



## Supplementary Tables

**Table S1.** Primers for the amplification of virulence, resistance, and housekeeping genes from UPEC O25b clinical strains as well PCR conditions.

Gene	Primers	Primer sequence (5' to 3')	Size (bp)	PCR Conditions	References
O25b	<i>pabB-F</i>	TCC AGC AGG TGC TGG ATC	347	1 cycle a 95 °C/5 min	(1)
	<i>pabB-R</i>	GT GCG AAA TTT TTC GCC GTA CTG T		35 cycles a 95 °C/1 min	
	<i>trpA-F</i>	GCT ACG AAT CTC TGT TTG	427	65 °C/1 min, 72 °C/1.30 min	
	<i>trpA-R</i>	CC GCA ACG CGG CCT GGC GGA AG		72 °C/5 min, 4 °C/∞ min	
<i>chuA</i>	<i>chuA-F</i> <i>chuA-R</i>	GAC GAA CCA ACG GTC AGG AT TGC CGC CAG TAC CAA AGA CA	279	1 cycle a 95 °C/5 min	(2, 3)
<i>yjaA</i>	<i>yjaA-F</i>	TGA AGT GTC AGG AGA	211	25 cycles a 95 °C/1 min	
	<i>yjaA-R</i>	CGC TG ATG GAG AAT GCG TTC CTC AAC		55 °C/1 min 72 °C/2 min	
<i>TspE4.C2</i>	<i>TspE4.C2-F</i>	GAG TAA TGT CGG GGC ATT CA	152	72 °C/5 min 4 °C/∞ min	
	<i>TspE4.C2-R</i>	CGC GCC AAC AAA GTA TTA CG			
<i>hlyA</i>	<i>hlyA-F</i> <i>hlyA-R</i>	CGT GGA CAC AGC TGC CAG CA TGC AGC GTG GCG GGC ATC AT	789	1 cycle a 95 °C/5 min	(2, 4)
<i>iutD</i>	<i>iutD-F</i>	TAC CGG ATT GTC ATA TGC	602	25 cycles a 95 °C/1 min	
	<i>iutD-R</i>	AGA CCG T AAT ATC TTC CTC CAG TCC GGA GAA G		56 °C/1 min 72 °C/1 min	
<i>fimH</i>	<i>fimH-F</i> <i>fimH-R</i>	TGC AGA ACG GAT AAG CCG TGG GCA GTC ACC TGC CCT CCG GTA	508	72 °C/5 min 4 °C/∞ min	
<i>csgA</i>	<i>csgA-F</i> <i>csgA-R</i>	GCC AGT ATT TCG CAA GGT GC GGT GTA CAT ATC CCC TTG CTG G	750	1 cycle a 95 °C/5 min 30 cycles a 95 °C/1 min	(2, 4, 5)

Gene	Primers	Primer sequence (5' to 3')	Size (bp)	PCR Conditions	References
<i>satA</i>	<i>satA</i> -F <i>satA</i> -R	GTT GTC TCT GGC TGT TGC AAT GAT GTT CCT CCA GAG C	501	56 °C/30 seg 72 °C/1 min 72 °C/5 min 4 °C/∞ min	
<i>fyuA</i>	<i>fyuA</i> -F <i>fyuA</i> -R	GCG CAT TTG CTG ATA CTG TTG CAT CAG ACG ATA AGC ATG AGC A	272		
<i>motB</i>	<i>motB</i> -F <i>motB</i> -R	GCG GAT TTT TCA CCG CAC GC	864	1 cycle a 95 °C/2 min	
<i>tosA</i>	<i>tosA</i> -F <i>tosA</i> -R	GGA TCT GCT GGC TCT GC GCA CAG CAT AAC GGG AAA AT	589	30 cycles 94 °C/30 seg 49 °C/1 min 72 °C/3 min	(2, 5)
<i>fliC</i>	<i>fliC</i> -F <i>fliC</i> -R	CCA GTC TGC GCT GTC GAG CAC GTT CAC GCC GTT GAA C	349	72 °C/5 min 4 °C/∞ min	
<i>papGI</i>	<i>papGI</i> -F <i>papGI</i> -R	CAA CCT GCT CTC AAT CTT TAC TG CAT GGC TGG TTG TTC CTA AAC AT	692	1 cycle a 94 °C/5 min	
<i>papGII</i>	<i>papGII</i> -F <i>papGII</i> -R	GGA ATG TGG TGA TTA CTC AAA GG TCC AGA GAC TGT TCA AGA AGG AC	562	30 cycles 94 °C/1 min 53 °C/1 min 72 °C/1 min	(4)
<i>papGIII</i>	<i>papGIII</i> -F <i>papGIII</i> -R	CAT GGC TGG TTG TTC CTA AAC AT TCC AGA GAC TGT GCA GAA GGA C	421	72 °C/5 min 4 °C/∞ min	
<i>bcsA</i>	<i>bcsA</i> -F <i>bcsA</i> -R	GAA GAA TTC CTG ACG CTG GCT AA TGA AAG CTT GGA ACG CAC TCA TC	2,767	1 cycle a 94 °C/5 min 30 cycles a 94 °C/1 min 56 °C/1 min, 72 °C/2 min 72 °C/5 min, 4 °C/∞ min	(6)
<i>ecpA</i>	<i>ecpA</i> -F <i>ecpA</i> -R	TGA AAA AAA AGG TTC TGG CAA TAG C	510	1 cycle a 94 °C/5 min	(7)

