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

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Disorder	Gene	Ethnicity (Source: https://gnomad.broadinstitute.org/ except CYP21A2 and HBA1/HBA2)	Detection Rate (%) (Derived from gnomAD and ClinVar except CYP21A2, GBA, and HBA1/HBA2)	Individual Carrier Risk Before Testing (Derived from gnomAD and ClinVar except CYP21A2 and HBA1/HBA2)	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
Danon disease	***LAMP2***	African/African American	97	N/A	N/A	N/A
		Latino/Admixed American	97	N/A	N/A	N/A
		Ashkenazi Jewish	97	N/A	N/A	N/A
		East Asian	97	N/A	N/A	N/A
		Finnish	97	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)	97	N/A	N/A	N/A
D-bifunctional protein deficiency	***HSD17B4***	African/African American	98	1 in 326	1 in 16,000	1 in 64,000
		Latino/Admixed American	99	1 in 638	1 in 64,000	1 in 260,000
		Ashkenazi Jewish	99	1 in 2,490	1 in 250,000	1 in 1,000,000
		East Asian	99	1 in 449	1 in 45,000	1 in 180,000
		Finnish	99	1 in 293	1 in 29,000	1 in 120,000
		Non-Finnish European/Caucasian	99	1 in 424	1 in 42,000	1 in 170,000
		South Asian	99	1 in 122	1 in 12,000	1 in 48,000
		Other (population not assigned)	99	1 in 2,742	1 in 270,000	1 in 1,100,000
Deafness and hearing loss, nonsyndromic	***GJB2***	African/African American	99	1 in 113	1 in 11,000	1 in 44,000
		Latino/Admixed American	95	1 in 37	1 in 720	1 in 2,900
		Ashkenazi Jewish	99	1 in 57	1 in 5,600	1 in 22,000
		East Asian	97	1 in 58	1 in 1,900	1 in 7,600
		Finnish	97	1 in 58	1 in 1,900	1 in 7,600
		Non-Finnish European/Caucasian	98	1 in 38	1 in 1,900	1 in 7,600
		South Asian	99	1 in 58	1 in 5,700	1 in 23,000
		Other (population not assigned)	98	1 in 47	1 in 2,300	1 in 9,200
	GJB6	African/African American	97	1 in 1,626	1 in 54,000	1 in 220,000
		Latino/Admixed American	71	1 in 2,161	1 in 7,400	1 in 30,000
		Ashkenazi Jewish	99	1 in 5,032	1 in 500,000	1 in 2,000,000
		East Asian	98	1 in 214	1 in 11,000	1 in 44,000
		Finnish	97	1 in 5,411	1 in 180,000	1 in 720,000
		Non-Finnish European/Caucasian	94	1 in 421	1 in 7,000	1 in 28,000
		South Asian	99	1 in 1,531	1 in 150,000	1 in 600,000
		Other (population not assigned)	97	1 in 256	1 in 8,500	1 in 34,000
	LOXHD1	African/African American	98	1 in 276	1 in 14,000	1 in 56,000
		Latino/Admixed American	98	1 in 224	1 in 11,000	1 in 44,000
		Ashkenazi Jewish	99	1 in 122	1 in 12,000	1 in 48,000
		East Asian	99	1 in 252	1 in 25,000	1 in 100,000
		Finnish	99	1 in 323	1 in 32,000	1 in 130,000
		Non-Finnish European/Caucasian	99	1 in 169	1 in 17,000	1 in 68,000
		South Asian	99	1 in 209	1 in 21,000	1 in 84,000
		Other (population not assigned)	99	1 in 359	1 in 36,000	1 in 140,000
	OTOF	African/African American	99	1 in 201	1 in 20,000	1 in 80,000
		Latino/Admixed American	99	1 in 258	1 in 26,000	1 in 100,000
		Ashkenazi Jewish	99	1 in 78	1 in 7,700	1 in 31,000
		East Asian	99	1 in 52	1 in 5,100	1 in 20,000
		Finnish	99	1 in 903	1 in 90,000	1 in 360,000

Footnotes:

