

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
DBT	Maple syrup urine disease	African/African American	99	1 in 380	1 in 38,000	1 in 150,000
		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 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 342	1 in 34,000	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 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	1 in 429	1 in 43,000	1 in 170,000
DCAF17	Neurodegeneration with brain iron accumulation disorder	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)	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
DCLRE1C	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	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	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

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
DDB2	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	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	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
DDC	Aromatic l-amino acid decarboxylase 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	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		East Asian	99	1 in 134	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 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
DHCR7	Smith-Lemli-Opitz syndrome	African/African American	99	1 in 129	1 in 13,000	1 in 52,000
		Latino/Admixed American	99	1 in 136	1 in 14,000	1 in 56,000
		Ashkenazi Jewish	99	1 in 40	1 in 3,900	1 in 16,000
		East Asian	99	1 in 416	1 in 42,000	1 in 170,000
		Finnish	99	1 in 181	1 in 18,000	1 in 72,000
		Non-Finnish European/Caucasian	99	1 in 51	1 in 5,000	1 in 20,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	1 in 72	1 in 7,100	1 in 28,000
		US general population	99	1 in 67	1 in 6,600	1 in 26,000
DHDDS	Retinitis pigmentosa	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 97	1 in 9,600	1 in 38,000
		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)	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
DLD	Dihydropyrimidinase 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 57	1 in 5,600	1 in 22,000
		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
DMD	Dystrophinopathies, including Duchenne and Becker muscular dystrophy and X-linked cardiomyopathy	African/African American	Pending	N/A	N/A	N/A
		Latino/Admixed American	Pending	N/A	N/A	N/A
		Ashkenazi Jewish	Pending	N/A	N/A	N/A
		East Asian	Pending	N/A	N/A	N/A
		Finnish	Pending	N/A	N/A	N/A
		Non-Finnish European/Caucasian	Pending	N/A	N/A	N/A
		South Asian	Pending	N/A	N/A	N/A
		Other (population not assigned)	Pending	N/A	N/A	N/A
		US general population	Pending	N/A	N/A	N/A
DNMT3B	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	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)	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
DOCK8	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	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	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 458	1 in 46,000	1 in 180,000
		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
DOK7	Congenital myasthenic syndrome	African/African American	97	1 in 344	1 in 11,000	1 in 44,000
		Latino/Admixed American	97	1 in 424	1 in 14,000	1 in 56,000
		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	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Non-Finnish European/Caucasian	97	1 in 281	1 in 9,300	1 in 37,000
		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	97	1 in 324	1 in 11,000	1 in 44,000
DPYD	Dihydropyrimidine dehydrogenase 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 210	1 in 21,000	1 in 84,000
		Finnish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Non-Finnish European/Caucasian	99	1 in 254	1 in 25,000	1 in 100,000
		South Asian	97	1 in 251	1 in 8,300	1 in 33,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	1 in 317	1 in 32,000	1 in 130,000
DTNBP1	Hermansky-Pudlak syndrome	African/African American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Latino/Admixed American	97	1 in 489	1 in 16,000	1 in 64,000
		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	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 450	1 in 22,000	1 in 88,000
		Other (population not assigned)	98	1 in 378	1 in 19,000	1 in 76,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
DYNC2H1	Short-rib thoracic dysplasia	African/African American	99	1 in 143	1 in 14,000	1 in 56,000
		Latino/Admixed American	99	1 in 183	1 in 18,000	1 in 72,000
		Ashkenazi Jewish	99	1 in 179	1 in 18,000	1 in 72,000
		East Asian	99	1 in 307	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	99	1 in 138	1 in 14,000	1 in 56,000
		South Asian	99	1 in 266	1 in 27,000	1 in 110,000
		Other (population not assigned)	99	1 in 164	1 in 16,000	1 in 64,000
		US general population	99	1 in 150	1 in 15,000	1 in 60,000

