Additional File 1

Table S1. List of genes, sequences of primers, cycling conditions for PCR assays, and amplicon sizes.

Assay	Gene	Primer sequence	PCR program[a]	Product size (bp)	Reference
E. coli confirmation	*uspA*	F: 5'-CCGATACGCTGCCAATCAGT-3'	94°C/ 120 s, 70°C/ 60 s, 72°C/ 60 s (30 cycles)	884	1
		R: 5'-ACGCAGACCGTAGGCCAGAT-3'			
Phylogenetic typing (Triplex method)	*chuA*	F: 5'-GACGAACCAACGGTCAGGAT-3'	94°C/ 30 s, 55°C/ 30 s, 72°C/ 30 s (30 cycles)	279	2
		R: 5'-TGCCGCCAGTACCAAAGACA-3'			
	yjaA	F: 5'-TGAAGTGTCAGGAGACGCTG-3'		211	
		R: 5'-ATGGAGAATGCGTTCCTCAAC-3'			
	TspE4.C2	F: 5'-GAGTAATGTCGGGGCATTCA-3'		152	
		R: 5'-CGCGCCAACAAAGTATTACG-3'			
Phylogenetic typing (Quadruplex method)	*chuA*	F: 5'-ATGGTACCGGACGAACCAAC-3'	94°C/ 5 s, 57°C/ 20 s (30 cycles)	288	3
		R: 5'-TGCCGCCAGTACCAAAGACA-3'			
	yjaA	F: 5'-CAAACGTGAAGTGTCAGGAG-3'		211	
		R: 5'-AATGCGTTCCTCAACCTGTG-3'			
	TspE4.C2	F: 5'-CACTATTCGTAAGGTCATCC-3'		152	

		R: 5′-AGTTTATCGCTGCGGGTCGC-3′			
	arpA (Group F)	F: 5′-AACGCTATTCGCCAGCTTGC-3′		400	
		R: 5′-TCTCCCCATACCGTACGCTA-3′			
	arpA (Group E)	F: 5′-GATTCCATCTTGTCAAAATATGCC-3′		301	
		R: 5′-GAAAAGAAAAAGAATTCCCAAGAG-3′			
	trpA (Group C)	F: 5′-AGTTTTATGCCCAGTGCGAG-3′	94°C/ 5 s, 59°C/ 20 s (30 cycles)	219	
		R: 5′-TCTGCGCCGGTCACGCCC-3′			
	trpA (Internal control)	F: 5′-CGGCGATAAAGACATCTTCAC-3′	94°C/ 5 s, 57°C/ 20 s (30 cycles)	489	
		R: 5′-GCAACGCGGCCTGGCGGAAG-3′			
DEC[b]	*eae*	F: 5′-GACCCGGCACAAGCATAAGC-3′	95°C/ 30 s, 54°C/ 90 s, 72°C/ 90 s (30 cycles)	384	4
		R: 5′-CCACCTGCAGCAACAAGAGG-3′			
	stx1	F: 5′-ATAAATCGCCATTCGTTGACTAC-3′	95°C/ 30 s, 52°C/ 60 s, 72°C/ 60 s (35 cycles)	180	
		R: 5′-AGAACGCCCACTGAGATCATC-3′			
	stx2	F: 5′-GGCACTGTCTGAAACTGCTCC-3′		255	
		R: 5′-TCGCCAGTTATCTGACATTCTG-3′			

	ltA	F: 5’-GGCGACAGATTATACCGTGC-3’	94°C/ 60 s, 50°C/ 60 s, 72°C/ 120 s (35 cycles)	696	
		R: 5’-CCGAATTCTGTTATATATGTC-3’			
	st1A	F: 5’-TCTGTATTATCTTTCCCCTC-3’		186	
		R: 5’-ATAACATCCAGCACAGGC-3’			
	ipaH	F: 5’-GTTCCTTGACCGCCTTTCCGATACCGTC-3’	94°C/ 40 s, 60°C/ 60 s, 72°C/ 60 s (35 cycles)	620	
		R: 5’-GCCGGTCAGCCACCCTCTGAGAGTAC-3’			
	bfpA	F: 5’-ATTGAATCTGCAATGGTGC-3’	95°C/ 40 s, 55°C/ 40 s, 72°C/ 40 s (30 cycles)	461	
		R: 5’-ATAGCAGTCGATTTAGCAGCC-3’			
	aggA	F: 5’-ATGCATTACTTTGGGTTTAG-3’	94°C/ 60 s, 50°C/ 60 s, 72°C/ 120 s (35 cycles)	414	
		R: 5’-TCAACCTTGACACTTGCC-3’			
ExPEC[c]	*vat*	F: 5’-TCAGGACACGTTCAGGCATTCAGT-3’	94°C/ 30 s, 63°C/ 90 s, 72°C/ 90 s	1100	5
		R: 5’-GGCCAGAACATTTGCTCCCTTGTT-3’			
	fyuA	F: 5’-GTAAACAATCTTCCCGCTCGGCAT-3’		850	