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a Feng et al., PMID 28125085

b Luo et al., PMID 23788250

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		Non-Finnish European/Caucasian	99	1 in 228	1 in 23,000	1 in 92,000
		South Asian	99	1 in 240	1 in 24,000	1 in 96,000
		Other (population not assigned)	99	1 in 229	1 in 23,000	1 in 92,000
	POU3F4	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
	SYNE4	African/African American	99	1 in 964	1 in 96,000	1 in 380,000
		Latino/Admixed American	99	1 in 1,594	1 in 160,000	1 in 640,000
		Ashkenazi Jewish	99	1 in 4,610	1 in 460,000	1 in 1,800,000
		East Asian	98	1 in 1,085	1 in 54,000	1 in 220,000
		Finnish	99	1 in 2,670	1 in 270,000	1 in 1,100,000
		Non-Finnish European/Caucasian	99	1 in 478	1 in 48,000	1 in 190,000
		South Asian	98	1 in 597	1 in 30,000	1 in 120,000
		Other (population not assigned)	99	1 in 448	1 in 45,000	1 in 180,000
Dent disease	***CLCN5***	African/African American	99	N/A	N/A	N/A
		Latino/Admixed American	99	N/A	N/A	N/A
		Ashkenazi Jewish	98	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	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
	OCRL	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
Dihydrolipoamide dehydrogenase deficiency	***DLD***	African/African American	99	1 in 1,234	1 in 120,000	1 in 480,000
		Latino/Admixed American	99	1 in 1,692	1 in 170,000	1 in 680,000
		Ashkenazi Jewish	99	1 in 61	1 in 6,000	1 in 24,000
		East Asian	98	1 in 2,239	1 in 110,000	1 in 440,000
		Finnish	99	1 in 1,796	1 in 180,000	1 in 720,000
		Non-Finnish European/Caucasian	99	1 in 968	1 in 97,000	1 in 390,000
		South Asian	98	1 in 1,293	1 in 65,000	1 in 260,000
		Other (population not assigned)	99	1 in 912	1 in 91,000	1 in 360,000
Dihydropyrimidine dehydrogenase deficiency	***DPYD***	African/African American	99	1 in 970	1 in 97,000	1 in 390,000
		Latino/Admixed American	98	1 in 710	1 in 35,000	1 in 140,000

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		Ashkenazi Jewish	99	1 in 2,146	1 in 210,000	1 in 840,000
		East Asian	99	1 in 196	1 in 20,000	1 in 80,000
		Finnish	98	1 in 2,176	1 in 110,000	1 in 440,000
		Non-Finnish European/Caucasian	98	1 in 558	1 in 28,000	1 in 110,000
		South Asian	97	1 in 248	1 in 8,200	1 in 33,000
		Other (population not assigned)	98	1 in 1,532	1 in 77,000	1 in 310,000
Distal spinal muscular atrophy, autosomal recessive	***PLEKHG5***	African/African American	97	1 in 45	1 in 1,500	1 in 6,000
		Latino/Admixed American	98	1 in 250	1 in 12,000	1 in 48,000
		Ashkenazi Jewish	97	1 in 2,014	1 in 67,000	1 in 270,000
		East Asian	99	1 in 614	1 in 61,000	1 in 240,000
		Finnish	97	1 in 1,252	1 in 42,000	1 in 170,000
		Non-Finnish European/Caucasian	99	1 in 693	1 in 69,000	1 in 280,000
		South Asian	99	1 in 433	1 in 43,000	1 in 170,000
		Other (population not assigned)	97	1 in 168	1 in 5,600	1 in 22,000
Donnai-Barrow syndrome	***LRP2***	African/African American	99	1 in 334	1 in 33,000	1 in 130,000
		Latino/Admixed American	99	1 in 403	1 in 40,000	1 in 160,000
		Ashkenazi Jewish	99	1 in 171	1 in 17,000	1 in 68,000
		East Asian	99	1 in 825	1 in 82,000	1 in 330,000
		Finnish	99	1 in 408	1 in 41,000	1 in 160,000
		Non-Finnish European/Caucasian	99	1 in 260	1 in 26,000	1 in 100,000
		South Asian	99	1 in 405	1 in 40,000	1 in 160,000
		Other (population not assigned)	99	1 in 254	1 in 25,000	1 in 100,000
Dystrophinopathies, including Duchenne and Becker muscular dystrophy and X-linked cardiomyopathy	***DMD***	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	97	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
Early infantile epileptic encephalopathy	***CAD***	African/African American	99	1 in 59	1 in 5,800	1 in 23,000
		Latino/Admixed American	99	1 in 842	1 in 84,000	1 in 340,000
		Ashkenazi Jewish	99	1 in 272	1 in 27,000	1 in 110,000
		East Asian	99	1 in 162	1 in 16,000	1 in 64,000
		Finnish	99	1 in 91	1 in 9,000	1 in 36,000
		Non-Finnish European/Caucasian	99	1 in 207	1 in 21,000	1 in 84,000
		South Asian	99	1 in 3,712	1 in 370,000	1 in 1,500,000
		Other (population not assigned)	99	1 in 337	1 in 34,000	1 in 140,000
	ITPA	African/African American	98	1 in 3,918	1 in 200,000	1 in 800,000
		Latino/Admixed American	99	1 in 5,707	1 in 570,000	1 in 2,300,000
		Ashkenazi Jewish	97	1 in 4,918	1 in 160,000	1 in 640,000
		East Asian	98	1 in 1,838	1 in 92,000	1 in 370,000
		Finnish	99	1 in 1,195	1 in 120,000	1 in 480,000
		Non-Finnish European/Caucasian	98	1 in 2,093	1 in 100,000	1 in 400,000
		South Asian	99	1 in 7,654	1 in 770,000	1 in 3,100,000