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
DYSF	Limb-girdle muscular dystrophy	African/African American	99	1 in 143	1 in 14,000	1 in 56,000
		Latino/Admixed American	99	1 in 189	1 in 19,000	1 in 76,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	1 in 168	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 263	1 in 26,000	1 in 100,000
		South Asian	99	1 in 298	1 in 30,000	1 in 120,000
		Other (population not assigned)	99	1 in 248	1 in 25,000	1 in 100,000
		US general population	99	1 in 220	1 in 22,000	1 in 88,000
EDA	Hypohidrotic ectodermal dysplasia	African/African American	99	N/A	N/A	N/A
		Latino/Admixed American	97	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	98	N/A	N/A	N/A
EFEMP2	Cutis laxa	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
EIF2B1	Leukoencephalopathy with vanishing white matter	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	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	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

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
EIF2B2	Leukoencephalopathy with vanishing white matter	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
EIF2B3	Leukoencephalopathy with vanishing white matter	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	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
EIF2B4	Leukoencephalopathy with vanishing white matter	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	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
EIF2B5	Leukoencephalopathy with vanishing white matter	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	99	1 in 485	1 in 48,000	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 457	1 in 46,000	1 in 180,000
		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
ELP1	Familial dysautonomia	African/African American	99	1 in 434	1 in 43,000	1 in 170,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Ashkenazi Jewish	99	1 in 37	1 in 3,600	1 in 14,000
		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 343	1 in 34,000	1 in 140,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
EMD	Emery-Dreifuss muscular dystrophy	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
ERCC2	Xeroderma pigmentosum	African/African American	99	1 in 347	1 in 35,000	1 in 140,000
		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	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 202	1 in 20,000	1 in 80,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	1 in 312	1 in 31,000	1 in 120,000
		US general population	99	1 in 256	1 in 26,000	1 in 100,000
ERCC3	Xeroderma pigmentosum	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 55	1 in 5,400	1 in 22,000
		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 388	1 in 19,000	1 in 76,000
		South Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Other (population not assigned)	98	1 in 318	1 in 16,000	1 in 64,000
		US general population	98	1 in 455	1 in 23,000	1 in 92,000

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
ERCC4	Xeroderma pigmentosum	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	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 441	1 in 22,000	1 in 88,000
		US general population	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
ERCC5	Xeroderma pigmentosum	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	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	99	1 in 283	1 in 28,000	1 in 110,000
		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
ERCC6	Cockayne syndrome	African/African American	98	1 in 314	1 in 16,000	1 in 64,000
		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 265	1 in 26,000	1 in 100,000
		Non-Finnish European/Caucasian	99	1 in 331	1 in 33,000	1 in 130,000
		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 378	1 in 38,000	1 in 150,000
ERCC8	Cockayne 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 240	1 in 24,000	1 in 96,000
		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

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
ESCO2	Roberts syndrome	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	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 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	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
ETFA	Glutaric acidemia 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	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	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
ETFB	Glutaric acidemia type II	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	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
ETFDH	Glutaric acidemia type II	African/African American	99	1 in 361	1 in 36,000	1 in 140,000
		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 133	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	99	1 in 411	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 421	1 in 42,000	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
ETHE1	Ethylmalonic encephalopathy	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	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
EVC2	Ellis-van Creveld syndrome	African/African American	99	1 in 267	1 in 27,000	1 in 110,000
		Latino/Admixed American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		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	97	1 in 318	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 422	1 in 42,000	1 in 170,000
		US general population	99	1 in 471	1 in 47,000	1 in 190,000
EXOSC3	Pontocerebellar hypoplasia	African/African American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Latino/Admixed American	99	1 in 496	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 406	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 457	1 in 46,000	1 in 180,000
EYS	Retinitis pigmentosa	African/African American	97	1 in 71	1 in 2,300	1 in 9,200
		Latino/Admixed American	99	1 in 146	1 in 15,000	1 in 60,000
		Ashkenazi Jewish	99	1 in 42	1 in 4,100	1 in 16,000
		East Asian	99	1 in 62	1 in 6,100	1 in 24,000
		Finnish	98	1 in 39	1 in 1,900	1 in 7,600
		Non-Finnish European/Caucasian	99	1 in 106	1 in 11,000	1 in 44,000
		South Asian	98	1 in 220	1 in 11,000	1 in 44,000
		Other (population not assigned)	98	1 in 85	1 in 4,200	1 in 17,000
		US general population	98	1 in 103	1 in 5,100	1 in 20,000

