

Supplementary Table 2. Comparative prevalence of plasmid and chromosomally mediated genes and traits and plasmid replicon types in human NMEC and HFEC§

Gene	NMEC n = 85 (%)	HFEC n = 204 (%)	Chi square	p-value
Plasmid-PAI Genes/Traits				
<i>sitA</i>	96.5	62.3	35.09	<0.0001
<i>traT</i>	88.2	54.4	29.93	<0.0001
<i>iutA</i>	80	29.9	69.04	<0.0001
<i>cvaA</i>	71.8	14.2	92.67	<0.0001
<i>cvaB5</i>	68.2	13.2	87.42	<0.0001
<i>ompTp</i>	67.1	3.9	137.20	<0.0001
<i>iroN</i>	65.9	22.6	49.33	<0.0001
<i>cvaB3'</i>	64.7	17.2	63.26	<0.0001
<i>etsA</i>	63.5	6.9	107.08	<0.0001
<i>hlyF</i>	62.4	3.9	123.02	<0.0001
<i>etsB</i>	61.2	8.3	92.18	<0.0001
<i>cvaC</i>	57.7	3.9	109.38	<0.0001
<i>iss</i>	56.5	7.4	84.91	<0.0001
<i>tsh</i>	32.9	0.9	65.88	<0.0001
<i>colB</i>	21.2	3.9	21.82	<0.0001
<i>eitA</i>	5.9	3.9	0.54	0.4637
<i>eitB</i>	5.9	3.9	0.54	0.4637
<i>colM</i>	2.4	3.4	0.23	0.6306
Chromosomally Encoded Genes/Traits				
Adhesins				
<i>bmaE</i>	2.35	0	4.8334	0.0279
<i>fimH</i>	95.3	92.2	0.92	0.3383
<i>focG</i>	2.4	3.4	0.23	0.6306
<i>gafD</i>	1.2	0.5	0.41	0.5214
<i>papA</i>	30.6	28.4	0.14	0.7129
<i>papC</i>	36.5	31.9	0.57	0.4486
<i>papEF</i>	32.9	30.9	0.12	0.7313
<i>papGI</i>	56.5	13.7	56.56	<0.0001
<i>papGI'</i>	31.8	13.2	13.56	0.0002
<i>papGII</i>	24.7	18.6	1.36	0.2428
<i>papGIII</i>	4.7	13.2	5.56	0.0328
<i>papG1*</i>	5.9	2.5	2.11	0.1459
<i>papG 2/ 3</i>	16.5	23.5	1.77	0.1829
<i>sfaS</i>	49.4	6.9	69.53	<0.0001
<i>sfa-foc</i>	55.3	16.2	45.86	<0.0001
<i>adhE</i>	0	3.92	3.4282	0.0641
<i>eaeH</i>	97.7	88.2	6.51	0.0105
<i>aufA</i>	75.3	48	18.09	<0.0001
<i>aufC</i>	77.7	49.5	19.47	<0.0001
<i>aufE</i>	77.7	49	20.11	<0.0001
<i>aufG</i>	67.1	64.2	0.21	0.6447
Iron-Related Genes/Traits				
<i>feoB</i>	100	96.1	3.43	0.0641
<i>fyuA</i>	69.4	58.3	3.11	0.0777
<i>fyuA1</i>	95.3	63.2	31.05	<0.0001