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		Other (population not assigned)	99	1 in 3,068	1 in 310,000	1 in 1,200,000
Ehlers-Danlos syndrome type VIIC	***ADAMTS2***	African/African American	99	N/A	N/A	N/A
		Latino/Admixed American	99	1 in 2,434	1 in 240,000	1 in 960,000
		Ashkenazi Jewish	99	1 in 164	1 in 16,000	1 in 64,000
		East Asian	99	1 in 1,502	1 in 150,000	1 in 600,000
		Finnish	99	1 in 3,510	1 in 350,000	1 in 1,400,000
		Non-Finnish European/Caucasian	99	1 in 2,017	1 in 200,000	1 in 800,000
		South Asian	99	1 in 1,247	1 in 120,000	1 in 480,000
		Other (population not assigned)	99	1 in 908	1 in 91,000	1 in 360,000
Emery-Dreifuss muscular dystrophy	***EMD***	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
	FHL1	African/African American	97	N/A	N/A	N/A
		Latino/Admixed American	97	N/A	N/A	N/A
		Ashkenazi Jewish	97	N/A	N/A	N/A
		East Asian	97	N/A	N/A	N/A
		Finnish	97	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)	97	N/A	N/A	N/A
Ethylmalonic encephalopathy	***ETHE1***	African/African American	99	1 in 833	1 in 83,000	1 in 330,000
		Latino/Admixed American	99	1 in 521	1 in 52,000	1 in 210,000
		Ashkenazi Jewish	99	1 in 4,985	1 in 500,000	1 in 2,000,000
		East Asian	99	1 in 1,417	1 in 140,000	1 in 560,000
		Finnish	99	1 in 2,006	1 in 200,000	1 in 800,000
		Non-Finnish European/Caucasian	99	1 in 953	1 in 95,000	1 in 380,000
		South Asian	99	1 in 782	1 in 78,000	1 in 310,000
		Other (population not assigned)	99	1 in 505	1 in 50,000	1 in 200,000
Fabry disease	***GLA***	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
Familial dysautonomia	***ELP1***	African/African American	99	1 in 594	1 in 59,000	1 in 240,000
		Latino/Admixed American	98	1 in 808	1 in 40,000	1 in 160,000
		Ashkenazi Jewish	99	1 in 37	1 in 3,600	1 in 14,000
		East Asian	99	1 in 657	1 in 66,000	1 in 260,000

