

Table S1. Genotypic and phenotypic phase variation status of *hmbR* and *hpuA* among a representative panel of English, Welsh and Northern Irish invasive serogroup B meningococcal isolates and their corresponding clinical specimens.

Isolate/ specimen	Isolate/ genome id ^g	Sequence type	Clonal complex (cluster ^f)	Specimen	PV status					
					Isolates				Specimens (genotypic, versus corresponding isolate)	
					Genotypic (effective homopolymeric tract length/absolute tract length where different)			Phenotypic ^b	<i>hmbR</i>	<i>hpuA</i>
					<i>hmbR</i>	<i>hpuA</i>	Overall ^a			
i1/s1	20066	11	11	Blood	ON (9)	ON (10)	on	on	same	same
i2/s2	20215	11	11	CSF	ON (12)	ON (10)	on	on	same	same
i28/s28	20765	9328	18	Blood	ON (9)	OFF (6)	on	indeterminate ^d	same	same
i5/s5	20297	32	32	Blood	OFF (10)	ON (13)	on	on	same	same
i88/s88	20740	32	32	Plasma	ON (15)	<i>n/a</i>	on	on	same	<i>n/a</i>
i89/s89	20747	33	32	Blood	ON (9)	<i>n/a</i>	on	on	same	<i>n/a</i>
i6/s6	20139	259	32	Blood	ON (12)	<i>n/a</i>	on	on	same	<i>n/a</i>
i7/s7	20772	749	32	Blood	OFF (10)	<i>n/a</i>	off	off	same	<i>n/a</i>
i4/s4	20789	2503	32	Plasma	OFF (11/9)	<i>n/a</i>	off	off	same	<i>n/a</i>
i90/s90	20739	35	35	Blood	OFF (8)	ON (12/13)	off	off	same	same
i15/s15	20790	60	60	Blood	OFF (10)	indeterminate	Indeterminate ^c	Indeterminate ^d	same	same
i91/s91	20741	7788	60	Blood	OFF (7)	OFF (11/12)	off	off	same	same
i19/s19	20287	9327	60	Blood	OFF (8)	ON (13/14)	on	on	same	same
i13/s13	20248	9239	103	Blood	OFF (11)	ON (10)	on	on	same	same
i583/s62	20804	162	162	Blood	OFF (8)	ON (10)	on	on	same	same
i22/s22	20794	162	162	Blood	OFF (8)	ON (13)	on	on	same	same
i63/s63	20756	162	162	Blood	OFF (8)	ON (13)	on	on	same	same
i21/s21	20786	8383	162	Blood	ON (9)	ON (10)	on	on	same	same
i23/s23	20797	213	213	Blood	OFF (7)	<i>n/a</i>	off	off	same	<i>n/a</i>
i26/s26	20759	213	213	Blood	ON (9)	<i>n/a</i>	on	on	same	<i>n/a</i>

