

Detection Rates, Pre-Test Carrier Risks, and Post-Test Residual Risks (Sorted by Gene)

The detection rates and risks set forth below were derived using publicly available information, including gnomAD (<https://gnomad.broadinstitute.org>) and ClinVar (<https://www.ncbi.nlm.nih.gov/clinvar>), and the rates were extrapolated using appropriate scientific methodologies. Published studies were used to derive individual carrier risks for CYP21A2, HBA1/HBA2 and SMN1. As additional clinical evidence is available, the data in these charts may be updated from time to time. These data are provided for general informational purposes only and are not intended as a substitute for professional medical judgment or medical advice.

For unknown or mixed ethnicity, consider using the ethnic background with the most conservative risk estimates.

N/A= Not Available

Gene	Disorder	Ethnicity	Detection Rate (%)	Individual Carrier Risk	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
RAB23	Carpenter syndrome	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
RAG1	Omenn syndrome	African/African American	99	1 in 478	1 in 48,000	1 in 190,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	1 in 420	1 in 42,000	1 in 170,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	1 in 421	1 in 42,000	1 in 170,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	1 in 331	1 in 33,000	1 in 130,000
		US general population	99	1 in 445	1 in 44,000	1 in 180,000
RAG2	Omenn syndrome	African/African American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Finnish	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000

Gene	Disorder	Ethnicity	Detection Rate (%)	Individual Carrier Risk	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
RAPSN	Congenital myasthenic syndrome	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	1 in 340	1 in 34,000	1 in 140,000
		Ashkenazi Jewish	99	1 in 247	1 in 25,000	1 in 100,000
		East Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	1 in 169	1 in 17,000	1 in 68,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	1 in 451	1 in 45,000	1 in 180,000
		US general population	99	1 in 227	1 in 23,000	1 in 92,000
RARS2	Pontocerebellar hypoplasia	African/African American	98	1 in 421	1 in 21,000	1 in 84,000
		Latino/Admixed American	99	1 in 199	1 in 20,000	1 in 80,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Finnish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Non-Finnish European/Caucasian	98	1 in 364	1 in 18,000	1 in 72,000
		South Asian	99	1 in 478	1 in 48,000	1 in 190,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	1 in 328	1 in 33,000	1 in 130,000
RD3	Leber congenital amaurosis	African/African American	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
RDH12	Leber congenital amaurosis	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	1 in 474	1 in 47,000	1 in 190,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	1 in 432	1 in 43,000	1 in 170,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000

Gene	Disorder	Ethnicity	Detection Rate (%)	Individual Carrier Risk	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
RFX5	Bare lymphocyte syndrome type II	African/African American	99	1 in 475	1 in 47,000	1 in 190,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Finnish	99	1 in 406	1 in 41,000	1 in 160,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
RFXANK	Bare lymphocyte syndrome type II	African/African American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Latino/Admixed American	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Ashkenazi Jewish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		East Asian	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Finnish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
RFXAP	Bare lymphocyte syndrome type II	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
RLBP1	Retinitis pigmentosa	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	97	1 in 366	1 in 12,000	1 in 48,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000

Gene	Disorder	Ethnicity	Detection Rate (%)	Individual Carrier Risk	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
RMRP	Cartilage-hair hypoplasia	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	98	1 in 184	1 in 9,200	1 in 37,000
		Ashkenazi Jewish	99	1 in 70	1 in 6,900	1 in 28,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	1 in 55	1 in 5,400	1 in 22,000
		Non-Finnish European/Caucasian	99	1 in 292	1 in 29,000	1 in 120,000
		South Asian	99	1 in 385	1 in 38,000	1 in 150,000
		Other (population not assigned)	98	1 in 92	1 in 4,600	1 in 18,000
		US general population	99	1 in 278	1 in 28,000	1 in 110,000
RNASEH2A	Aicardi-Goutières syndrome	African/African American	97	1 in 285	1 in 9,500	1 in 38,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Other (population not assigned)	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		US general population	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
RNASEH2B	Aicardi-Goutières syndrome	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	1 in 434	1 in 43,000	1 in 170,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	1 in 195	1 in 19,000	1 in 76,000
		South Asian	99	1 in 295	1 in 29,000	1 in 120,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	1 in 260	1 in 26,000	1 in 100,000
RNASEH2C	Aicardi-Goutières syndrome	African/African American	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Latino/Admixed American	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000