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		Finnish	98	1 in 3,586	1 in 180,000	1 in 720,000
		Non-Finnish European/Caucasian	99	1 in 782	1 in 78,000	1 in 310,000
		South Asian	99	1 in 853	1 in 85,000	1 in 340,000
		Other (population not assigned)	98	1 in 410	1 in 20,000	1 in 80,000
Familial hemophagocytic lymphohistiocytosis	***PRF1***	African/African American	97	1 in 126	1 in 4,200	1 in 17,000
		Latino/Admixed American	99	1 in 429	1 in 43,000	1 in 170,000
		Ashkenazi Jewish	99	1 in 458	1 in 46,000	1 in 180,000
		East Asian	97	1 in 1,099	1 in 37,000	1 in 150,000
		Finnish	97	1 in 10,775	1 in 360,000	1 in 1,400,000
		Non-Finnish European/Caucasian	99	1 in 308	1 in 31,000	1 in 120,000
		South Asian	99	1 in 226	1 in 23,000	1 in 92,000
		Other (population not assigned)	99	1 in 320	1 in 32,000	1 in 130,000
	STX11	African/African American	98	N/A	N/A	N/A
		Latino/Admixed American	99	1 in 664	1 in 66,000	1 in 260,000
		Ashkenazi Jewish	98	N/A	N/A	N/A
		East Asian	98	1 in 4,592	1 in 230,000	1 in 920,000
		Finnish	98	N/A	N/A	N/A
		Non-Finnish European/Caucasian	99	1 in 13,964	1 in 1,400,000	1 in 5,600,000
		South Asian	98	1 in 3,837	1 in 190,000	1 in 760,000
		Other (population not assigned)	98	N/A	N/A	N/A
	STXBP2	African/African American	99	1 in 226	1 in 23,000	1 in 92,000
		Latino/Admixed American	99	1 in 1,505	1 in 150,000	1 in 600,000
		Ashkenazi Jewish	97	1 in 356	1 in 12,000	1 in 48,000
		East Asian	99	1 in 1,459	1 in 150,000	1 in 600,000
		Finnish	99	1 in 10,752	1 in 1,100,000	1 in 4,400,000
		Non-Finnish European/Caucasian	99	1 in 406	1 in 41,000	1 in 160,000
		South Asian	99	1 in 735	1 in 73,000	1 in 290,000
		Other (population not assigned)	99	1 in 773	1 in 77,000	1 in 310,000
	UNC13D	African/African American	99	1 in 110	1 in 11,000	1 in 44,000
		Latino/Admixed American	99	1 in 258	1 in 26,000	1 in 100,000
		Ashkenazi Jewish	99	1 in 829	1 in 83,000	1 in 330,000
		East Asian	99	1 in 106	1 in 11,000	1 in 44,000
		Finnish	99	1 in 179	1 in 18,000	1 in 72,000
		Non-Finnish European/Caucasian	99	1 in 108	1 in 11,000	1 in 44,000
		South Asian	99	1 in 186	1 in 19,000	1 in 76,000
		Other (population not assigned)	99	1 in 163	1 in 16,000	1 in 64,000
Familial hyperinsulinism	***ABCC8***	African/African American	99	1 in 642	1 in 64,000	1 in 260,000
		Latino/Admixed American	99	1 in 342	1 in 34,000	1 in 140,000
		Ashkenazi Jewish	99	1 in 79	1 in 7,800	1 in 31,000
		East Asian	99	1 in 377	1 in 38,000	1 in 150,000
		Finnish	99	1 in 228	1 in 23,000	1 in 92,000
		Non-Finnish European/Caucasian	99	1 in 315	1 in 31,000	1 in 120,000
		South Asian	99	1 in 503	1 in 50,000	1 in 200,000
		Other (population not assigned)	99	1 in 355	1 in 35,000	1 in 140,000
Familial Mediterranean fever	***MEFV***	African/African American	99	1 in 426	1 in 43,000	1 in 170,000

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		Latino/Admixed American	99	1 in 246	1 in 25,000	1 in 100,000
		Ashkenazi Jewish	99	1 in 13	1 in 1,200	1 in 4,800
		East Asian	99	1 in 114	1 in 11,000	1 in 44,000
		Finnish	99	N/A	N/A	N/A
		Non-Finnish European/Caucasian	99	1 in 186	1 in 19,000	1 in 76,000
		South Asian	99	1 in 309	1 in 31,000	1 in 120,000
		Other (population not assigned)	99	1 in 64	1 in 6,300	1 in 25,000
Fanconi anemia	***BRIP1***	African/African American	99	1 in 120	1 in 12,000	1 in 48,000
		Latino/Admixed American	99	1 in 502	1 in 50,000	1 in 200,000
		Ashkenazi Jewish	97	N/A	N/A	N/A
		East Asian	98	1 in 242	1 in 12,000	1 in 48,000
		Finnish	97	1 in 577	1 in 19,000	1 in 76,000
		Non-Finnish European/Caucasian	99	1 in 295	1 in 29,000	1 in 120,000
		South Asian	98	1 in 727	1 in 36,000	1 in 140,000
		Other (population not assigned)	98	1 in 488	1 in 24,000	1 in 96,000
	FANCA	African/African American	99	1 in 88	1 in 8,700	1 in 35,000
		Latino/Admixed American	99	1 in 154	1 in 15,000	1 in 60,000
		Ashkenazi Jewish	99	1 in 168	1 in 17,000	1 in 68,000
		East Asian	98	1 in 87	1 in 4,300	1 in 17,000
		Finnish	99	1 in 228	1 in 23,000	1 in 92,000
		Non-Finnish European/Caucasian	99	1 in 108	1 in 11,000	1 in 44,000
		South Asian	99	1 in 104	1 in 10,000	1 in 40,000
		Other (population not assigned)	99	1 in 153	1 in 15,000	1 in 60,000
	FANCB	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
	FANCC	African/African American	98	1 in 659	1 in 33,000	1 in 130,000
		Latino/Admixed American	98	1 in 1,197	1 in 60,000	1 in 240,000
		Ashkenazi Jewish	99	1 in 84	1 in 8,300	1 in 33,000
		East Asian	99	1 in 2,995	1 in 300,000	1 in 1,200,000
		Finnish	98	1 in 5,493	1 in 270,000	1 in 1,100,000
		Non-Finnish European/Caucasian	98	1 in 548	1 in 27,000	1 in 110,000
		South Asian	99	1 in 960	1 in 96,000	1 in 380,000
		Other (population not assigned)	99	1 in 1,368	1 in 140,000	1 in 560,000
	FANCD2	African/African American	98	1 in 109	1 in 5,400	1 in 22,000
		Latino/Admixed American	99	1 in 322	1 in 32,000	1 in 130,000
		Ashkenazi Jewish	98	1 in 414	1 in 21,000	1 in 84,000
		East Asian	98	1 in 372	1 in 19,000	1 in 76,000
		Finnish	98	1 in 256	1 in 13,000	1 in 52,000
		Non-Finnish European/Caucasian	98	1 in 177	1 in 8,800	1 in 35,000

