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# Case–Control Study of Factors Associated with Hemolytic Uremic Syndrome among Shiga Toxin–Producing *Escherichia coli* Patients, Ireland, 2017–2020

## Appendix 2

**Appendix 2 Table 1.** Microbial genomic factors (individual *stx* genes) associated with hemolytic uremic syndrome development among people notified with Shiga toxin-producing *Escherichia coli* in Ireland, case-control study 2017–2020

Total	Genes	Cases (HUS)		Controls (Non-HUS)		OR	95% CI			p value*
		n	%	n	%					
	None	58	54	116	28	Ref				
<i>stx1</i>	<i>stx1a</i>	48	44	246	59	<b>0.4</b>	<b>0.25</b>	-	<b>0.61</b>	<b>&lt;0.05</b>
	<i>stx1c</i>	0	0.0	48	12	0.0	NA	-	NA	0.976
	<i>stx1d</i>	0	0.0	3	0.7	0.0	NA	-	NA	0.994
	Missing	2	1.9	3	0.7					
	None	4	3.7	133	32	Ref				
<i>stx2†</i>	<i>stx2a†</i>	97	90	201	48	<b>16.0</b>	<b>6.5</b>	-	<b>53</b>	<b>&lt;0.05</b>
	<i>stx2b</i>	1	0.9	37	8.9	0.9	0.0	-	6.3	0.925
	<i>stx2c†</i>	4	3.7	32	7.7	4.2	0.9	-	18	0.052
	<i>stx2d</i>	0	0.0	6	1.4	0.0	NA	-	NA	0.989
	<i>stx2e</i>	0	0.0	4	1.0	0.0	NA	-	NA	0.991
	Missing	2	1.9	3	0.7					

\*By  $\chi^2$  test. Bold text indicates statistical significance.

†One control had both *stx2a* and *stx2c*, and one control had both *stx2c* and *stx2a*: for both controls the second *stx* gene was excluded from the analysis.

**Appendix 2 Table 2.** Microbial genomic factors from GWAS (n = 26 genes) associated with hemolytic uremic syndrome development among people notified with Shiga toxin-producing *Escherichia coli* in Ireland, case-control study 2017–2020

Total	Gene present	Cases (HUS)		Controls (Non-HUS)		OR	95% CI			p value*
		n	%	n	%					
<i>stx2B</i>	No	12	11	183	44	Ref				
	Yes	96	89	233	56	<b>6.3</b>	<b>3.5</b>	-	<b>12</b>	<b>&lt;0.05</b>
<i>ybcQ_1</i>	No	18	17	212	51	Ref				
	Yes	90	83	204	49	<b>5.2</b>	<b>3.1</b>	-	<b>9.2</b>	<b>&lt;0.05</b>
<i>ydfU_1</i>	No	24	22	227	55	Ref				
	Yes	84	78	189	45	<b>4.2</b>	<b>2.6</b>	-	<b>7.0</b>	<b>&lt;0.05</b>
group_30198	No	22	20	217	52	Ref				
	Yes	86	80	199	48	<b>4.3</b>	<b>2.6</b>	-	<b>7.2</b>	<b>&lt;0.05</b>
group_31760	No	22	20	218	52	Ref				
	Yes	86	80	198	48	<b>4.3</b>	<b>2.6</b>	-	<b>7.3</b>	<b>&lt;0.05</b>
<i>rsxG</i>	No	6	5.6	80	19	Ref				
	Yes	102	94	336	81	<b>4.1</b>	<b>1.9</b>	-	<b>11</b>	<b>&lt;0.05</b>
<i>sodA</i>	No	32	30	219	53	Ref				
	Yes	76	70	197	47	<b>2.6</b>	<b>1.7</b>	-	<b>4</b>	<b>&lt;0.05</b>
<i>pfkA</i>	No	32	30	218	52	Ref				
	Yes	76	70	198	48	<b>2.6</b>	<b>1.7</b>	-	<b>4.2</b>	<b>&lt;0.05</b>

