

Supplemental Material

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Supplementary Table 1. Multiple and Two-point LOD score results between NDNC and chromosome 10 markers. Map distances are given in centimorgans (cM) according to the combined linkage-physical map of the human genome.¹¹

Markers	cM	Physical position	Multipoint LOD score	Two-point LOD scores at recombination fraction $\theta =$						
				0.00	0.01	0.05	0.10	0.20	0.30	0.40
D10S1772	67.79	49.50	-Inf	-Inf	-4.19	-1.75	-0.84	-0.18	-0.02	-0.01
D10S1766	68.72	50.41	-61.26	-Inf	-6.02	-2.84	-1.58	-0.56	-0.18	-0.05
D10S1724	69.18	50.62	-10.76	-Inf	-0.91	0.25	0.56	0.59	0.41	0.17
D10S567	70.37	53.58	3.99	3.14	3.07	2.81	2.47	1.78	1.08	0.40
D10S539	71.91	54.73	4.03	2.95	2.89	2.64	2.32	1.67	0.99	0.34
D10S1643	72.22	54.94	4.06	3.14	3.07	2.81	2.47	1.78	1.08	0.40
D10S1227	74.30	57.19	4.07	2.95	2.89	2.64	2.32	1.67	0.99	0.34
D10S1756	74.60	58.76	4.08	3.14	3.07	2.81	2.47	1.78	1.08	0.40
D10S549	76.28	60.49	4.08	2.95	2.89	2.64	2.32	1.67	0.99	0.34
D10S207	76.28	60.74	4.09	3.14	3.07	2.81	2.47	1.78	1.08	0.40
D10S609	79.73	63.43	4.09	3.14	3.07	2.81	2.47	1.78	1.08	0.40
D10S581	81.25	65.51	4.07	2.95	2.89	2.64	2.32	1.67	0.99	0.34
D10S1428	81.65	66.48	4.06	2.95	2.89	2.64	2.32	1.67	0.99	0.34
D10S1422	83.08	67.54	4.06	2.95	2.89	2.64	2.32	1.67	0.99	0.34
D10S522	84.09	68.53	4.07	2.95	2.89	2.64	2.32	1.67	0.99	0.34
D10S1670	84.09	68.54	4.09	3.14	3.07	2.83	2.51	1.84	1.14	0.44
D10S210	84.28	69.71	4.09	3.14	3.07	2.81	2.47	1.78	1.08	0.40
D10S1678	85.24	70.35	4.07	2.95	2.89	2.61	2.32	1.67	0.99	0.34
D10S1647	85.24	70.61	4.03	1.44	1.42	1.29	1.14	0.83	0.51	0.19
D10S451	87.89	71.31	4.07	3.14	3.07	2.81	2.47	1.78	1.08	0.40
D10S676	88.34	71.74	4.04	2.95	2.89	2.64	2.32	1.67	0.99	0.34
D10S1650	91.81	72.96	-63.82	-Inf	-6.87	-3.47	-2.10	-0.89	-0.34	-0.08
D10S1432	93.93	74.32	-4.63	0.77	-0.32	0.09	0.18	0.09	0.01	-0.08

Supplementary Table 2. List of homozygous pathogenic variants detected in exome sequence of affected individual (V-1).

Chromosome	hg19 Position	Ref. allele	Alt. allele	Gene	cDNA change	Amino acid change	ExAC South Asian MAF
1	32714174T>G	T	G	<i>FAM167B</i>	c.464A>C	p. Ile155Ser	0.001
2	179472740G>T	G	T	<i>TTN</i>	c.47851C>A	p. Pro15951Thr	0.0
5	13701436G>A	G	A	<i>DNAH5</i>	c.13448C>T	p. Thr4483Met	0.000099
8	144461524C>T	C	T	<i>RHPN1</i>	c.791G>A	p.Pro264Leu	0.0014
10	7028704C>A	C	A	<i>SLC25A16</i>	c.92G>T	p.Arg31Leu	0.00012
10	100008753G>A	G	A	<i>LOXL4</i>	c.2201-5C>T	-	0.00017
15	99670560C>G	C	G	<i>SYNM</i>	c.1995G>C	p.Asp665Glu	0.00055
15	93567640T>G	T	G	<i>CHD2</i>	c.5192A>C	p. Phe1731Cys	0.0001
19	49622179G>A	G	A	<i>C19orf73</i>	c.101C>T	p.Ser34Phe	0.00013