Footnotes:

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

a Feng et al., PMID 28125085

b Luo et al., PMID 23788250

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		South Asian	98	1 in 437	1 in 22,000	1 in 88,000
		Other (population not assigned)	98	1 in 112	1 in 5,600	1 in 22,000
	FANCE	African/African American	99	1 in 427	1 in 43,000	1 in 170,000
		Latino/Admixed American	98	1 in 1,434	1 in 72,000	1 in 290,000
		Ashkenazi Jewish	99	1 in 5,030	1 in 500,000	1 in 2,000,000
		East Asian	99	1 in 1,148	1 in 110,000	1 in 440,000
		Finnish	97	N/A	N/A	N/A
		Non-Finnish European/Caucasian	99	1 in 916	1 in 92,000	1 in 370,000
		South Asian	98	1 in 874	1 in 44,000	1 in 180,000
		Other (population not assigned)	97	1 in 984	1 in 33,000	1 in 130,000
	FANCF	African/African American	98	1 in 1,104	1 in 55,000	1 in 220,000
		Latino/Admixed American	99	1 in 1,909	1 in 190,000	1 in 760,000
		Ashkenazi Jewish	97	N/A	N/A	N/A
		East Asian	98	1 in 1,836	1 in 92,000	1 in 370,000
		Finnish	97	1 in 10,825	1 in 360,000	1 in 1,400,000
		Non-Finnish European/Caucasian	98	1 in 909	1 in 45,000	1 in 180,000
		South Asian	98	1 in 1,707	1 in 85,000	1 in 340,000
		Other (population not assigned)	99	1 in 1,022	1 in 100,000	1 in 400,000
	FANCG	African/African American	97	1 in 605	1 in 20,000	1 in 80,000
		Latino/Admixed American	99	1 in 1,550	1 in 150,000	1 in 600,000
		Ashkenazi Jewish	97	N/A	N/A	N/A
		East Asian	99	1 in 1,087	1 in 110,000	1 in 440,000
		Finnish	97	1 in 1,423	1 in 47,000	1 in 190,000
		Non-Finnish European/Caucasian	98	1 in 697	1 in 35,000	1 in 140,000
		South Asian	98	1 in 1,166	1 in 58,000	1 in 230,000
		Other (population not assigned)	97	1 in 930	1 in 31,000	1 in 120,000
	FANCI	African/African American	98	1 in 404	1 in 20,000	1 in 80,000
		Latino/Admixed American	98	1 in 524	1 in 26,000	1 in 100,000
		Ashkenazi Jewish	99	1 in 5,038	1 in 500,000	1 in 2,000,000
		East Asian	99	1 in 459	1 in 46,000	1 in 180,000
		Finnish	98	1 in 113	1 in 5,600	1 in 22,000
		Non-Finnish European/Caucasian	99	1 in 557	1 in 56,000	1 in 220,000
		South Asian	98	1 in 373	1 in 19,000	1 in 76,000
		Other (population not assigned)	98	1 in 511	1 in 26,000	1 in 100,000
	FANCL	African/African American	97	1 in 295	1 in 9,800	1 in 39,000
		Latino/Admixed American	97	1 in 79	1 in 2,600	1 in 10,000
		Ashkenazi Jewish	97	1 in 68	1 in 2,200	1 in 8,800
		East Asian	98	1 in 1,530	1 in 76,000	1 in 300,000
		Finnish	97	1 in 263	1 in 8,700	1 in 35,000
		Non-Finnish European/Caucasian	97	1 in 102	1 in 3,400	1 in 14,000
		South Asian	97	1 in 288	1 in 9,600	1 in 38,000
		Other (population not assigned)	97	1 in 82	1 in 2,700	1 in 11,000
Fragile X syndrome	***FMR1***	African/African American	99	N/A	N/A	N/A
		Latino/Admixed American	97	N/A	N/A	N/A
		Ashkenazi Jewish	97	N/A	N/A	N/A