<i>ireA</i>	17.6	19.1	0.09	0.7701
<i>irp2</i>	94.1	62.3	29.97	<0.0001
Protectins				
<i>kpsMT K1</i>	71.8	26.9	50.13	<0.0001
<i>kpsMTII</i>	87.1	58.8	21.68	<0.0001
<i>kpsMTIII</i>	1.2	0.9	0.02	0.8809
Toxin Genes				
<i>cdtB</i>	37.7	2.5	66.58	<0.0001
<i>cnf1</i>	4.7	14.7	5.78	0.0162
<i>hlyD</i>	3.4	13.2	6.08	0.0137
Miscellaneous Genes/Traits				
<i>fliCH7</i>	50.6	21.1	24.99	<0.0001
<i>ibeA</i>	60	16.7	54.27	<0.0001
<i>ompT</i>	30.6	56.9	16.57	<0.0001
<i>maIX PAI</i>	57.6	50	1.41	0.2357
<i>gimB</i>	60	22.6	37.74	<0.0001
<i>VC39</i>	0	0.49	0.4181	0.5179
<i>vat</i>	77.6	51.9	16.43	<0.0001
<i>I024UI</i>	5.9	2.9	1.42	0.2338
<i>I051UI</i>	2.4	1.5	0.27	0.6002
<i>parB</i>	5.9	3.9	0.54	0.4637
<i>umuC</i>	5.9	3.9	0.54	0.4637
<i>rfc</i>	4.7	1.9	1.68	0.1949
<i>iha</i>	28.2	20.6	1.99	0.1582
<i>afa</i>	27.1	4.9	29.12	<0.0001
<i>blaTEM</i>	34.1	17.7	9.34	0.0022
<i>aac3 VIa</i>	0	0.49	0.4181	0.5179
<i>aac3 VIb</i>	0	0.98	0.8391	0.3596
<i>tetA</i>	21.2	4.4	19.91	<0.0001
<i>tetB</i>	1.2	7.4	4.38	0.0364
<i>groEL</i>	0	0.98	0.8391	0.3596
<i>aph3IA</i>	1.2	2.5	0.48	0.4887
<i>terX</i>	3.53	0	7.2755	0.0070
<i>pcoA</i>	2.4	9.3	4.31	0.0378
<i>pcoD</i>	2.4	7.8	3.10	0.0785
<i>pcoE</i>	20	25.9	1.17	0.2796
<i>dfr1</i>	5.9	1.5	4.34	0.0373
<i>dfr7</i>	0	2.45	2.12	0.1454
<i>dfr17</i>	2.4	32.4	30.01	<0.0001
<i>arsC</i>	84.7	57.4	19.84	<0.0001
<i>silE</i>	3.5	9.3	2.85	0.0911
<i>silP</i>	2.4	8.3	3.49	0.0616
<i>sulI</i>	11.8	4.9	4.39	0.0362
<i>merA</i>	11.8	5.9	2.95	0.0858
<i>intI1</i>	14.1	5.4	6.24	0.0125
<i>iseC12</i>	34.1	29.4	0.62	0.4298
<i>aadA</i>	7.1	0.9	8.24	0.0041
<i>qacEdelta1</i>	12.9	4.4	6.78	0.0092
Plasmid Replicons				
B/O	41.2	14.7	24.12	<0.0001
FIC	3.5	2.9	0.07	0.7931
A/C	0	0.49	0.4181	0.5179
P	9.4	1.5	10.33	0.0013

K/B	2.4	0.9	0.83	0.3628
FIIA	1.2	0.9	0.02	0.8809
FIA	1.2	3.4	1.13	0.2870
FIB	92.9	55.4	37.94	<0.0001
Y	1.2	3.4	1.13	0.2870
II	7.1	7.8	0.05	0.8188
III1	0	1.96	1.6901	0.1936
N	1.18	0	2.4083	0.1207
L/M	0	0.49	0.4181	0.5179

APEC O1 Genomic Islands Genes/Traits of Unknown Function

1712	81.2	51.5	22.10	<0.0001
1717	9.4	2.5	6.77	0.0093
1718	1.2	0.5	0.41	0.5214
1716	5.9	0.9	6.10	0.0135
1721	5.9	2.5	2.11	0.1459
1713	76.5	50.9	16.06	<0.0001
1724	5.9	2.5	2.11	0.1459
1753	71.8	31.4	39.88	<0.0001
1756	69.4	38.2	23.39	<0.0001
1757	75.3	38.2	32.97	<0.0001
1761	75.3	35.3	38.53	<0.0001
1767	70.6	38.2	25.17	<0.0001
1770	70.6	38.2	25.17	<0.0001
1771	75.3	35.3	38.53	<0.0001
4460	14.1	4.4	8.39	0.0038
4464	42.4	20.6	14.42	0.0001
4467	48.2	25	14.93	0.0001
4468	49.4	25.9	14.93	0.0001
4472	49.9	25.9	14.93	0.0001
4480	41.2	23.5	9.13	0.0025
11	47.1	19.6	22.58	<0.0001
12	49.4	25.9	14.93	0.0001
516	10.6	12.3	0.16	0.6886
517	10.6	11.3	0.03	0.8655
520	9.4	9.3	0.01	0.9792
522	9.4	8.8	0.03	0.8735
525	10.6	9.3	0.11	0.7386
530	10.6	8.3	0.37	0.5416
532	9.4	8.3	0.09	0.7663
1177	54.1	27.5	18.68	<0.0001
1179	49.4	23.5	18.74	<0.0001
17-3	12.9	9.8	0.62	0.4323
17-4	7.1	11.3	1.18	0.2771
1180	52.9	26.9	17.90	<0.0001
1181	48.2	23	17.99	<0.0001
1184	54.1	27.5	18.68	<0.0001
1185	37.7	26.5	3.59	0.0583
2314	64.7	62.3	0.15	0.6942
18-2	36.5	32.8	0.35	0.5528
2310	34.1	30.4	0.39	0.5344