Gene	Disorder	Ethnicity	Detection Rate (%)	Individual Carrier Risk	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
RP2	Retinitis pigmentosa	African/African American	99	N/A	N/A	N/A
		Latino/Admixed American	99	N/A	N/A	N/A
		Ashkenazi Jewish	99	N/A	N/A	N/A
		East Asian	99	N/A	N/A	N/A
		Finnish	99	N/A	N/A	N/A
		Non-Finnish European/Caucasian	99	N/A	N/A	N/A
		South Asian	97	N/A	N/A	N/A
		Other (population not assigned)	99	N/A	N/A	N/A
		US general population	97	N/A	N/A	N/A
RPE65	Leber congenital amaurosis	African/African American	99	1 in 199	1 in 20,000	1 in 80,000
		Latino/Admixed American	98	1 in 406	1 in 20,000	1 in 80,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Non-Finnish European/Caucasian	99	1 in 412	1 in 41,000	1 in 160,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	1 in 413	1 in 41,000	1 in 160,000
		US general population	99	1 in 370	1 in 37,000	1 in 150,000
RPGR	Retinitis pigmentosa	African/African American	99	N/A	N/A	N/A
		Latino/Admixed American	99	N/A	N/A	N/A
		Ashkenazi Jewish	99	N/A	N/A	N/A
		East Asian	97	N/A	N/A	N/A
		Finnish	99	N/A	N/A	N/A
		Non-Finnish European/Caucasian	97	N/A	N/A	N/A
		South Asian	97	N/A	N/A	N/A
		Other (population not assigned)	99	N/A	N/A	N/A
		US general population	97	N/A	N/A	N/A
RPGRIP1	Leber congenital amaurosis	African/African American	98	1 in 287	1 in 14,000	1 in 56,000
		Latino/Admixed American	98	1 in 283	1 in 14,000	1 in 56,000
		Ashkenazi Jewish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		East Asian	99	1 in 306	1 in 31,000	1 in 120,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	98	1 in 452	1 in 23,000	1 in 92,000
		South Asian	98	1 in 413	1 in 21,000	1 in 84,000
		Other (population not assigned)	98	1 in 269	1 in 13,000	1 in 52,000
		US general population	98	1 in 371	1 in 19,000	1 in 76,000

Gene	Disorder	Ethnicity	Detection Rate (%)	Individual Carrier Risk	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
RPGRI1L	Joubert syndrome and related disorders, including Meckel-Gruber syndrome	African/African American	98	1 in 285	1 in 14,000	1 in 56,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	98	1 in 456	1 in 23,000	1 in 92,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	1 in 301	1 in 30,000	1 in 120,000
		South Asian	98	1 in 347	1 in 17,000	1 in 68,000
		Other (population not assigned)	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		US general population	99	1 in 347	1 in 35,000	1 in 140,000
RPS6KA3	Coffin-Lowry syndrome	African/African American	99	N/A	N/A	N/A
		Latino/Admixed American	99	N/A	N/A	N/A
		Ashkenazi Jewish	99	N/A	N/A	N/A
		East Asian	99	N/A	N/A	N/A
		Finnish	99	N/A	N/A	N/A
		Non-Finnish European/Caucasian	97	N/A	N/A	N/A
		South Asian	99	N/A	N/A	N/A
		Other (population not assigned)	99	N/A	N/A	N/A
		US general population	97	N/A	N/A	N/A
RS1	Juvenile retinoschisis, X-linked	African/African American	99	N/A	N/A	N/A
		Latino/Admixed American	99	N/A	N/A	N/A
		Ashkenazi Jewish	99	N/A	N/A	N/A
		East Asian	99	N/A	N/A	N/A
		Finnish	99	N/A	N/A	N/A
		Non-Finnish European/Caucasian	98	N/A	N/A	N/A
		South Asian	99	N/A	N/A	N/A
		Other (population not assigned)	99	N/A	N/A	N/A
		US general population	98	N/A	N/A	N/A
SACS	Autosomal recessive spastic ataxia of Charlevoix-Saguenay (ARSACS)	African/African American	98	1 in 233	1 in 12,000	1 in 48,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		East Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Finnish	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Non-Finnish European/Caucasian	98	1 in 307	1 in 15,000	1 in 60,000
		South Asian	98	1 in 474	1 in 24,000	1 in 96,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	98	1 in 335	1 in 17,000	1 in 68,000