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
F9	Factor IX deficiency (hemophilia B)	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
FA2H	Neurodegeneration with brain iron accumulation disorder	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
FAH	Tyrosinemia type I	African/African American	99	1 in 477	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 137	1 in 14,000	1 in 56,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	1 in 327	1 in 33,000	1 in 130,000
		Non-Finnish European/Caucasian	99	1 in 309	1 in 31,000	1 in 120,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	1 in 292	1 in 29,000	1 in 120,000
		US general population	99	1 in 378	1 in 38,000	1 in 150,000
FAM126A	Hypomyelination and congenital cataract	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	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 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
FAM161A	Retinitis pigmentosa	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	97	1 in 236	1 in 7,800	1 in 31,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	97	1 in 469	1 in 16,000	1 in 64,000
		Non-Finnish European/Caucasian	98	1 in 356	1 in 18,000	1 in 72,000
		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 469	1 in 23,000	1 in 92,000
FANCA	Fanconi anemia	African/African American	99	1 in 185	1 in 18,000	1 in 72,000
		Latino/Admixed American	99	1 in 319	1 in 32,000	1 in 130,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	98	1 in 246	1 in 12,000	1 in 48,000
		Finnish	99	1 in 308	1 in 31,000	1 in 120,000
		Non-Finnish European/Caucasian	99	1 in 174	1 in 17,000	1 in 68,000
		South Asian	99	1 in 306	1 in 31,000	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 198	1 in 20,000	1 in 80,000
FANCB	Fanconi anemia	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
FANCC	Fanconi anemia	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 80	1 in 7,900	1 in 32,000
		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 470	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	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
FANCD2	Fanconi anemia	African/African American	99	1 in 235	1 in 23,000	1 in 92,000
		Latino/Admixed American	99	1 in 385	1 in 38,000	1 in 150,000
		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 399	1 in 40,000	1 in 160,000
		US general population	99	1 in 441	1 in 44,000	1 in 180,000
FANCE	Fanconi anemia	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 469	1 in 47,000	1 in 190,000
		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
FANCF	Fanconi anemia	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	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	97	< 1 in 500	< 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)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
FANCG	Fanconi anemia	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 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	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
FANCI	Fanconi anemia	African/African American	98	1 in 358	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	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 116	1 in 5,800	1 in 23,000
		Non-Finnish European/Caucasian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		South Asian	98	1 in 382	1 in 19,000	1 in 76,000
		Other (population not assigned)	98	1 in 468	1 in 23,000	1 in 92,000
		US general population	98	1 in 479	1 in 24,000	1 in 96,000
FANCL	Fanconi anemia	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	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 391	1 in 20,000	1 in 80,000
		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 479	1 in 24,000	1 in 96,000
FBXL4	Leigh syndrome	African/African American	99	1 in 337	1 in 34,000	1 in 140,000
		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 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 222	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 250	1 in 25,000	1 in 100,000
		US general population	99	1 in 283	1 in 28,000	1 in 110,000
FHL1	Emery-Dreifuss muscular dystrophy	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
FKBP10	Osteogenesis imperfecta, autosomal recessive	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	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		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 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
FKRP	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 413	1 in 41,000	1 in 160,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	1 in 266	1 in 27,000	1 in 110,000
		Finnish	99	1 in 272	1 in 27,000	1 in 110,000
		Non-Finnish European/Caucasian	99	1 in 190	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)	99	1 in 246	1 in 25,000	1 in 100,000
		US general population	99	1 in 247	1 in 25,000	1 in 100,000
FKTN	Walker-Warburg syndrome and other FKTN-related dystrophies	African/African American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Latino/Admixed American	97	1 in 385	1 in 13,000	1 in 52,000
		Ashkenazi Jewish	97	1 in 63	1 in 2,100	1 in 8,400
		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	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	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
FMO3	Trimethylaminuria	African/African American	98	1 in 183	1 in 9,100	1 in 36,000
		Latino/Admixed American	99	1 in 374	1 in 37,000	1 in 150,000
		Ashkenazi Jewish	99	1 in 345	1 in 34,000	1 in 140,000
		East Asian	98	1 in 115	1 in 5,700	1 in 23,000
		Finnish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Non-Finnish European/Caucasian	99	1 in 134	1 in 13,000	1 in 52,000
		South Asian	98	1 in 326	1 in 16,000	1 in 64,000
		Other (population not assigned)	99	1 in 130	1 in 13,000	1 in 52,000
		US general population	99	1 in 158	1 in 16,000	1 in 64,000