		R: 5’-TGACGATTAACGAACCGGAAGGGA-3’	(30 cycles)		
	chuA	F: 5’-CTGAAACCATGACCGTTACG-3’		652	
		R: 5’-TTGTAGTAACGCACTAAACC-3’			
	yfcV	F: 5’-ACATGGAGACCACGTTCACC-3’		292	
		R: 5’-GTAATCTGGAATGTGGTCAGG-3’			
	kpsM K1	F: 5’-TAGCAAACGTTCTATTGGTGC-3’	94°C/ 30 s, 63°C/ 30 s, 68°C/ 3 min (25 cycles)	153	6
		R: 5’-CATCCAGACGATAAGCATGAGCA-3’			
	kpsM II	F: 5’-GCGCATTTGCTGATACTGTTG-3’	94°C/ 30 s, 58°C/ 30 s, 72°C/ 3 min (25 cycles)	577	7
		R: 5’-AGGTAGTTCAGACTCACACCT-3’			

[a]Before starting the PCR cycle, DNA was first denatured at 95°C/15 min. After completion of the cycle, there was a final primer extension at 72°C/8 min.

[b]Diarrheagenic *E. coli*

[c]Extra-intestinal pathogenic *E. coli*

References in Table 1

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Table S2. Sample collection dates and locations, and phylogenetic groupings of *E. coli* by triplex and quadruplex PCR assays.

Date of sample collection	Location (no. of confirmed *E. coli*)	Phylogenetic grouping by triplex PCR (no. of isolates)	Phylogenetic grouping by quadruplex PCR (no. of isolates)
May 2018	J[a] (1) Z[b] (2)	B1 (2) D (1)	B1 (2) D (1)
June 2018	J (7) Z (2) H[c] (5)	A (6) B1 (3) D (5)	A (6) B1 (3) D (4) E (1)
July 2018	J (1) Z (3) H (2)	A (3) B1 (1) B2 (1) D (1)	A (3) B1 (1) B2 (1) D (1)
August 2018	J (6) Z (6) H (7)	A (9) B1 (5) D (2)	A (9) B1 (5) D (1) E (1)
September 2018	J (2) Z (1) H (9)	A (8) B1 (3) B2 (1)	A (7) B1 (3) B2 (1) C (1)
October 2018	J (4) Z (1) H (4)	A (4) B1 (3) D (2)	A (4) B1 (3) D (1) F (1)

November 2018	J (4) Z (1) H (4)	A (7) B1 (2)	A (7) B1 (2)
December 2018	J (3) Z (4) H (3)	A (3) B1 (3) D (4)	A (3) B1 (3) D (2) F (2)
January 2019	J (4) Z (5) H (5)	A (3) B1 (3) B2 (2) D (6)	A (3) B1 (3) B2 (2) D (3) F (1) E (2)
February 2019	J (4) Z (2) H (2)	A (3) B1 (3) D (2)	A (3) B1 (3) F (2)
March 2019	J (3) Z (6) H (3)	A (6) B1 (1) B2 (4) D (1)	A (6) B1 (1) B2 (4) D (1)
April 2019	J (7) Z (7) H (10)	A (16) B1 (5) D (3)	A (14) B1 (5) D (1) F (2) C (2)

[a]Jabriya.

[b]Zahraa.

[c]Hateen.

Table S3. Distribution of ExPEC according to location and date of collection of samples.

Month/Year	No. of ExPEC isolates	Location		
		Jabriya	Zahraa	Hateen
May/2018	1	0	1	0
June/2018	7	2	1	4
July/2018	2	0	1	1
August/2018	8	1	2	5
September/2018	2	0	0	2
October/2018	4	1	0	3
November/2018	3	2	1	0
December/2018	5	2	2	1
January/2019	7	2	3	2
February/2019	4	0	2	2
March/2019	7	2	3	2
April/2019	7	2	0	5