Gene	Primers	Primer sequence (5' to 3')	Size (bp)	PCR Conditions	References
		CGC TGA TGA GGA GAA AGT GAA		30 cycles a 94 °C/1 min 56 °C/1 min, 72 °C/2 min 72 °C/5 min, 4 °C/∞ min	
<i>cnf1</i>	<i>cnf1</i> -F <i>cnf1</i> -R	GAA CTT ATT AAG GAT AGT CAT TAT TTA TAA CGC TG	543	1 ciclo a 94 °C/5 min 30 cycles 94 °C/1 min 39.5 °C/1 min, 72 °C/1 min 72 °C/5 min, 4 °C/∞ min	(4)
<i>motA</i>	<i>motA</i> -F <i>motA</i> -R	GCG GAT TTT TCA CCG CAC GC GGA TCT GCT GGC TCT GC	632	1 cycle 94 °C/5 min 25 cycles a 94 °C/1 min 62 °C/1 min, 72 °C/1 min, 72 °C/5 min	(5)
<i>intl3</i>	<i>intl3</i> -F <i>intl3</i> -R	GCC TCC GGC AGC GAC TTT CAG ACG GAT CTG CCA AAC CTG ACT	979	1 cycle a 94 °C/5 min 30 cycles a 94 °C/1 min	
<i>intl2</i>	<i>intl2</i> -F <i>intl2</i> -R	CAC GGA TAT GCG ACA AAA AGG T GAT GAC AAC GAG TGA CGA AAT G	788	53 °C/1 min, 72 °C/1 min 72 °C/5 min, 4 °C/∞ min	(8)
<i>intl1</i>	<i>intl1</i> -F <i>intl1</i> -R	CAG TGG ACA TAA GCC TGT TC CCC GAG GCA TAG ACT GTA	160		
RV-Int-1	<i>Hep58</i> -F <i>Hep59</i> -R	GTA GGG CTT ATT ATG CAC GC CGG GAT CCC GGA CGG CAT GCA	Variable product	1 cycle a 94 °C/5 min 30 cycles a 94 °C/30 seg 55 °C/1 min, 72 °C/4 min	(9)
RV-Int-2	<i>Hep74</i> -F <i>Hep51</i> -R	CGG GAT CCC GGA CGG CAT GCA CGA TTT GTA GAT GCC ATC GCA AGT ACG AG	Variable product	72 °C/5 min, 4 °C/∞ min	

Gene	Primers	Primer sequence (5' to 3')	Size (bp)	PCR Conditions	References
<i>adk</i>	adk-Ec-F 20 bp/53 bp	5'-TCG TCG GCA GCG TCA GAT GTG TAT AAG AGA CAG ATG CGT ATC ATT CTG CTT GG-3'	593	1 cycle a 95 °C/5 min 30 cycles a 95 °C/1 min	This study
	adk-Ec-R 20 bp/54 bp	5'-GTC TCG TGG GCT CGG AGA TGT GTA TAA GAG ACA GCC GTC AAC TTT CGC GTA TTT-3'		62 °C/1 min, 72 °C/1 min 72 °C/5 min, 4 °C/∞ min	
<i>fumC</i>	fumC-Ec-F 20 bp/53 bp	5'-TCG TCG GCA GCG TCA GAT GTG TAT AAG AGA CAG TAG GCT TGT TGT CTG AAG AG-3'	530	1 cycle a 95 °C/5 min 30 cycles a 95 °C/1 min	This study
	fumC-Ec-R 21 bp/55 bp	5'-GTC TCG TGG GCT CGG AGA TGT GTA TAA GAG ACA GGG TAT TTA GTC CAG TAC CCA C-3'		62 °C/1 min, 72 °C/1 min 72 °C/5 min, 4 °C/∞ min	
<i>gyrB</i>	gyrB-Ec-F 20 bp/53 bp	5'-TCG TCG GCA GCG TCA GAT GTG TAT AAG AGA CAG AAG TGA TCA TGA CCG TTC TG-3'	549	1 cycle a 95 °C/5 min 30 cycles a 95 °C/1 min	This study
	gyrB-Ec-R 20 bp/54 bp	5'-GTC TCG TGG GCT CGG AGA TGT GTA TAA GAG ACA GGC GGA ATG TTG TTG GTA AAG-3'		62 °C/1 min, 72 °C/1 min 72 °C/5 min, 4 °C/∞ min	
<i>icd</i>	icd-Ec-F 20 bp/53 bp	5'-TCG TCG GCA GCG TCA GAT GTG TAT AAG AGA CAG ACC CCA GCC ATG CTG AAA TG-3'	567	1 cycle a 95 °C/5 min 30 cycles a 95 °C/1 min	This study
	icd-Ec-R 20 bp/54 bp	5'-GTC TCG TGG GCT CGG AGA TGT GTA TAA GAG ACA GCC TTT GTG CAC CAG AGT CAC-3'		62 °C/1 min, 72 °C/1 min 72 °C/5 min, 4 °C/∞ min	
<i>mdh</i>	mdh-Ec-F 20b9/53 bp	5'-TCG TCG GCA GCG TCA GAT GTG TAT AAG AGA CAG GCG CAG ATG TCG TTC TTA TC-3'	547	1 cycle a 95 °C/5 min 30 cycles a 95 °C/1 min	This study
	mdh-Ec-R 20 bp/54 bp	5'-GTC TCG TGG GCT CGG AGA TGT GTA TAA GAG ACA GCA TTC GAC AAC GCC TTG TTC-3'		62 °C/1 min, 72 °C/1 min 72 °C/5 min, 4 °C/∞ min	