Gene	Disorder	Ethnicity	Detection Rate (%)	Individual Carrier Risk	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
SAMHD1	Aicardi-Goutières syndrome	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
SCO2	Mitochondrial complex deficiency	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	99	1 in 225	1 in 22,000	1 in 88,000
		East Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Finnish	97	1 in 61	1 in 2,000	1 in 8,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Other (population not assigned)	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
SDCCAG8	Bardet-Biedl syndrome	African/African American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Other (population not assigned)	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
SDR9C7	Autosomal recessive congenital ichthyosis (ARCI)	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	1 in 416	1 in 42,000	1 in 170,000
		South Asian	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000

Gene	Disorder	Ethnicity	Detection Rate (%)	Individual Carrier Risk	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
SELENON	SELENON-related disorders	African/African American	97	1 in 239	1 in 7,900	1 in 32,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	97	1 in 345	1 in 11,000	1 in 44,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	1 in 409	1 in 41,000	1 in 160,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	98	1 in 474	1 in 24,000	1 in 96,000
		US general population	98	1 in 441	1 in 22,000	1 in 88,000
SEPSECS	Pontocerebellar hypoplasia	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Finnish	99	1 in 163	1 in 16,000	1 in 64,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
SERPINF1	Osteogenesis imperfecta, autosomal recessive	African/African American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Latino/Admixed American	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Ashkenazi Jewish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
SGCA	Limb-girdle muscular dystrophy	African/African American	99	1 in 469	1 in 47,000	1 in 190,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	1 in 283	1 in 28,000	1 in 110,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	1 in 266	1 in 27,000	1 in 110,000
		Non-Finnish European/Caucasian	99	1 in 348	1 in 35,000	1 in 140,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	1 in 341	1 in 34,000	1 in 140,000
		US general population	99	1 in 430	1 in 43,000	1 in 170,000

Gene	Disorder	Ethnicity	Detection Rate (%)	Individual Carrier Risk	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
SGCB	Limb-girdle muscular dystrophy	African/African American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
SGCD	Limb-girdle muscular dystrophy	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
SGCG	Limb-girdle muscular dystrophy	African/African American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Latino/Admixed American	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Ashkenazi Jewish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		East Asian	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
SGSH	Mucopolysaccharidosis type III	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	1 in 474	1 in 47,000	1 in 190,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	1 in 463	1 in 46,000	1 in 180,000
		Non-Finnish European/Caucasian	99	1 in 232	1 in 23,000	1 in 92,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	1 in 298	1 in 30,000	1 in 120,000

Gene	Disorder	Ethnicity	Detection Rate (%)	Individual Carrier Risk	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
SKIV2L	Trichohepatoenteric syndrome	African/African American	98	1 in 337	1 in 17,000	1 in 68,000
		Latino/Admixed American	98	1 in 342	1 in 17,000	1 in 68,000
		Ashkenazi Jewish	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	98	1 in 347	1 in 17,000	1 in 68,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	98	1 in 362	1 in 18,000	1 in 72,000
SLC2A10	Arterial tortuosity syndrome	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
SLC4A11	Corneal dystrophy and perceptive deafness	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
SLC6A8	Cerebral creatine deficiency syndromes	African/African American	99	N/A	N/A	N/A
		Latino/Admixed American	99	N/A	N/A	N/A
		Ashkenazi Jewish	99	N/A	N/A	N/A
		East Asian	99	N/A	N/A	N/A
		Finnish	99	N/A	N/A	N/A
		Non-Finnish European/Caucasian	97	N/A	N/A	N/A
		South Asian	99	N/A	N/A	N/A
		Other (population not assigned)	99	N/A	N/A	N/A
		US general population	97	N/A	N/A	N/A

Gene	Disorder	Ethnicity	Detection Rate (%)	Individual Carrier Risk	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
SLC7A7	Lysinuric protein intolerance	African/African American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	1 in 110	1 in 11,000	1 in 44,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
SLC12A1	Bartter syndrome	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	1 in 465	1 in 46,000	1 in 180,000
		Ashkenazi Jewish	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
SLC12A6	Andermann syndrome	African/African American	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Finnish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
SLC16A2	Allan-Herndon-Dudley syndrome	African/African American	99	N/A	N/A	N/A
		Latino/Admixed American	99	N/A	N/A	N/A
		Ashkenazi Jewish	99	N/A	N/A	N/A
		East Asian	99	N/A	N/A	N/A
		Finnish	99	N/A	N/A	N/A
		Non-Finnish European/Caucasian	99	N/A	N/A	N/A
		South Asian	99	N/A	N/A	N/A
		Other (population not assigned)	99	N/A	N/A	N/A
		US general population	99	N/A	N/A	N/A