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a Feng et al., PMID 28125085

b Luo et al., PMID 23788250

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Disorder	Gene	Ethnicity (Source: https://gnomad.broadinstitute.org/ except CYP21A2 and HBA1/HBA2)	Detection Rate (%) (Derived from gnomAD and ClinVar except CYP21A2, GBA, and HBA1/HBA2)	Individual Carrier Risk Before Testing (Derived from gnomAD and ClinVar except CYP21A2 and HBA1/HBA2)	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
		East Asian	99	N/A	N/A	N/A
		Finnish	97	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)	97	N/A	N/A	N/A
Fraser syndrome	***FRAS1***	African/African American	98	1 in 259	1 in 13,000	1 in 52,000
		Latino/Admixed American	97	1 in 111	1 in 3,700	1 in 15,000
		Ashkenazi Jewish	98	1 in 492	1 in 25,000	1 in 100,000
		East Asian	98	1 in 156	1 in 7,800	1 in 31,000
		Finnish	98	1 in 898	1 in 45,000	1 in 180,000
		Non-Finnish European/Caucasian	98	1 in 300	1 in 15,000	1 in 60,000
		South Asian	98	1 in 174	1 in 8,700	1 in 35,000
		Other (population not assigned)	97	1 in 228	1 in 7,600	1 in 30,000
	FREM2	African/African American	99	1 in 677	1 in 68,000	1 in 270,000
		Latino/Admixed American	99	1 in 279	1 in 28,000	1 in 110,000
		Ashkenazi Jewish	99	1 in 315	1 in 31,000	1 in 120,000
		East Asian	99	1 in 518	1 in 52,000	1 in 210,000
		Finnish	99	1 in 89	1 in 8,800	1 in 35,000
		Non-Finnish European/Caucasian	99	1 in 115	1 in 11,000	1 in 44,000
		South Asian	99	1 in 49	1 in 4,800	1 in 19,000
		Other (population not assigned)	99	1 in 134	1 in 13,000	1 in 52,000
	GRIP1	African/African American	98	1 in 669	1 in 33,000	1 in 130,000
		Latino/Admixed American	99	1 in 187	1 in 19,000	1 in 76,000
		Ashkenazi Jewish	99	1 in 82	1 in 8,100	1 in 32,000
		East Asian	99	1 in 1,032	1 in 100,000	1 in 400,000
		Finnish	97	1 in 901	1 in 30,000	1 in 120,000
		Non-Finnish European/Caucasian	99	1 in 333	1 in 33,000	1 in 130,000
		South Asian	99	1 in 314	1 in 31,000	1 in 120,000
		Other (population not assigned)	99	1 in 137	1 in 14,000	1 in 56,000
Fucosidosis	***FUCA1***	African/African American	98	1 in 2,032	1 in 100,000	1 in 400,000
		Latino/Admixed American	99	1 in 1,233	1 in 120,000	1 in 480,000
		Ashkenazi Jewish	99	1 in 5,034	1 in 500,000	1 in 2,000,000
		East Asian	99	1 in 2,875	1 in 290,000	1 in 1,200,000
		Finnish	98	N/A	N/A	N/A
		Non-Finnish European/Caucasian	99	1 in 1,149	1 in 110,000	1 in 440,000
		South Asian	99	1 in 2,554	1 in 260,000	1 in 1,000,000
		Other (population not assigned)	99	1 in 2,056	1 in 210,000	1 in 840,000
Galactosemia	***GALE***	African/African American	99	1 in 2,624	1 in 260,000	1 in 1,000,000
		Latino/Admixed American	99	1 in 1,217	1 in 120,000	1 in 480,000
		Ashkenazi Jewish	97	1 in 4,888	1 in 160,000	1 in 640,000
		East Asian	99	1 in 369	1 in 37,000	1 in 150,000
		Finnish	97	1 in 10,825	1 in 360,000	1 in 1,400,000
		Non-Finnish European/Caucasian	99	1 in 2,011	1 in 200,000	1 in 800,000
		South Asian	99	1 in 2,541	1 in 250,000	1 in 1,000,000
		Other (population not assigned)	99	1 in 915	1 in 91,000	1 in 360,000

Footnotes:

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

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Disorder	Gene	Ethnicity (Source: https://gnomad.broadinstitute.org/ except CYP21A2 and HBA1/HBA2)	Detection Rate (%) (Derived from gnomAD and ClinVar except CYP21A2, GBA, and HBA1/HBA2)	Individual Carrier Risk Before Testing (Derived from gnomAD and ClinVar except CYP21A2 and HBA1/HBA2)	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
	GALK1	African/African American	99	1 in 652	1 in 65,000	1 in 260,000
		Latino/Admixed American	97	1 in 57	1 in 1,900	1 in 7,600
		Ashkenazi Jewish	99	1 in 453	1 in 45,000	1 in 180,000
		East Asian	99	1 in 430	1 in 43,000	1 in 170,000
		Finnish	99	1 in 2,150	1 in 210,000	1 in 840,000
		Non-Finnish European/Caucasian	98	1 in 1,165	1 in 58,000	1 in 230,000
		South Asian	97	1 in 520	1 in 17,000	1 in 68,000
		Other (population not assigned)	98	1 in 1,523	1 in 76,000	1 in 300,000
	GALT	African/African American	99	1 in 104	1 in 10,000	1 in 40,000
		Latino/Admixed American	99	1 in 142	1 in 14,000	1 in 56,000
		Ashkenazi Jewish	99	1 in 2,489	1 in 250,000	1 in 1,000,000
		East Asian	99	1 in 687	1 in 69,000	1 in 280,000
		Finnish	99	1 in 5,575	1 in 560,000	1 in 2,200,000
		Non-Finnish European/Caucasian	99	1 in 132	1 in 13,000	1 in 52,000
		South Asian	99	1 in 385	1 in 38,000	1 in 150,000
		Other (population not assigned)	99	1 in 235	1 in 23,000	1 in 92,000
Galactosialidosis	***CTSA***	African/African American	97	1 in 127	1 in 4,200	1 in 17,000
		Latino/Admixed American	97	1 in 248	1 in 8,200	1 in 33,000
		Ashkenazi Jewish	97	1 in 65	1 in 2,100	1 in 8,400
		East Asian	99	1 in 2,686	1 in 270,000	1 in 1,100,000
		Finnish	97	1 in 206	1 in 6,800	1 in 27,000
		Non-Finnish European/Caucasian	97	1 in 64	1 in 2,100	1 in 8,400
		South Asian	97	1 in 310	1 in 10,000	1 in 40,000
		Other (population not assigned)	97	1 in 94	1 in 3,100	1 in 12,000
Gaucher disease	***GBA***	African/African American	87	1 in 139	1 in 1,100	1 in 4,400
		Latino/Admixed American	87	1 in 148	1 in 1,100	1 in 4,400
		Ashkenazi Jewish	97	1 in 15	1 in 470	1 in 1,900
		East Asian	87	1 in 166	1 in 1,300	1 in 5,200
		Finnish	87	1 in 191	1 in 1,500	1 in 6,000
		Non-Finnish European/Caucasian	87	1 in 138	1 in 1,100	1 in 4,400
		South Asian	87	1 in 202	1 in 1,500	1 in 6,000
		Other (population not assigned)	87	1 in 163	1 in 1,200	1 in 4,800
Glutaric acidemia type I	***GCDH***	African/African American	99	1 in 89	1 in 8,800	1 in 35,000
		Latino/Admixed American	99	1 in 234	1 in 23,000	1 in 92,000
		Ashkenazi Jewish	99	1 in 1,680	1 in 170,000	1 in 680,000
		East Asian	99	1 in 212	1 in 21,000	1 in 84,000
		Finnish	99	1 in 507	1 in 51,000	1 in 200,000
		Non-Finnish European/Caucasian	99	1 in 219	1 in 22,000	1 in 88,000
		South Asian	98	1 in 172	1 in 8,600	1 in 34,000
		Other (population not assigned)	99	1 in 254	1 in 25,000	1 in 100,000
Glutaric acidemia type II	***ETFA***	African/African American	97	1 in 172	1 in 5,700	1 in 23,000
		Latino/Admixed American	99	1 in 1,149	1 in 110,000	1 in 440,000
		Ashkenazi Jewish	99	1 in 2,445	1 in 240,000	1 in 960,000
		East Asian	99	1 in 561	1 in 56,000	1 in 220,000
		Finnish	97	N/A	N/A	N/A