Gene	Primers	Primer sequence (5' to 3')	Size (bp)	PCR Conditions	References
<i>purA</i>	purA-Ec-F	5'-TCG TCG GCA GCG TCA GAT GTG TAT AAG AGA	543	1 cycle a 95 °C/5 min	This study
	20 bp/53 bp	CAG GAT CCT TGA TTA TCA CGT TGC-3'		30 cycles a 95 °C/1 min	
	purA-Ec-R	5'-GTC TCG TGG GCT CGG AGA TGT GTA TAA GAG		62 °C/1 min, 72 °C/1 min	
	21 bp/55 bp	ACA GGT TTC ATC AAA CAG TTC GGT C-3'		72 °C/5 min, 4 °C/∞ min	
<i>recA</i>	recA-Ec-F	5'-TCG TCG GCA GCG TCA GAT GTG TAT AAG AGA	591	1 cycle a 95 °C/5 min	This study
	20 bp/53 bp	CAG TGC GTT TAT CGA TGC TGA AC-3'		30 cycles a 95 °C/1 min	
	recA-Ec-R	5'-GTC TCG TGG GCT CGG AGA TGT GTA TAA GAG		62 °C/1 min, 72 °C/1 min	
	20 bp/54 bp	ACA GGC TTT CTC GAT CAG CTT CTC-3'		72 °C/5 min, 4 °C/∞ min	

**Table S2.** Allelic profiles, type sequences, and clonal complexes associated with MDR and XDR UPEC O25b clinical strains.

Strains	Allelic profiles							STs	CCs
	<i>adk</i>	<i>fumC</i>	<i>gyrB</i>	<i>icd</i>	<i>mdh</i>	<i>purA</i>	<i>recA</i>		
606U1-O25b, 807U1-O25b	10	11	4	8	8	8	770	10	CC10
173U5-O25b, 424U1-O25b, 804U3-O25b	28	33	25	29	7	11	24	62	Unknown
117U1-O25b, 118U1-O25b, 177U1-O25b, 179U-O25b, 249U- O25b, 310U5-O25b, 494U2- O25b, 502U1-O25b, 553U-O25b, 562U-O25b, 657U-O25b, 736U1- O25b	21	35	27	6	5	5	4	69	CC69
21U-O25b, 294U4-O25b, 511U1- O25b, 592U4-O25b	36	24	9	13	17	11	25	73	CC73
609U-O25b	6	11	4	10	7	8	651	93	CC168
513U-O25b	20	45	41	43	5	32	2	117	Unknown
143U-O25b	49	4	44	9	11	35	7	120	Unknown
11U-O25b, 268U1-4-O25b, 268U5-O25b, 319U-O25b, 44U- O25b, 57U-O25b, 63U2-O25b, 674U-O25b, 674U1-O25b, 678U- O25b, 702U1-O25b, 711U-O25b, 720U-O25b, 722U-O25b, 756U1- O25b, 816U-O25b, 851U-O25b, 876U3-O25b, 877U-O25b, 909U- O25b, 945U2-O25b, 955U-O25b	53	40	47	13	36	28	29	131	CC131
672U1-O25b	21	35	61	484	5	5	4	394	CC394
532U1-O25b, 557U1-O25b	35	37	29	25	4	5	73	405	CC405
992U-O25b	37	38	19	27	17	8	26	421	CC95
618U1-O25b, 618U2-O25b	6	19	15	16	9	8	7	443	CC205
561U1-O25b, 618U3-O25b	13	52	156	14	17	25	17	998	Unknown
870U-O25b	4	26	2	211	5	5	19	1177	CC38

*adk* (adenylate kinase), *fumC* (fumarate hydratase), *gyrB* (DNA gyrase), *icd* (isocitrate/isopropylmalate dehydrogenase), *mdh* (malate dehydrogenase), *purA* (adenylosuccinate

dehydrogenase), *recA* (ATP/GTP binding motif), Type Sequences (STs) and Clonal complexes (CCs).

## References

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