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
FOXN1	Severe combined immunodeficiency (SCID)	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	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
FOXP3	IPEX 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
FOXRED1	Leigh 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	98	1 in 383	1 in 19,000	1 in 76,000
		South Asian	99	1 in 414	1 in 41,000	1 in 160,000
		Other (population not assigned)	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		US general population	98	1 in 451	1 in 22,000	1 in 88,000
FRAS1	Fraser syndrome	African/African American	98	1 in 390	1 in 19,000	1 in 76,000
		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 491	1 in 49,000	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
FREM2	Fraser 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	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 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	98	1 in 393	1 in 20,000	1 in 80,000
		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 490	1 in 24,000	1 in 96,000
FUCA1	Fucosidosis	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	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
G6PC1	Glycogen storage disease type I	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	98	1 in 364	1 in 18,000	1 in 72,000
		Ashkenazi Jewish	99	1 in 77	1 in 7,600	1 in 30,000
		East Asian	99	1 in 186	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 342	1 in 34,000	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 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	1 in 375	1 in 37,000	1 in 150,000
GAA	Pompe disease	African/African American	99	1 in 83	1 in 8,200	1 in 33,000
		Latino/Admixed American	99	1 in 119	1 in 12,000	1 in 48,000
		Ashkenazi Jewish	99	1 in 77	1 in 7,600	1 in 30,000
		East Asian	99	1 in 66	1 in 6,500	1 in 26,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	1 in 59	1 in 5,800	1 in 23,000
		South Asian	99	1 in 147	1 in 15,000	1 in 60,000
		Other (population not assigned)	99	1 in 77	1 in 7,600	1 in 30,000
		US general population	99	1 in 69	1 in 6,800	1 in 27,000

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
GALC	Krabbe disease	African/African American	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Latino/Admixed American	99	1 in 371	1 in 37,000	1 in 150,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	1 in 49	1 in 4,800	1 in 19,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	1 in 254	1 in 25,000	1 in 100,000
		South Asian	99	1 in 43	1 in 4,200	1 in 17,000
		Other (population not assigned)	99	1 in 245	1 in 24,000	1 in 96,000
		US general population	99	1 in 231	1 in 23,000	1 in 92,000
GALE	Galactosemia	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 415	1 in 41,000	1 in 160,000
		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
GALK1	Galactosemia	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 446	1 in 45,000	1 in 180,000
		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
GALNS	Mucopolysaccharidosis type IVA	African/African American	99	1 in 441	1 in 44,000	1 in 180,000
		Latino/Admixed American	99	1 in 317	1 in 32,000	1 in 130,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	1 in 488	1 in 49,000	1 in 200,000
		Finnish	98	1 in 469	1 in 23,000	1 in 92,000
		Non-Finnish European/Caucasian	99	1 in 428	1 in 43,000	1 in 170,000
		South Asian	99	1 in 433	1 in 43,000	1 in 170,000
		Other (population not assigned)	99	1 in 307	1 in 31,000	1 in 120,000
		US general population	99	1 in 401	1 in 40,000	1 in 160,000

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
GALT	Galactosemia, classic	African/African American	98	1 in 98	1 in 9,700	1 in 39,000
		Latino/Admixed American	97	1 in 222	1 in 22,000	1 in 88,000
		Ashkenazi Jewish	97	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	97	1 in 421	1 in 42,000	1 in 170,000
		Finnish	97	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	97	1 in 131	1 in 13,000	1 in 52,000
		South Asian	99	1 in 383	1 in 38,000	1 in 150,000
		Other (population not assigned)	97	1 in 264	1 in 26,000	1 in 100,000
		US general population	97	1 in 143	1 in 14,000	1 in 56,000
GAMT	Cerebral creatine deficiency syndromes	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	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
GATM	Cerebral creatine deficiency syndromes	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
GBA	Gaucher disease	African/African American	87	1 in 172	1 in 1,300	1 in 5,200
		Latino/Admixed American	87	1 in 152	1 in 1,200	1 in 4,800
		Ashkenazi Jewish	87	1 in 15	1 in 110	1 in 440
		East Asian	87	1 in 235	1 in 1,800	1 in 7,200
		Finnish	87	1 in 132	1 in 1,000	1 in 4,000
		Non-Finnish European/Caucasian	87	1 in 109	1 in 830	1 in 3,300
		South Asian	87	1 in 279	1 in 2,100	1 in 8,400
		Other (population not assigned)	87	1 in 91	1 in 690	1 in 2,800
		US general population	87	1 in 124	1 in 950	1 in 3,800

