

Table S4. Genes known or hypothesized to be involved in *Neisseria* virulence. The 177 targets were identified by searching the literature for genes previously identified as having a role in *Neisseria* virulence. Genes in bold type are present in all 19 *Neisseria* genomes used in the study.

Gene Names				
<i>basR</i>	<i>iga2</i>	NGO1755 (Maf-related protein)	NMB1946 (outer membrane protein)	<i>pilO</i>
<i>basS</i>	<i>kat</i>	<i>nlpD</i>	NMB1989 (iron transport-related protein)	<i>pilP</i>
<i>bcp</i>	<i>kdsA</i>	NMB0051 (twitching motility protein)	NMB1990 (iron transport-related protein)	<i>pilQ</i>
<i>bfrA</i>	<i>kdsB</i>	NMB0065 (hypothetical protein)	NMB1991 (iron transport-related protein)	<i>pilS</i>
<i>bfrB</i>	<i>kdtA</i>	NMB0293 (TonB-dependent receptor)	NMB2127 (protease)	<i>pilT1</i>
<i>ctrA</i>	<i>lbpA</i>	NMB0364 (FrpC-related protein)	NMB2132 (transferrin-binding protein)	<i>pilT2</i>
<i>ctrB</i>	<i>lbpB</i>	NMB0365 (FrpC-related protein)	NMW0547 (TonB-dependent receptor)	<i>pilU</i>
<i>ctrC</i>	<i>lgt</i>	NMB0374 (MafB-related protein)	<i>norB</i>	<i>pilV</i>
<i>ctrD</i>	<i>lgtA</i>	NMB0493 (hemagglutinin/hemolysin-related protein)	<i>norM</i> (NMB0812)	<i>pilV2</i>
<i>dca/pptA</i>	<i>lgtB</i>	NMB0496 (hemolysin activator-related protein)	<i>nspA</i>	<i>pilW</i>
<i>dsbA-1</i>	<i>lgtB2</i>	NMB0497 (hemagglutinin/hemolysin-related protein)	<i>nth</i>	<i>pilX</i>
<i>dsbA-2</i>	<i>lgtE</i>	NMB0584 (FrpC-related protein)	<i>oafA</i>	<i>porA</i>
<i>dsbA-3</i>	<i>lgtF</i>	NMB0585 (FrpA-related protein)	<i>omp85</i>	<i>porB</i>
<i>envA</i>	<i>lipA</i>	NMB0586 (adhesin)	<i>ompH</i>	<i>prc</i>
<i>farA</i>	<i>lipB</i>	NMB0653 (MafB-related protein)	<i>opa</i> (NMB0926)	<i>rfaC</i>
<i>farB</i>	<i>lpxA</i>	NMB0718 (HemH-related protein)	<i>opa</i> (NMB1465)	<i>rfaD</i>
<i>farR</i>	<i>lpxB</i>	NMB0757 (HemH-related protein)	<i>opa</i> (NMB1636)	<i>rfaE</i>
<i>fbpA</i>	<i>lpxC</i>	NMB0888 (PilW-related protein)	<i>opa</i> (NMB0442)	<i>rfaF</i>
<i>fbpB</i>	<i>lpxD</i>	NMB1210 (putative toxin-activating protein)	<i>opcA</i>	<i>rfaK</i>
<i>fbpC</i>	<i>lst</i>	NMB1214 (hemagglutinin/hemolysin-related protein)	<i>opcB</i>	<i>rmpM</i>
<i>fetA</i>	<i>macA</i>	NMB1403 (FrpA-related protein)	<i>penA</i>	<i>sacA</i>

<i>fetB</i>	<i>mafA-1</i>	NMB1405 (FrpA-related protein)	<i>pglA</i>	<i>sacB</i>
<i>fetB2</i>	<i>mafA-2</i>	NMB1409 (FrpA-related protein)	<i>pglB</i>	<i>sacC</i>
<i>fimT</i>	<i>msbB</i>	NMB1412 (FrpC-related protein)	<i>pglC</i>	<i>sodB</i>
<i>fur</i>	<i>mtrA</i>	NMB1414 (FrpC-related protein)	<i>pglD</i>	<i>sodC</i>
<i>galE</i>	<i>mtrC</i>	NMB1415 (FrpC-related protein)	<i>pgm</i>	<i>tbpA</i>
<i>gcp</i>	<i>mtrD</i>	NMB1428 (putative aminopeptidase)	<i>phoP</i>	<i>tbpB</i>
<i>glmU</i>	<i>mtrE</i>	NMB1646 (putative hemolysin)	<i>phoQ</i>	<i>tonB</i>
<i>gpxA</i>	<i>mtrF</i>	NMB1738 (secretion protein)	<i>pilC1</i>	<i>tspA</i>
<i>hap</i>	<i>mtrR</i>	NMB1753 (VapD-related protein)	<i>pilC2</i>	<i>tspB</i>
<i>hmbR</i>	<i>mutL</i>	NMB1763 (putative toxin-activating protein)	<i>pilD</i>	<i>vacJ</i>
<i>hpuA</i>	<i>mutS</i>	NMB1768 (hemagglutinin/hemolysin-related protein)	<i>pilE</i>	<i>vapA</i>
<i>hpuB</i>	<i>nadA</i>	NMB1780 (hemolysin activator-related protein)	<i>pilF</i>	<i>virG</i>
<i>hsf</i>	<i>narE</i>	NMB1829 (TonB-dependent receptor)	<i>pilG</i>	
<i>htrB</i>	<i>natC</i>	NMB1870 (GNA1870)	<i>pilM</i>	
<i>igal</i>	NGO1177 (pilin-related protein)	NMB1882 (TonB-dependent receptor)	<i>pilN</i>	