Gene	Disorder	Ethnicity	Detection Rate (%)	Individual Carrier Risk	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
SLC17A5	Sialic acid storage disorders	African/African American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Finnish	99	1 in 83	1 in 8,200	1 in 33,000
		Non-Finnish European/Caucasian	99	1 in 362	1 in 36,000	1 in 140,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	98	1 in 479	1 in 24,000	1 in 96,000
		US general population	99	1 in 471	1 in 47,000	1 in 190,000
SLC19A3	Basal ganglia disease, biotin-thiamine-responsive	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
SLC22A5	Systemic primary carnitine deficiency	African/African American	99	1 in 228	1 in 23,000	1 in 92,000
		Latino/Admixed American	99	1 in 112	1 in 11,000	1 in 44,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	1 in 75	1 in 7,400	1 in 30,000
		Finnish	99	1 in 227	1 in 23,000	1 in 92,000
		Non-Finnish European/Caucasian	99	1 in 114	1 in 11,000	1 in 44,000
		South Asian	99	1 in 48	1 in 4,700	1 in 19,000
		Other (population not assigned)	99	1 in 211	1 in 21,000	1 in 84,000
		US general population	99	1 in 117	1 in 12,000	1 in 48,000
SLC25A13	Citrullinemia	African/African American	98	1 in 406	1 in 20,000	1 in 80,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	99	1 in 266	1 in 27,000	1 in 110,000
		East Asian	98	1 in 58	1 in 2,900	1 in 12,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	99	1 in 486	1 in 49,000	1 in 200,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	1 in 494	1 in 49,000	1 in 200,000

Gene	Disorder	Ethnicity	Detection Rate (%)	Individual Carrier Risk	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
SLC25A15	Ornithine translocase deficiency	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		East Asian	99	1 in 301	1 in 30,000	1 in 120,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
SLC25A20	Carnitine-acylcarnitine translocase deficiency	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	1 in 497	1 in 50,000	1 in 200,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
SLC26A2	Sulfate transporter-related osteochondrodysplasias, includes achondrogenesis type 1B, atelosteogenesis type 2, diastrophic dysplasia, and recessive multiple epiphyseal dysplasia	African/African American	98	1 in 433	1 in 22,000	1 in 88,000
		Latino/Admixed American	99	1 in 256	1 in 26,000	1 in 100,000
		Ashkenazi Jewish	99	1 in 216	1 in 22,000	1 in 88,000
		East Asian	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Finnish	99	1 in 70	1 in 6,900	1 in 28,000
		Non-Finnish European/Caucasian	99	1 in 144	1 in 14,000	1 in 56,000
		South Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Other (population not assigned)	99	1 in 348	1 in 35,000	1 in 140,000
		US general population	99	1 in 184	1 in 18,000	1 in 72,000
SLC26A4	Pendred syndrome	African/African American	99	1 in 154	1 in 15,000	1 in 60,000
		Latino/Admixed American	99	1 in 97	1 in 9,600	1 in 38,000
		Ashkenazi Jewish	99	1 in 67	1 in 6,600	1 in 26,000
		East Asian	99	1 in 52	1 in 5,100	1 in 20,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	1 in 79	1 in 7,800	1 in 31,000
		South Asian	99	1 in 77	1 in 7,600	1 in 30,000
		Other (population not assigned)	99	1 in 138	1 in 14,000	1 in 56,000
		US general population	99	1 in 87	1 in 8,600	1 in 34,000

Gene	Disorder	Ethnicity	Detection Rate (%)	Individual Carrier Risk	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
SLC27A4	Autosomal recessive congenital ichthyosis (ARCI)	African/African American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Other (population not assigned)	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
SLC35A3	Arthrogryposis, mental retardation, and seizures (AMRS)	African/African American	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	1 in 373	1 in 37,000	1 in 150,000
		East Asian	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Finnish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
SLC37A4	Glycogen storage disease type I	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Ashkenazi Jewish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Other (population not assigned)	98	1 in 481	1 in 24,000	1 in 96,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
SLC39A4	Acrodermatitis enteropathica	African/African American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		East Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Finnish	97	1 in 278	1 in 9,200	1 in 37,000
		Non-Finnish European/Caucasian	98	1 in 386	1 in 19,000	1 in 76,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000

Gene	Disorder	Ethnicity	Detection Rate (%)	Individual Carrier Risk	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
SLC46A1	Hereditary folate malabsorption	African/African American	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		East Asian	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000		