2301	34.1	32	0.12	0.7291
2291	15.3	19.1	0.59	0.4407
2277	14.1	19.6	1.23	0.2683
2291	15.3	18.6	0.46	0.4982
2271	12.9	18.6	1.38	0.2405
2264	15.3	17.2	0.15	0.6982
2103	64.7	16.7	64.97	<0.0001
2101	64.7	16.2	66.72	<0.0001
2099	43.5	8.8	46.90	<0.0001
2095	64.7	16.7	64.97	<0.0001
2093	64.7	16.2	66.72	<0.0001
2080	50.6	26.9	14.95	0.0001
2078	38.8	3.4	63.02	<0.0001
2071	74.1	38.2	30.92	<0.0001
2068	72.9	37.6	29.77	<0.0001
<i>aec37</i>	1.2	1.9	0.22	0.6413
<i>aec41</i>	1.2	0.5	0.41	0.5214
<i>aec43</i>	12.9	0.9	19.98	<0.0001
<i>aec46</i>	1.2	0.5	0.41	0.5214
<i>aec58</i>	58.8	59.8	0.02	0.8771
<i>aec63</i>	7.1	34.8	23.63	<0.0001
<i>aec68</i>	8.2	40.7	29.47	<0.0001
<i>aec71</i>	30.6	67.2	32.63	<0.0001
<i>aec35</i>	75.3	1.9	179.33	<0.0001
1696	88.2	67.2	13.64	0.0002
3040	85.9	80.9	1.03	0.3097
1698	88.2	66.7	14.16	0.0002
4059	30.6	5.9	32.07	<0.0001
4055	2.4	4.9	0.98	0.3223
4053	3.5	8.8	2.50	0.1142
4051	4.7	2.9	0.56	0.4545
4038	32.9	12.3	17.14	<0.0001
4030	32.9	13.2	15.12	0.0001
4022	28.2	13.2	9.29	0.0023
1648	83.5	64.2	10.64	0.0011
1683	82.4	57.4	16.42	<0.0001
1682	83.5	64.2	10.64	0.0011
1681	83.5	64.2	10.64	0.0011
1665	81.2	44.1	33.30	<0.0001
1664	81.2	45.1	31.65	<0.0001
1663	81.2	45.1	31.65	<0.0001
1662	76.5	41.7	29.11	<0.0001

§ = Some of the genes/traits listed above could be assigned to multiple categories, e.g., *iroN* and *iutA* are involved in iron acquisition (1), and *iss* encodes a protectin (1). However, all three are categorized as plasmid genes rather than into the more ‘function-oriented’ groups in an effort to better detect plasmid PAIs in the isolates studied here. In addition, some genes may occur in plasmid and chromosomal PAIs, sometimes in the same isolate. For example, *sitA* has been found on the chromosome and on a plasmid PAI in APEC O1.

The following traits were not detected in NMEC or HFEC: *terD*, *terF*, *terY3*, *qnr*, IncT, IncW, IncX, IncHIII, and APEC O1 genomic island 4041.

1. **Rodriguez-Siek, K. E., C. W. Giddings, C. Doetkott, T. J. Johnson, M. K. Fakhr, and L. K. Nolan.** 2005. Comparison of *Escherichia coli* isolates implicated in human urinary tract infection and avian colibacillosis. *Microbiology* **151**:2097-2110.