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
GBE1	Glycogen storage disease type IV	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	98	1 in 303	1 in 15,000	1 in 60,000
		Ashkenazi Jewish	99	1 in 72	1 in 7,100	1 in 28,000
		East Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Finnish	99	1 in 374	1 in 37,000	1 in 150,000
		Non-Finnish European/Caucasian	99	1 in 242	1 in 24,000	1 in 96,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	1 in 149	1 in 15,000	1 in 60,000
		US general population	99	1 in 279	1 in 28,000	1 in 110,000
GCDH	Glutaric acidemia type I	African/African American	99	1 in 213	1 in 21,000	1 in 84,000
		Latino/Admixed American	99	1 in 251	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 217	1 in 22,000	1 in 88,000
		Finnish	99	1 in 356	1 in 36,000	1 in 140,000
		Non-Finnish European/Caucasian	99	1 in 204	1 in 20,000	1 in 80,000
		South Asian	99	1 in 289	1 in 29,000	1 in 120,000
		Other (population not assigned)	99	1 in 283	1 in 28,000	1 in 110,000
		US general population	99	1 in 215	1 in 21,000	1 in 84,000
GFM1	Combined oxidative phosphorylation deficiency	African/African American	98	1 in 459	1 in 23,000	1 in 92,000
		Latino/Admixed American	99	1 in 485	1 in 48,000	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	98	1 in 432	1 in 22,000	1 in 88,000
		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 456	1 in 46,000	1 in 180,000
GFPT1	Congenital myasthenic 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
GJB2	Deafness and hearing loss, nonsyndromic	African/African American	99	1 in 63	1 in 6,200	1 in 25,000
		Latino/Admixed American	95	1 in 23	1 in 440	1 in 1,800
		Ashkenazi Jewish	98	1 in 12	1 in 550	1 in 2,200
		East Asian	99	1 in 6	1 in 500	1 in 2,000
		Finnish	99	1 in 16	1 in 1,500	1 in 6,000
		Non-Finnish European/Caucasian	99	1 in 18	1 in 1,700	1 in 6,800
		South Asian	99	1 in 58	1 in 5,700	1 in 23,000
		Other (population not assigned)	99	1 in 20	1 in 1,900	1 in 7,600
		US general population	99	1 in 19	1 in 1,800	1 in 7,200
GLA	Fabry disease	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
GLB1	GM1 gangliosidosis and mucopolysaccharidosis type IVB	African/African American	99	1 in 334	1 in 33,000	1 in 130,000
		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 397	1 in 20,000	1 in 80,000
		Finnish	98	1 in 258	1 in 13,000	1 in 52,000
		Non-Finnish European/Caucasian	99	1 in 326	1 in 33,000	1 in 130,000
		South Asian	99	1 in 318	1 in 32,000	1 in 130,000
		Other (population not assigned)	99	1 in 337	1 in 34,000	1 in 140,000
		US general population	99	1 in 352	1 in 35,000	1 in 140,000
GLDC	Glycine encephalopathy	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 247	1 in 25,000	1 in 100,000
		Non-Finnish European/Caucasian	99	1 in 311	1 in 31,000	1 in 120,000
		South Asian	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Other (population not assigned)	99	1 in 372	1 in 37,000	1 in 150,000
		US general population	99	1 in 375	1 in 37,000	1 in 150,000