Gene	Disorder	Population	Detection rate (%) (Copy number + SNP)	Pre-test carrier risk	Post-test risk of being a carrier with 2 copies**		Post-test risk of being a carrier with 3 copies
					POSITIVE for the c.*3+80T>G SNP	NEGATIVE for the c.*3+80T>G SNP	
SMN1	Spinal muscular atrophy	African American	90.3	1 in 72	1 in 34	1 in 375	1 in 4200
		Ashkenazi Jewish	92.8	1 in 67	High risk	1 in 918	1 in 5400
		Asian	93.6	1 in 59	High risk	1 in 907	1 in 5600
		Caucasian	95.0	1 in 47	1 in 29	1 in 921	1 in 5600
		Hispanic	92.6	1 in 68	1 in 140	1 in 906	1 in 5400
		Mixed or other ethnic background	For counseling purposes, consider using the ethnic background with the most conservative risk estimates.				

Footnotes:

** includes carriers who are silent carriers (2+0) and carriers with a pathogenic variant not detected in this assay

Feng, PMID 28125085; Luo, PMID 23788250

Gene	Disorder	Ethnicity	Detection Rate (%)	Individual Carrier Risk	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
SMARCA1	Schimke immunosseous dysplasia	African/African American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	99	1 in 192	1 in 19,000	1 in 76,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
SMPD1	Niemann-Pick disease types A and B	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	1 in 107	1 in 11,000	1 in 44,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Non-Finnish European/Caucasian	99	1 in 460	1 in 46,000	1 in 180,000
		South Asian	99	1 in 304	1 in 30,000	1 in 120,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
SP110	Hepatic venoocclusive disease with immunodeficiency	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
SPATA7	Leber congenital amaurosis	African/African American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	98	1 in 402	1 in 20,000	1 in 80,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000

Gene	Disorder	Ethnicity	Detection Rate (%)	Individual Carrier Risk	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
SPG11	Hereditary spastic paraplegia	African/African American	98	1 in 172	1 in 8,600	1 in 34,000
		Latino/Admixed American	97	1 in 390	1 in 13,000	1 in 52,000
		Ashkenazi Jewish	99	1 in 388	1 in 39,000	1 in 160,000
		East Asian	97	1 in 291	1 in 9,700	1 in 39,000
		Finnish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Non-Finnish European/Caucasian	98	1 in 168	1 in 8,400	1 in 34,000
		South Asian	98	1 in 325	1 in 16,000	1 in 64,000
		Other (population not assigned)	97	1 in 365	1 in 12,000	1 in 48,000
		US general population	98	1 in 197	1 in 9,800	1 in 39,000
SPG21	Hereditary spastic paraplegia	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
STAR	Congenital adrenal hyperplasia	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	1 in 406	1 in 41,000	1 in 160,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
STK4	Severe combined immunodeficiency (SCID)	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000

Gene	Disorder	Ethnicity	Detection Rate (%)	Individual Carrier Risk	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
STX11	Familial hemophagocytic lymphohistiocytosis	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
STXBP2	Familial hemophagocytic lymphohistiocytosis	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	97	1 in 368	1 in 12,000	1 in 48,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	1 in 415	1 in 41,000	1 in 160,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
SUMF1	Multiple sulfatase deficiency	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	1 in 273	1 in 27,000	1 in 110,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
SUOX	Sulfite oxidase deficiency	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	1 in 377	1 in 38,000	1 in 150,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Other (population not assigned)	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000

Gene	Disorder	Ethnicity	Detection Rate (%)	Individual Carrier Risk	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
SURF1	Leigh syndrome	African/African American	98	1 in 405	1 in 20,000	1 in 80,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		East Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Finnish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Non-Finnish European/Caucasian	98	1 in 341	1 in 17,000	1 in 68,000
		South Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Other (population not assigned)	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		US general population	98	1 in 405	1 in 20,000	1 in 80,000
SYNE4	Deafness and hearing loss, nonsyndromic	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
TAT	Tyrosinemia type II	African/African American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
TFAZZIN	Barth syndrome	African/African American	99	N/A	N/A	N/A
		Latino/Admixed American	99	N/A	N/A	N/A
		Ashkenazi Jewish	99	N/A	N/A	N/A
		East Asian	99	N/A	N/A	N/A
		Finnish	99	N/A	N/A	N/A
		Non-Finnish European/Caucasian	99	N/A	N/A	N/A
		South Asian	99	N/A	N/A	N/A
		Other (population not assigned)	99	N/A	N/A	N/A
		US general population	99	N/A	N/A	N/A

