

**Table S4.** PCR oligonucleotides and restriction enzymes employed to evaluate heteroplasmy of LHON rare mutations <sup>a,b</sup>.

Map Locus-Mutation	Primer	Nucleotide position	Sequence	Restriction Enzyme
m.3700G>A/ <i>MT-ND1</i>	Fw	3441-3460	ACTACAACCCTTCGCTGACG	<i>HhaI</i>
	Rv	3940-3920	TGAAGCCTGAGACTAGTTCGG	
m.3733G>C/ <i>MT-ND1</i>	Fw	3501-3520	ATCTACCATCACCTCTACA	<i>NdeI</i>
	Rv	3940-3920	TGAAGCCTGAGACTAGTTCGG	
m.4171C>A/ <i>MT-ND1</i>	Fw	4011-4030	CACCCTCACCACTACAATCT	<i>NdeI</i>
	Rv	4301-4281	TTACTCTATCAAAGTAACTCT	
m.10663T>C/ <i>MT-ND4L</i>	Fw	10357-10377	TAAGTCTGGCCTATGAGTGA	<i>BcuI</i>
	Rv	10930-10911	GGAAAAGGTTGGGGAACAGC	
m.14459G>A/ <i>MT-ND6</i>	Fw	14430-14458	ATGCCTCAGGATACTCCTCAATAGCCGTC	<i>MaeIII</i>
	Rv	14594-14563	ATGGGGGTTTAGTATTGATTGTTAGCGGTG	
m.14495A>G/ <i>MT-ND6</i>	Fw	14464 -14494	AGTATATCCAAAGACAACCATCATTCCCCAT	<i>NlaIII</i>
	Rv	14594-14563	ATGGGGGTTTAGTATTGATTGTTAGCGGTG	
m.14568C>T/ <i>MT-ND6</i>	Fw	14407-14424	CAAGACCTCAACCCCTGA	<i>AciI</i>
	Rv	14705-14682	CATTGGTCGTGGTTGTAGTCCGTG	

<sup>a</sup> The mutations 3733G>A/*MT-ND1* and 14482C>A/*MT-ND6* were already tested by Valentino et al. 2004[8] and Valentino et al. 2002 [11], respectively.

<sup>b</sup> In addition the possible synergistic mutation 4172T>A/*MT-ND1* was tested by using the enzyme *BseMI* and the primers Fw/4151-4171(ACGACCAACTCATACACCTGC) and Rv/4301-4281 (TTACTCTATCAAAGTAACTCT).