

Supplemental Table 1. Classification of prolactin deficiency

Combined prolactin deficiency

Congenital

Mutations in *POU1F1*, *PROP1*, *LHX3*, *LHX4*, *HESX1*, and *OTX2*
Mutation in G proteins (pseudo-hypoparathyroidism)

Acquired

Ischemic necrosis of Sheehan syndrome
Pituitary tumors (mainly non-function adenoma)
Developmental lesions (mainly craniopharyngioma)
Auto-inflammatory lesions (hypophysitis, sarcoidosis)
Infiltrative lesions (hemochromatosis)
Infections (tuberculosis, histoplasmosis)
Alkaloids from ergot fungi

Isolated prolactin deficiency

Supplemental Table 2. Primers used to sequence Prolactin, Prolactin Releasing Peptide, Prolactin Releasing Peptide Receptor, and seven genes involved in the lineage development of lactotrophs.

Gene	Exon	Direction	Primer (5' – 3')
<i>PRL</i>	1	Sense	TCAACAGTTAGAAAGAACAAGGACA
	1	Antisense	AACTTTGACAAATCGGCATTTT
	2	Sense	TGCAATTGTTCTATATGGTTTCG
	2	Antisense	AAAACAAAGAAGCACCAGGAG
	3	Sense	TGAATTTGTCTCATCATTTCCAG
	3	Antisense	AAGCCTGGATGAAGGACTCA
	4	Sense	GAGTGGCTCGCGTTCTTATT
	4	Antisense	AGGAAGCCAGAAGCATGGTA
	5	Sense	CAGGGGACTGAAAATCCTGA
	5	Antisense	ACGCAGTGAGTTGTACACA
<i>PRLH</i>	1	Sense	ACACAGTGCTCACTCTACCC
	1	Antisense	GCCAGTCGCCAGGCCATGTCTG
	2	Sense	GAACCTCTGGGTGCCTGTTC
	2	Antisense	AACTTCAGAGTCACCACCAC
<i>PRLHR</i>	1	Sense	GGTGAGAGGACAACACTTTTTGC
	1	Antisense	G TTCACGCTCACCACCATC
	1	Sense	CCTGTGCCACCTGGTCTT
	1	Antisense	CCCTAGGAGGCCAGTTGAA
<i>POU1F1</i>	1	Sense	CTCAGAGCCTTCCTGATFTATA
	1	Antisense	TCAAGATTCAAAGCATTCACTCTG
	2	Sense	CGAATGTGTCTTGAATCCTTATAC
	2	Antisense	GAGCAGGAAACAAGAAGTGGTG
	3	Sense	GCTCTGGAGAAGGTAGAAGACA
	3	Antisense	AACTACGTCCACAGTAGAGATG
	4	Sense	GTGTGTAATAGTTGACAAAGATAC
	4	Antisense	CATCTCAAAGAGAAAAGGCGG
	5	Sense	CTGCGTTGAGATTTTTCTCTAAGG
	5	Antisense	GACTGGTCTCGAGCTCCTGAC
	6	Sense	CCGTGACTCTCGTGTA ACTCT
	6	Antisense	AAAATAGATAATGTGGCTTCTGAG
<i>PROPI</i>	1	Sense	GGAAGCAGAGAAATCTCAAGTC
	1	Antisense	AAAGCCAAGGGGTGCTCCAGTC
	2	Sense	TGGTCCAGCACCGAGGAGCGTC
	2	Antisense	TAATGCCCAACATTCTATGATAGC
	3	Sense	GTGTCACCACCTATGTCAAGTGT
	3	Antisense	TTCTAATCGGTGAGCTGACCCTCA
<i>LHX3</i>	1A	Sense	TGGGTCTCAGAGGGGTGA
	1A	Antisense	CTGTCCTCAGTGTCTGCTG
	1B	Sense	GCAAAGGCGCTCAGAGTC
	1B	Antisense	GCAACAAATACAGGCTGAGG