Gene	Disorder	Ethnicity	Detection Rate (%)	Individual Carrier Risk	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
T CIRG1	Osteopetrosis	African/African American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Latino/Admixed American	99	1 in 467	1 in 47,000	1 in 190,000
		Ashkenazi Jewish	99	1 in 417	1 in 42,000	1 in 170,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	1 in 417	1 in 42,000	1 in 170,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		US general population	99	1 in 466	1 in 47,000	1 in 190,000
T CTN1	Joubert syndrome and related disorders, including Meckel-Gruber syndrome	African/African American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
T CTN2	Joubert syndrome and related disorders, including Meckel-Gruber syndrome	African/African American	98	1 in 450	1 in 22,000	1 in 88,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Other (population not assigned)	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
T CTN3	Joubert syndrome and related disorders, including Meckel-Gruber syndrome	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	99	1 in 418	1 in 42,000	1 in 170,000
		East Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	98	1 in 419	1 in 21,000	1 in 84,000
		South Asian	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Other (population not assigned)	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000

Gene	Disorder	Ethnicity	Detection Rate (%)	Individual Carrier Risk	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
TECPR2	Hereditary spastic paraplegia	African/African American	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	97	1 in 155	1 in 5,100	1 in 20,000
		East Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Other (population not assigned)	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
TF	Atransferrinemia	African/African American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
TGM1	Autosomal recessive congenital ichthyosis (ARCI)	African/African American	99	1 in 275	1 in 27,000	1 in 110,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	1 in 463	1 in 46,000	1 in 180,000
		East Asian	99	1 in 295	1 in 29,000	1 in 120,000
		Finnish	99	1 in 195	1 in 19,000	1 in 76,000
		Non-Finnish European/Caucasian	99	1 in 221	1 in 22,000	1 in 88,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	1 in 265	1 in 26,000	1 in 100,000
		US general population	99	1 in 265	1 in 26,000	1 in 100,000
TH	Tyrosine hydroxylase deficiency	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	1 in 288	1 in 29,000	1 in 120,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000

Gene	Disorder	Ethnicity	Detection Rate (%)	Individual Carrier Risk	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
TK2	Mitochondrial DNA depletion syndrome, TK2-related	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	1 in 444	1 in 44,000	1 in 180,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	1 in 264	1 in 26,000	1 in 100,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
TMEM38B	Osteogenesis imperfecta, autosomal recessive	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
TMEM67	Joubert syndrome and related disorders, including Meckel-Gruber syndrome	African/African American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	1 in 221	1 in 22,000	1 in 88,000
		East Asian	98	1 in 373	1 in 19,000	1 in 76,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	1 in 245	1 in 24,000	1 in 96,000
		South Asian	98	1 in 347	1 in 17,000	1 in 68,000
		Other (population not assigned)	99	1 in 270	1 in 27,000	1 in 110,000
		US general population	99	1 in 305	1 in 30,000	1 in 120,000
TMEM70	Mitochondrial complex V deficiency	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000

Gene	Disorder	Ethnicity	Detection Rate (%)	Individual Carrier Risk	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
TMEM138	Joubert syndrome and related disorders, including Meckel-Gruber syndrome	African/African American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		East Asian	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Finnish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Non-Finnish European/Caucasian	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
TMEM216	Joubert syndrome and related disorders, including Meckel-Gruber syndrome	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	1 in 148	1 in 15,000	1 in 60,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
TMEM231	Joubert syndrome and related disorders, including Meckel-Gruber syndrome	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Finnish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	1 in 412	1 in 41,000	1 in 160,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
TMEM237	Joubert syndrome and related disorders, including Meckel-Gruber syndrome	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000

Gene	Disorder	Ethnicity	Detection Rate (%)	Individual Carrier Risk	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
TNFSF11	Osteopetrosis	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
TNXB	Ehlers–Danlos-like syndrome	African/African American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
TPP1	Neuronal ceroid-lipofuscinosis	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	98	1 in 281	1 in 14,000	1 in 56,000
		Non-Finnish European/Caucasian	99	1 in 281	1 in 28,000	1 in 110,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	1 in 318	1 in 32,000	1 in 130,000
		US general population	99	1 in 361	1 in 36,000	1 in 140,000
TRAPPC11	Limb-girdle muscular dystrophy	African/African American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		East Asian	99	1 in 421	1 in 42,000	1 in 170,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000

