroup	CTX-M-55	99%
G1/200	CM0553-200	CTX-M-1 subgroup	CTX-M-15	99%



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**Table 4 DNA sequence analysis of ESBL genes of *E. coli* isolates from patients**

Number	CM number	Multiplex-PCR	ESBL	Max identity
TEM/42	CM0453-042	TEM	TEM-1	99%
TEM/57	CM0453-057	TEM	TEM-1	99%
TEM/159	CM0553-159	TEM	TEM-1	99%
SHV/12	CM0453-012	SHV	SHV-5	99%
SHV/32	CM0453-032	SHV	SHV-11	99%
SHV/51	CM0453-051	SHV	SHV-5	99%
G2/46	CM0453-046	Unexpected band	CTX-M-123, CTX-M-14	99%
G2/146	CM0553-146	Unexpected band	CTX-M-123, CTX-M-14	99%
G2/180	CM0553-180	Unexpected band	CTX-M-123, CTX-M-14	99%
G9/1	CM0453-001	CTX-M-9 Subgroup	CTX-M-27	99%
G9/54	CM0453-054	CTX-M-9 subgroup	CTX-M-14	100%
G9/146	CM0553-146	CTX-M-9 subgroup	CTX-M-27	99%
G9/193	CM0553-193	CTX-M-9 subgroup	CTX-M-14	99%

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**Table 5 DNA sequence analysis of AmpC  $\beta$ -lactamase genes of *E. coli* isolates from patients**

Number	CM number	Multiplex-PCR	AmpC	Max identity
AmpC/5	CM0453-005	CMY	CMY-2	100%
AmpC/10	CM0453-010	CMY	CMY-2	100%
AmpC/11	CM0453-011	CMY	CMY-2	99%
AmpC/41	CM0453-014	CMY	CMY-2	99%
AmpC/42	CM0453-042	CMY	CMY-2	99%
AmpC/53	CM0453-053	CMY	CMY-2	100%
AmpC/106	CM0453-106	CMY	CMY-2	100%
AmpC/141	CM0553-141	CMY	CMY-2	100%
AmpC/143	CM0553-143	CMY	CMY-2	99%
AmpC/163	CM0553-163	CMY	CMY-2	100%

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