	Gene present	Cases (HUS)		Controls (Non-HUS)		OR	95% CI		p value*	
		n	%	n	%					
Total		108	-	416	-					
<i>sbp</i>	No	32	30	210	50	Ref				
	Yes	76	70	206	50	<b>2.4</b>	<b>1.6</b>	-	<b>3.9</b>	<b>&lt;0.05</b>
<i>cdh</i>	No	32	30	208	50	Ref				
	Yes	76	70	208	50	<b>2.4</b>	<b>1.5</b>	-	<b>3.8</b>	<b>&lt;0.05</b>
<i>tpiA</i>	No	31	29	209	50	Ref				
	Yes	77	71	207	50	<b>2.5</b>	<b>1.6</b>	-	<b>4.0</b>	<b>&lt;0.05</b>
group_36684	No	31	29	210	50	Ref				
	Yes	77	71	206	50	<b>2.5</b>	<b>1.6</b>	-	<b>4.1</b>	<b>&lt;0.05</b>
group_31570	No	31	29	207	50	Ref				
	Yes	77	71	209	50	<b>2.5</b>	<b>1.6</b>	-	<b>3.9</b>	<b>&lt;0.05</b>
group_33058	No	30	28	208	50	Ref				
	Yes	78	72	208	50	<b>2.6</b>	<b>1.7</b>	-	<b>4.2</b>	<b>&lt;0.05</b>
<i>uspD</i>	No	31	29	208	50	Ref				
	Yes	77	71	208	50	<b>2.5</b>	<b>1.6</b>	-	<b>4.0</b>	<b>&lt;0.05</b>
<i>fi eF</i>	No	33	31	219	53	Ref				
	Yes	75	69	197	47	<b>2.5</b>	<b>1.6</b>	-	<b>4.0</b>	<b>&lt;0.05</b>
<i>cpxP</i>	No	31	29	208	50	Ref				
	Yes	77	71	208	50	<b>2.5</b>	<b>1.6</b>	-	<b>4.0</b>	<b>&lt;0.05</b>
group_34824	No	31	29	208	50	Ref				
	Yes	77	71	208	50	<b>2.5</b>	<b>1.6</b>	-	<b>4.0</b>	<b>&lt;0.05</b>
<i>cpxA</i>	No	31	29	206	50	Ref				
	Yes	77	71	210	50	<b>2.4</b>	<b>1.6</b>	-	<b>3.9</b>	<b>&lt;0.05</b>
<i>yiiM</i>	No	31	29	205	49	Ref				
	Yes	77	71	211	51	<b>2.4</b>	<b>1.5</b>	-	<b>3.9</b>	<b>&lt;0.05</b>
<i>ygiW_2</i>	No	17	16	141	34	Ref				
	Yes	91	84	275	66	<b>2.7</b>	<b>1.6</b>	-	<b>4.9</b>	<b>&lt;0.05</b>
group_5720	No	32	30	223	54	Ref				
	Yes	76	70	193	46	<b>2.7</b>	<b>1.8</b>	-	<b>4.4</b>	<b>&lt;0.05</b>
group_30187	No	8	7.4	117	28	Ref				
	Yes	100	93	299	72	<b>4.9</b>	<b>2.5</b>	-	<b>11</b>	<b>&lt;0.05</b>
group_31748	No	10	9.3	132	32	Ref				
	Yes	98	91	284	68	<b>4.6</b>	<b>2.4</b>	-	<b>9.6</b>	<b>&lt;0.05</b>
group_20906	No	60	56	313	75	Ref				
	Yes	48	44	103	25	<b>2.4</b>	<b>1.6</b>	-	<b>3.8</b>	<b>&lt;0.05</b>
<i>viaU</i>	No	6	5.6	86	21	Ref				
	Yes	102	94	330	79	<b>4.4</b>	<b>2.0</b>	-	<b>12</b>	<b>&lt;0.05</b>

\*By  $\chi^2$  test. Bold text indicates statistical significance.