Gene	Disorder	Ethnicity	Detection Rate (%)	Individual Carrier Risk	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
TRIM32	Limb-girdle muscular dystrophy	African/African American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		East Asian	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Finnish	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
TRMU	Acute infantile liver failure	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Finnish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	98	1 in 400	1 in 20,000	1 in 80,000
		Other (population not assigned)	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
TSEN2	Pontocerebellar hypoplasia	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Other (population not assigned)	99	1 in 282	1 in 28,000	1 in 110,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
TSEN34	Pontocerebellar hypoplasia	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000

Gene	Disorder	Ethnicity	Detection Rate (%)	Individual Carrier Risk	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
TSEN54	Pontocerebellar hypoplasia	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	1 in 242	1 in 24,000	1 in 96,000
		South Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Other (population not assigned)	99	1 in 306	1 in 31,000	1 in 120,000
		US general population	99	1 in 332	1 in 33,000	1 in 130,000
TSMF	Combined oxidative phosphorylation deficiency	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	1 in 35	1 in 3,400	1 in 14,000
		Non-Finnish European/Caucasian	99	1 in 483	1 in 48,000	1 in 190,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	1 in 307	1 in 31,000	1 in 120,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
TTC7A	Severe combined immunodeficiency (SCID)	African/African American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Finnish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
TTC8	Bardet-Biedl syndrome	African/African American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000

Gene	Disorder	Ethnicity	Detection Rate (%)	Individual Carrier Risk	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
TTC37	Trichohepatoenteric syndrome	African/African American	99	1 in 404	1 in 40,000	1 in 160,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	1 in 370	1 in 37,000	1 in 150,000
		East Asian	99	1 in 121	1 in 12,000	1 in 48,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	98	1 in 483	1 in 24,000	1 in 96,000
		South Asian	99	1 in 215	1 in 21,000	1 in 84,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	98	1 in 452	1 in 23,000	1 in 92,000
TTPA	Ataxia with vitamin E deficiency	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
TULP1	Leber congenital amaurosis	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	1 in 373	1 in 37,000	1 in 150,000
		Finnish	97	1 in 417	1 in 14,000	1 in 56,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
TYMP	Mitochondrial neurogastrointestinal encephalopathy (MNGIE) disease	African/African American	99	1 in 417	1 in 42,000	1 in 170,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Other (population not assigned)	99	1 in 410	1 in 41,000	1 in 160,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000

Gene	Disorder	Ethnicity	Detection Rate (%)	Individual Carrier Risk	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
TYR	Oculocutaneous albinism	African/African American	99	1 in 106	1 in 11,000	1 in 44,000
		Latino/Admixed American	99	1 in 86	1 in 8,500	1 in 34,000
		Ashkenazi Jewish	99	1 in 21	1 in 2,000	1 in 8,000
		East Asian	99	1 in 158	1 in 16,000	1 in 64,000
		Finnish	99	1 in 42	1 in 4,100	1 in 16,000
		Non-Finnish European/Caucasian	99	1 in 51	1 in 5,000	1 in 20,000
		South Asian	99	1 in 99	1 in 9,800	1 in 39,000
		Other (population not assigned)	99	1 in 49	1 in 4,800	1 in 19,000
		US general population	99	1 in 62	1 in 6,100	1 in 24,000
UNC13D	Familial hemophagocytic lymphohistiocytosis	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	98	1 in 293	1 in 15,000	1 in 60,000
		South Asian	99	1 in 471	1 in 47,000	1 in 190,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	98	1 in 383	1 in 19,000	1 in 76,000
UNG	Immunodeficiency with hyper IgM syndrome	African/African American	97	1 in 436	1 in 15,000	1 in 60,000
		Latino/Admixed American	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Ashkenazi Jewish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		East Asian	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Finnish	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
USH1C	Usher syndrome (hearing loss and retinitis pigmentosa)	African/African American	98	1 in 498	1 in 25,000	1 in 100,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	97	1 in 235	1 in 7,800	1 in 31,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000

