

Table S1. CHH-related genes (21 genes).

Gene	Phenotype	Inheritance	Location	OMIM
<i>ANOS1</i>	Kallmann syndrome	XL	Xp22.31	300836
<i>AXL</i>	Kallmann syndrome or normosmic CHH	AD?	19q13.2	109135
<i>CHD7</i>	Kallmann syndrome or normosmic CHH; CHARGE syndrome	AD	8q12.2	608892
<i>FGF8</i>	Kallmann syndrome or normosmic CHH	AD	10q24.32	600483
<i>FGFR1</i>	Kallmann syndrome or normosmic CHH	AD	8p11.23	136350
<i>GNRH1</i>	Normosmic CHH	AR	8p21.2	152760
<i>GNRHR</i>	Normosmic CHH	AR	4q13.2	138850
<i>HS6ST1</i>	Kallmann syndrome or normosmic CHH	AD	2q14.3	614880
<i>KISS1</i>	Normosmic CHH	AR	1q32.1	614842
<i>KISS1R</i>	Normosmic CHH	AR	19p13.3	604161
<i>LEP</i>	Normosmic CHH	AR	7q32.1	614962
<i>LEPR</i>	Normosmic CHH	AR	1p31.3	601007
<i>NSMF</i>	Kallmann syndrome or normosmic CHH	AD	9q34.3	614838
<i>PCSK1</i>	Normosmic CHH	AR	5q15	162150
<i>PROK2</i>	Kallmann syndrome or normosmic CHH	AR/AD?	3p13	607002
<i>PROKR2</i>	Kallmann syndrome or normosmic CHH	AR/AD?	20p12.3	607123
<i>SEMA3A</i>	Kallmann syndrome	AD	7q21.11	603961
<i>SOX10</i>	Kallmann syndrome; Waardenbourg syndrome	AD	22q13.1	602229
<i>TAC3</i>	Normosmic CHH	AR	12q13.3	162330
<i>TACR3</i>	Normosmic CHH	AR	4q24	162332
<i>WDR11</i>	Kallmann syndrome or normosmic CHH	AD	10q26.12	606417

Abbreviations: XL, X-linked; AD, autosomal dominant; CHH, congenital hypogonadotropic hypogonadism; AR; autosomal recessive