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					Genotypic (effective homopolymeric tract length/absolute tract length where different)			Phenotypic ^b	<i>hmbR</i>	<i>hpuA</i>
					<i>hmbR</i>	<i>hpuA</i>	Overall ^a			
i29/s29	20769	213	213	Blood	OFF (10)	<i>n/a</i>	off	off	same	<i>n/a</i>
i31/s31	20771	213	213	Blood	ON (9)	<i>n/a</i>	on	on	same	<i>n/a</i>
i27/s27	20763	2388	213	Serum	ON (9)	<i>n/a</i>	on	on	same	<i>n/a</i>
i48/s48	20793	461	461	Blood	OFF (13)	<i>n/a</i>	off	off	same	<i>n/a</i>
i55/s55	20753	461	461	Blood	ON (15)	<i>n/a</i>	on	on	indeterminate ^e	<i>n/a</i>
i60/s60	20780	1157	1157	Blood	<i>n/a</i>	ON (10/11)	on	on	<i>n/a</i>	same
i61/s61	20035	1157	1157	CSF	ON (9)	ON (13/14)	on	on	same	same
i59/s59	20777	3149	1157	CSF	ON (9)	OFF (9/10)	on	on	same	same
i9/s9	20775	13	269 (269)	Blood	OFF (11)	OFF (9)	off	off	same	same
i32/s32	20808	269	269 (269)	Blood	ON (9)	<i>n/a</i>	on	indeterminate ^d	same	<i>n/a</i>
i35/s35	20752	269	269 (269)	Blood	ON (9)	<i>n/a</i>	on	indeterminate ^d	same	<i>n/a</i>
i39/s39	20807	269	269 (269)	Blood	ON (9)	<i>n/a</i>	on	on	same	<i>n/a</i>
i40/s40	20774	269	269 (269)	Blood	ON (9)	<i>n/a</i>	on	Indeterminate ^d	same	<i>n/a</i>
i41/s41	20778	269	269 (269)	Blood	OFF (10)	<i>n/a</i>	off	off	same	<i>n/a</i>
i42/s42	20767	269	269 (269)	CSF	OFF (8)	<i>n/a</i>	off	off	same	<i>n/a</i>
i96/s96	20744	269	269 (269)	CSF	OFF (8)	<i>n/a</i>	off	off	same	<i>n/a</i>
i18/s18	20119	479	269 (269)	Blood	ON (9)	<i>n/a</i>	on	on	same	<i>n/a</i>
i37/s37	20806	1214	269 (269)	Blood	ON (9)	<i>n/a</i>	on	on	same	<i>n/a</i>
i36/s36	20754	9240	269 (269)	Blood	ON (9)	<i>n/a</i>	on	indeterminate ^d	no product	<i>n/a</i>
i92/s92	20784	275	269 (275)	Blood	ON (9)	OFF (9)	on	on	same	same
i95/s95	20743	275	269 (275)	Blood	<i>n/a</i>	ON (10)	on	on	<i>n/a</i>	same
i97/s97	20745	275	269 (275)	Blood	OFF (8)	ON (10)	on	on	same	same

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					<i>hmbR</i>	<i>hpuA</i>	Overall ^a			
i45/s45	20779	1161	269 (275)	Blood	ON (9)	ON (4)	on	on	same	same
i46/s46	20783	1161	269 (275)	Blood	OFF (10)	OFF (9)	off	off	no product	no product
i47/s47	20787	1161	269 (275)	Blood	OFF (8)	ON (10)	on	on	same	same
i50/s50	20796	1161	269 (275)	Blood	OFF (10)	ON (13)	on	on	same	same
i98/s98	20737	1161	269 (275)	Blood	OFF (10)	ON (13)	on	on	same	same
i11/s11	19986	1163	269 (275)	Blood	ON (9)	ON (10/9)	on	on	same	same
i53/s53	20751	1991	269 (275)	Blood	ON (9)	OFF (8)	on	on	same	same
i52/s52	20750	9242	269 (275)	Blood	OFF (10)	OFF (9)	off	off	same	same
i105/s105	20742	41	41/44	Serum	ON (9)	<i>n/a</i>	on	on	same	<i>n/a</i>
i106/s106	20748	41	41/44	CSF	OFF (8)	<i>n/a</i>	off	off	same	<i>n/a</i>
i14/s14	20788	41	41/44	Blood	ON (9)	<i>n/a</i>	on	on	same	<i>n/a</i>
i30/s30	20770	41	41/44	CSF	ON (9)	<i>n/a</i>	on	on	same	<i>n/a</i>
i70/s70	20781	41	41/44	Blood	OFF (8)	ON (13)	on	on	same	same
i81/s81	20755	41	41/44	Blood	OFF (8)	<i>n/a</i>	off	Indeterminate ^d	same	<i>n/a</i>
i85/s85	20762	41	41/44	Blood	ON (9)	<i>n/a</i>	on	Indeterminate ^d	same	<i>n/a</i>
i75/s75	20798	154	41/44	Blood	ON (9)	<i>n/a</i>	on	on	same	<i>n/a</i>
i74/s74	20795	303	41/44	Blood	ON (9)	<i>n/a</i>	on	on	same	<i>n/a</i>
i25/s25	20758	318	41/44	Blood	ON (9)	<i>n/a</i>	on	on	same	<i>n/a</i>
i77/s77	20802	340	41/44	Blood	ON (9)	<i>n/a</i>	on	on	same	<i>n/a</i>
i86/s86	20764	340	41/44	Blood	ON (9)	<i>n/a</i>	on	on	same	<i>n/a</i>
i16/s16	20766	839	41/44	Blood	ON (9)	<i>n/a</i>	on	on	same	<i>n/a</i>
i101/s101	20738	1194	41/44	Blood	ON (9)	<i>n/a</i>	on	on	same	<i>n/a</i>