Gene	Disorder	Ethnicity	Detection Rate (%)	Individual Carrier Risk	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
USH1G	Usher syndrome (hearing loss and retinitis pigmentosa)	African/African American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
USH2A	Usher syndrome (hearing loss and retinitis pigmentosa)	African/African American	98	1 in 87	1 in 4,300	1 in 17,000
		Latino/Admixed American	99	1 in 54	1 in 5,300	1 in 21,000
		Ashkenazi Jewish	99	1 in 44	1 in 4,300	1 in 17,000
		East Asian	99	1 in 67	1 in 6,600	1 in 26,000
		Finnish	98	1 in 142	1 in 7,100	1 in 28,000
		Non-Finnish European/Caucasian	99	1 in 55	1 in 5,400	1 in 22,000
		South Asian	99	1 in 132	1 in 13,000	1 in 52,000
		Other (population not assigned)	99	1 in 61	1 in 6,000	1 in 24,000
		US general population	99	1 in 59	1 in 5,800	1 in 23,000
VLDLR	Cerebellar hypoplasia, VLDLR-associated	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
VPS13A	Choreacanthocytosis	African/African American	98	1 in 367	1 in 18,000	1 in 72,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		East Asian	98	1 in 400	1 in 20,000	1 in 80,000
		Finnish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Non-Finnish European/Caucasian	98	1 in 352	1 in 18,000	1 in 72,000
		South Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Other (population not assigned)	98	1 in 420	1 in 21,000	1 in 84,000
		US general population	98	1 in 387	1 in 19,000	1 in 76,000

Gene	Disorder	Ethnicity	Detection Rate (%)	Individual Carrier Risk	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
VPS13B	Cohen syndrome	African/African American	99	1 in 217	1 in 22,000	1 in 88,000
		Latino/Admixed American	99	1 in 457	1 in 46,000	1 in 180,000
		Ashkenazi Jewish	97	1 in 280	1 in 9,300	1 in 37,000
		East Asian	99	1 in 271	1 in 27,000	1 in 110,000
		Finnish	97	1 in 123	1 in 4,100	1 in 16,000
		Non-Finnish European/Caucasian	98	1 in 225	1 in 11,000	1 in 44,000
		South Asian	98	1 in 323	1 in 16,000	1 in 64,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	98	1 in 254	1 in 13,000	1 in 52,000
VPS45	Severe congenital neutropenia	African/African American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Latino/Admixed American	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Ashkenazi Jewish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
VPS53	Pontocerebellar hypoplasia	African/African American	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		East Asian	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
VRK1	Pontocerebellar hypoplasia	African/African American	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Latino/Admixed American	99	1 in 456	1 in 46,000	1 in 180,000
		Ashkenazi Jewish	99	1 in 297	1 in 30,000	1 in 120,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Other (population not assigned)	99	1 in 202	1 in 20,000	1 in 80,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000

Gene	Disorder	Ethnicity	Detection Rate (%)	Individual Carrier Risk	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
WAS	Wiskott-Aldrich syndrome	African/African American	99	N/A	N/A	N/A
		Latino/Admixed American	99	N/A	N/A	N/A
		Ashkenazi Jewish	99	N/A	N/A	N/A
		East Asian	99	N/A	N/A	N/A
		Finnish	99	N/A	N/A	N/A
		Non-Finnish European/Caucasian	99	N/A	N/A	N/A
		South Asian	99	N/A	N/A	N/A
		Other (population not assigned)	99	N/A	N/A	N/A
		US general population	99	N/A	N/A	N/A
WHRN	Usher syndrome (hearing loss and retinitis pigmentosa)	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Ashkenazi Jewish	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
WNT1	Osteogenesis imperfecta, autosomal recessive	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Ashkenazi Jewish	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
WRN	Werner syndrome	African/African American	98	1 in 408	1 in 20,000	1 in 80,000
		Latino/Admixed American	98	1 in 471	1 in 24,000	1 in 96,000
		Ashkenazi Jewish	99	1 in 428	1 in 43,000	1 in 170,000
		East Asian	98	1 in 259	1 in 13,000	1 in 52,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	98	1 in 335	1 in 17,000	1 in 68,000
		South Asian	98	1 in 354	1 in 18,000	1 in 72,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	98	1 in 363	1 in 18,000	1 in 72,000

Gene	Disorder	Ethnicity	Detection Rate (%)	Individual Carrier Risk	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
XPA	Xeroderma pigmentosum	African/African American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Latino/Admixed American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Ashkenazi Jewish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		East Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Finnish	99	1 in 155	1 in 15,000	1 in 60,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
XPC	Xeroderma pigmentosum	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
ZAP70	Severe combined immunodeficiency (SCID)	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		East Asian	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Finnish	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
ZBTB24	Immunodeficiency-centromeric instability-facial anomalies (ICF) syndrome	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Finnish	99	1 in 493	1 in 49,000	1 in 200,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Other (population not assigned)	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000

Gene	Disorder	Ethnicity	Detection Rate (%)	Individual Carrier Risk	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
ZNF469	Brittle cornea syndrome	African/African American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		East Asian	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Finnish	99	1 in 106	1 in 11,000	1 in 44,000
		Non-Finnish European/Caucasian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		South Asian	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000