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
GLE1	Congenital arthrogryposis with anterior horn cell disease	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 42	1 in 4,100	1 in 16,000
		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 442	1 in 44,000	1 in 180,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
GNE	Inclusion body myopathy 2	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 122	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 374	1 in 37,000	1 in 150,000
		South Asian	99	1 in 37	1 in 3,600	1 in 14,000
		Other (population not assigned)	99	1 in 220	1 in 22,000	1 in 88,000
		US general population	99	1 in 345	1 in 34,000	1 in 140,000
GNPAT	Rhizomelic chondrodysplasia punctata	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	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	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
GNPTAB	Mucopolysaccharidosis type II and III	African/African American	97	1 in 180	1 in 6,000	1 in 24,000
		Latino/Admixed American	97	1 in 306	1 in 10,000	1 in 40,000
		Ashkenazi Jewish	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		East Asian	99	1 in 391	1 in 39,000	1 in 160,000
		Finnish	97	1 in 165	1 in 5,500	1 in 22,000
		Non-Finnish European/Caucasian	98	1 in 258	1 in 13,000	1 in 52,000
		South Asian	98	1 in 319	1 in 16,000	1 in 64,000
		Other (population not assigned)	97	1 in 295	1 in 9,800	1 in 39,000
		US general population	98	1 in 256	1 in 13,000	1 in 52,000

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
GNPTG	Mucopolipidosis III gamma	African/African American	97	1 in 394	1 in 13,000	1 in 52,000
		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	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	97	< 1 in 500	< 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	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
GNS	Mucopolysaccharidosis type III	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 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
GPHN	Molybdenum cofactor deficiency	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	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	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	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
GRHPR	Primary hyperoxaluria	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	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	97	1 in 469	1 in 16,000	1 in 64,000
		South Asian	99	1 in 333	1 in 33,000	1 in 130,000
		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
GRIP1	Fraser 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	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
GSS	Glutathione synthetase deficiency	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	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)	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
GUSB	Mucopolysaccharidosis type VII	African/African American	99	1 in 427	1 in 43,000	1 in 170,000
		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
HADHA	Long-chain 3-hydroxyacyl-CoA dehydrogenase (LCHAD) deficiency	African/African American	99	1 in 444	1 in 44,000	1 in 180,000
		Latino/Admixed American	99	1 in 392	1 in 39,000	1 in 160,000
		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 127	1 in 13,000	1 in 52,000
		Non-Finnish European/Caucasian	99	1 in 216	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 249	1 in 25,000	1 in 100,000
		US general population	99	1 in 267	1 in 27,000	1 in 110,000

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
HADHB	Mitochondrial trifunctional protein 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	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)	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
HAMP	Juvenile hereditary hemochromatosis	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
HAX1	Severe congenital neutropenia	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	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)	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
HBA1/HBA2	Alpha-thalassemia	African	90	1 in 3	N/A	N/A
		American	90	1 in 21	N/A	N/A
		Eastern Mediterranean	90	1 in 5	N/A	N/A
		European	90	1 in 44	N/A	N/A
		Southeast Asian	90	1 in 2	N/A	N/A
		Western Pacific	90	1 in 10	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
HBB	Beta-hemoglobinopathies, includes sickle cell disease and beta-thalassemias	African/African American	99	1 in 9	1 in 800	1 in 3,200
		Latino/Admixed American	99	1 in 162	1 in 16,000	1 in 64,000
		Ashkenazi Jewish	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		East Asian	98	1 in 107	1 in 5,300	1 in 21,000
		Finnish	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Non-Finnish European/Caucasian	99	1 in 256	1 in 26,000	1 in 100,000
		South Asian	99	1 in 28	1 in 2,700	1 in 11,000
		Other (population not assigned)	99	1 in 116	1 in 12,000	1 in 48,000
		US general population	99	1 in 52	1 in 5,100	1 in 20,000
HCFC1	Methylmalonic acidemia with homocystinuria	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
HELLS	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	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 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
HEXA	Tay-Sachs disease	African/African American	99	1 in 317	1 in 32,000	1 in 130,000
		Latino/Admixed American	99	1 in 288	1 in 29,000	1 in 120,000
		Ashkenazi Jewish	97	1 in 31	1 in 1,000	1 in 4,000
		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 265	1 in 26,000	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 252	1 in 8,400	1 in 34,000
		US general population	99	1 in 285	1 in 28,000	1 in 110,000