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					<i>hmbR</i>	<i>hpuA</i>	Overall ^a			
i69/s69	20809	1788	41/44	Blood	ON (6)	<i>n/a</i>	on	Indeterminate ^d	same	<i>n/a</i>
i73/s73	20792	3754	41/44	Blood	ON (9)	<i>n/a</i>	on	on	same	<i>n/a</i>
i82/s82	20757	4100	41/44	Blood	ON (9)	<i>n/a</i>	on	off	same	<i>n/a</i>
i80/s80	20805	6761	41/44	Blood	ON (9)	<i>n/a</i>	on	on	same	<i>n/a</i>
i76/s76	20800	7385	41/44	Blood	ON (9)	<i>n/a</i>	on	on	same	<i>n/a</i>
i83/s83	20760	9160	41/44	Blood	OFF (8)	<i>n/a</i>	off	off	same	<i>n/a</i>
i8/s8	20773	9238	41/44	Blood	ON (9)	<i>n/a</i>	on	on	same	<i>n/a</i>
i49/s49	20791	1159	UA	CSF	<i>n/a</i>	ON (10)	on	on	<i>n/a</i>	same
i34/s34	19965	1575	UA	Blood	OFF (10)	ON (7)	on	on	same	same
i107/s107	20746	1867	UA	Blood	ON (12)	<i>n/a</i>	on	on	same	<i>n/a</i>
i3/s3	20767	3280	UA	CSF	ON (9)	<i>n/a</i>	on	on	same	<i>n/a</i>
i17/s17	20118	4051	UA	Blood	<i>n/a</i>	OFF (8/9)	off	off	<i>n/a</i>	same
i10/s10	20776	5151	UA	CSF	ON (9)	<i>n/a</i>	on	on	same	<i>n/a</i>
i87/s87	20801	5335	UA	Blood	OFF (10)	OFF (12)	off	off	same	same
i20/s20	20331	8944	UA	Blood	ON (9)	<i>n/a</i>	on	on	same	<i>n/a</i>
i51/s51	20799	9241	UA	CSF	OFF (8)	ON (13)	on	on	same	indeterminate ^e

^aPresence of at least one gene in the ON configuration (ON = at least one gene present in ON configuration; OFF = no genes in ON configuration).

^bAbility to utilise Hb as sole iron source.

^cIsolate contained >18 homopolymeric tract repeats.

^dPoor growth on Mueller Hinton agar or uncertainty regarding growth status.

^eSpecimen did not yield detectable PCR products at reduced number of PCR cycles.

^fIndicates whether ST is centred upon ST-269 (269) or ST-275 (275) by eBURST analysis.

^gisolate/genome id on the pubmlst database (http://pubmlst.org/perl/bigfdb/bigfdb.pl?db=pubmlst_neisseria_isolates).

n/a = not applicable (*hmbR*/*hpuA*)

same = same as that of corresponding isolate.