	2	Sense	TCACTGCCTCCTGGTCTACG
	2	Antisense	TGATTGTGAGGGGAGGAGTC
	3	Sense	CGCTTGCCTCTCTCCAAC
	3	Antisense	GCTTGGGGAGAGAATTTCC
	4/5	Sense	CTTCCGAGAAGCCTGTGG
	4/5	Antisense	TCCATGGGAAATTCAGATCC
	6	Sense	GCTGACTGAGCCTCTGCTTC
	6	Antisense	CACCAGCCCTCCCTTGAC
<i>LHX4</i>	1	Sense	CGGCTTCCACCGTGACTCCAGC
	1	Antisense	GCGGCTGAGGCTGCTAGCTG
	2	Sense	CACTTGTTCTTACTACTCGT
	2	Antisense	CTCAGCTCCAGGATTTACCT
	3	Sense	TGAAGAGTCCCAGGCACAAA
	3	Antisense	AGGTGGGACGCCATGAGAAG
	4	Sense	GTGGTGCAGGAGTCAGTGCCAT
	4	Antisense	ATACCTTCCACCCCTGTCCC
	5	Sense	CATCGCACTCCCAGACCTGT
	5	Antisense	AGATCCCTCCTGAGTGCCAG
	6	Sense	TGGTCATGTGTGTTCTAGG
	6	Antisense	CCTAAAAGGCAAGTCTCTT
<i>HESX1</i>	1	Sense	AGCTGTTGCTCTGTGCAGACCACGAG
	1	Antisense	ACAAAGAATTGAAACAATTAAGCTGT
	2	Sense	TGGAACATAAGATTGACCATCTAAGA
	2	Antisense	AGCCTTTATATTATCATTATTGGGTGA
	3	Sense	AGCTCATTTTTGGAGACATACTTGAAT
	3	Antisense	TAACATTTCAACATCATGAATAACAACCT
	4	Sense	GAATAATAAAAATAATGTTTCTGAGACC
	4	Antisense	TCATGCTCTGCAATTAGAAGATAATTT
<i>OTX2</i>	1	Sense	TTTAAAAGCCTCTGCCTCG
	1	Antisense	GAACAGGGTGTTGCATCC
	2	Sense	GAGAGCATTGGTAGGCTCC
	2	Antisense	TCTCCACAGTCCCATACTCG
	3A	Sense	GAGCCATTCTTGTCCTTAAGG
	3A	Antisense	GAAGCTGGTGATGCATAG
	3B	Sense	CCACTGTCAGATCCCTTGT
	3B	Antisense	AATGCCTGGCTAAAACCTGG
<i>LSD1</i>	1	Sense	AGCGAGGCGAGGCAAGGCTTTT
	1	Antisense	AGTGGTCGCAGGGCCCAAGA
	2	Sense	GTCCCTAATTTAAATGTTC
	2	Antisense	GATAAAACAGAACTGTGGTT
	3	Sense	TATTAGGCCTTTATGTCCAG
	3	Antisense	ACTAAGTGGCAAGCATCTAA
	4	Sense	ACCCGTTTTGTATTCACTTG
	4	Antisense	CATATTCTCTATCAAAGCCA
	5	Sense	AGCCACTGCAGCCAGCTAAAAG

	5	Antisense	TCAAGGAACCATGAGGCTCC
	6	Sense	GTGCCCAGCCTTAGAATTAC
	6	Antisense	GTCCTGAAACCGTAACTTAA
	7	Sense	CAGGTAGTTTCCATATTTTG
	7	Antisense	CACTATCCAAAATACTCTGAGT
	8	Sense	TTCAAATAGTCTTCAAGTTAAAC
	8	Antisense	ACTAAACGGAAGATGACTAT
	9	Sense	CTTCATGTTTGTCTTACATATT
	9	Antisense	TATATGCTCATCCATACCAT
	10	Sense	CATTTCTGTGCCTTGACTTT
	10	Antisense	TCTACAACAACAAACCAGTG
	11	Sense	ATCTCATTTAAATGGATCTGACCAC
	11	Antisense	CCTCAAACAAGACTTGCAGA
	12	Sense	TCACTTCTAAAATTCAGTGC
	12	Antisense	TCGGAAATGCTTTTAAAATT
	13	Sense	TTCCCAAATGGAATGATGTAGGT
	13	Antisense	CAAAATTCCCCAGATCTGTG
	14	Sense	CCAAAACAAAATCTCTCAGCTC
	14	Antisense	CAGGGGATTTAGAAACCTCA
	15	Sense	ATTTCTTCATATAAGGCACAGC
	15	Antisense	TGATGTCTCTTACTAAAGCTGT