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
HEXB	Sandhoff disease	African/African American	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Latino/Admixed American	98	1 in 325	1 in 16,000	1 in 64,000
		Ashkenazi Jewish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		East Asian	99	1 in 472	1 in 47,000	1 in 190,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	1 in 278	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)	98	1 in 467	1 in 23,000	1 in 92,000
		US general population	99	1 in 325	1 in 32,000	1 in 130,000
HGSNAT	Mucopolysaccharidosis type III	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 482	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 485	1 in 48,000	1 in 190,000
		US general population	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
HINT1	Axonal neuropathy with neuromyotonia	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
HJV	Juvenile hereditary hemochromatosis	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	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
HLCS	Holocarboxylase synthetase deficiency	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	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		East Asian	99	1 in 361	1 in 36,000	1 in 140,000
		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	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
HMGCL	HMG-CoA lyase deficiency	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	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
HOGA1	Primary hyperoxaluria	African/African American	99	1 in 425	1 in 42,000	1 in 170,000
		Latino/Admixed American	99	1 in 285	1 in 28,000	1 in 110,000
		Ashkenazi Jewish	97	1 in 48	1 in 1,600	1 in 6,400
		East Asian	99	1 in 113	1 in 11,000	1 in 44,000
		Finnish	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		Non-Finnish European/Caucasian	99	1 in 183	1 in 18,000	1 in 72,000
		South Asian	99	1 in 420	1 in 42,000	1 in 170,000
		Other (population not assigned)	99	1 in 136	1 in 14,000	1 in 56,000
		US general population	99	1 in 207	1 in 21,000	1 in 84,000
HPD	Tyrosinemia type III	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	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
HPS1	Hermansky-Pudlak 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	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 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
HPS3	Hermansky-Pudlak 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 287	1 in 29,000	1 in 120,000
		East Asian	99	1 in 290	1 in 29,000	1 in 120,000
		Finnish	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		Non-Finnish European/Caucasian	98	1 in 489	1 in 24,000	1 in 96,000
		South Asian	99	1 in 371	1 in 37,000	1 in 150,000
		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
HPS4	Hermansky-Pudlak syndrome	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	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	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
HPS5	Hermansky-Pudlak 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 252	1 in 8,400	1 in 34,000
		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 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	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
HPS6	Hermansky-Pudlak syndrome	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	97	< 1 in 500	< 1 in 17,000	< 1 in 68,000
		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
HSD3B2	Congenital adrenal hyperplasia	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
HSD17B10	HSD10 disease	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
HSD17B4	D-bifunctional protein deficiency	African/African American	98	1 in 473	1 in 24,000	1 in 96,000
		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	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	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
HYAL1	Mucopolysaccharidosis type IX	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	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
HYLS1	Hydrolethalus syndrome	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	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
IDS	Mucopolysaccharidosis type II	African/African American	99	N/A	N/A	N/A
		Latino/Admixed American	97	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
IDUA	Mucopolysaccharidosis type I	African/African American	99	1 in 447	1 in 45,000	1 in 180,000
		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 421	1 in 42,000	1 in 170,000
		Finnish	99	1 in 178	1 in 18,000	1 in 72,000
		Non-Finnish European/Caucasian	99	1 in 98	1 in 9,700	1 in 39,000
		South Asian	98	< 1 in 500	< 1 in 25,000	< 1 in 100,000
		Other (population not assigned)	99	1 in 354	1 in 35,000	1 in 140,000
		US general population	99	1 in 142	1 in 14,000	1 in 56,000

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
IFT140	Retinitis pigmentosa	African/African American	98	1 in 348	1 in 17,000	1 in 68,000
		Latino/Admixed American	98	1 in 498	1 in 25,000	1 in 100,000
		Ashkenazi Jewish	99	1 in 171	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 307	1 in 31,000	1 in 120,000
		South Asian	99	1 in 450	1 in 45,000	1 in 180,000
		Other (population not assigned)	99	< 1 in 500	< 1 in 50,000	< 1 in 200,000
		US general population	99	1 in 351	1 in 35,000	1 in 140,000
IKBKB	Severe combined immunodeficiency (SCID)	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	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
IL2RA	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	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
IL2RG	Severe combined Immunodeficiency (SCID), 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	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
IL7R	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	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 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
INPP5E	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 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
ITPA	Developmental and epileptic encephalopathy	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	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)	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
IVD	Isovaleric acidemia	African/African American	99	1 in 354	1 in 35,000	1 in 140,000
		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 273	1 in 27,000	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 349	1 in 35,000	1 in 140,000
		US general population	99	1 in 325	1 in 32,000	1 in 130,000

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
JAK3	Severe combined immunodeficiency (SCID)	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	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)	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		