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		Non-Finnish European/Caucasian	99	1 in 733	1 in 73,000	1 in 290,000
		South Asian	99	1 in 911	1 in 91,000	1 in 360,000
		Other (population not assigned)	98	1 in 837	1 in 42,000	1 in 170,000
	ETFB	African/African American	99	1 in 8,122	1 in 810,000	1 in 3,200,000
		Latino/Admixed American	98	1 in 821	1 in 41,000	1 in 160,000
		Ashkenazi Jewish	97	N/A	N/A	N/A
		East Asian	99	1 in 9,195	1 in 920,000	1 in 3,700,000
		Finnish	97	1 in 5,406	1 in 180,000	1 in 720,000
		Non-Finnish European/Caucasian	98	1 in 1,593	1 in 80,000	1 in 320,000
		South Asian	98	1 in 1,021	1 in 51,000	1 in 200,000
		Other (population not assigned)	98	1 in 1,448	1 in 72,000	1 in 290,000
	ETFDH	African/African American	99	1 in 374	1 in 37,000	1 in 150,000
		Latino/Admixed American	98	1 in 312	1 in 16,000	1 in 64,000
		Ashkenazi Jewish	99	1 in 406	1 in 41,000	1 in 160,000
		East Asian	99	1 in 235	1 in 23,000	1 in 92,000
		Finnish	99	1 in 531	1 in 53,000	1 in 210,000
		Non-Finnish European/Caucasian	99	1 in 389	1 in 39,000	1 in 160,000
		South Asian	99	1 in 1,075	1 in 110,000	1 in 440,000
		Other (population not assigned)	99	1 in 407	1 in 41,000	1 in 160,000
Glutathione synthetase deficiency	***GSS***	African/African American	99	1 in 49	1 in 4,800	1 in 19,000
		Latino/Admixed American	99	1 in 618	1 in 62,000	1 in 250,000
		Ashkenazi Jewish	97	1 in 112	1 in 3,700	1 in 15,000
		East Asian	99	1 in 297	1 in 30,000	1 in 120,000
		Finnish	99	1 in 3,680	1 in 370,000	1 in 1,500,000
		Non-Finnish European/Caucasian	99	1 in 992	1 in 99,000	1 in 400,000
		South Asian	98	1 in 1,703	1 in 85,000	1 in 340,000
		Other (population not assigned)	98	1 in 438	1 in 22,000	1 in 88,000
Glycine encephalopathy	***AMT***	African/African American	98	1 in 847	1 in 42,000	1 in 170,000
		Latino/Admixed American	99	1 in 801	1 in 80,000	1 in 320,000
		Ashkenazi Jewish	98	N/A	N/A	N/A
		East Asian	99	1 in 893	1 in 89,000	1 in 360,000
		Finnish	98	1 in 1,194	1 in 60,000	1 in 240,000
		Non-Finnish European/Caucasian	99	1 in 775	1 in 77,000	1 in 310,000
		South Asian	98	1 in 960	1 in 48,000	1 in 190,000
		Other (population not assigned)	99	1 in 486	1 in 49,000	1 in 200,000
	GLDC	African/African American	99	1 in 1,141	1 in 110,000	1 in 440,000
		Latino/Admixed American	99	1 in 584	1 in 58,000	1 in 230,000
		Ashkenazi Jewish	98	1 in 2,518	1 in 130,000	1 in 520,000
		East Asian	99	1 in 460	1 in 46,000	1 in 180,000
		Finnish	99	1 in 118	1 in 12,000	1 in 48,000
		Non-Finnish European/Caucasian	99	1 in 388	1 in 39,000	1 in 160,000
		South Asian	98	1 in 368	1 in 18,000	1 in 72,000
		Other (population not assigned)	99	1 in 457	1 in 46,000	1 in 180,000
Glycogen storage disease type I	***G6PC***	African/African American	99	1 in 985	1 in 98,000	1 in 390,000
		Latino/Admixed American	98	1 in 374	1 in 19,000	1 in 76,000

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		Ashkenazi Jewish	99	1 in 74	1 in 7,300	1 in 29,000
		East Asian	99	1 in 212	1 in 21,000	1 in 84,000
		Finnish	99	1 in 529	1 in 53,000	1 in 210,000
		Non-Finnish European/Caucasian	99	1 in 276	1 in 28,000	1 in 110,000
		South Asian	99	1 in 15,385	1 in 1,500,000	1 in 6,000,000
		Other (population not assigned)	99	1 in 474	1 in 47,000	1 in 190,000
	SLC37A4	African/African American	99	1 in 139	1 in 14,000	1 in 56,000
		Latino/Admixed American	98	1 in 833	1 in 42,000	1 in 170,000
		Ashkenazi Jewish	97	1 in 1,221	1 in 41,000	1 in 160,000
		East Asian	98	1 in 616	1 in 31,000	1 in 120,000
		Finnish	99	1 in 1,208	1 in 120,000	1 in 480,000
		Non-Finnish European/Caucasian	98	1 in 629	1 in 31,000	1 in 120,000
		South Asian	99	1 in 189	1 in 19,000	1 in 76,000
		Other (population not assigned)	99	1 in 315	1 in 31,000	1 in 120,000
Glycogen storage disease type III	***AGL***	African/African American	99	1 in 251	1 in 25,000	1 in 100,000
		Latino/Admixed American	98	1 in 486	1 in 24,000	1 in 96,000
		Ashkenazi Jewish	97	1 in 5,015	1 in 170,000	1 in 680,000
		East Asian	99	1 in 629	1 in 63,000	1 in 250,000
		Finnish	99	1 in 1,585	1 in 160,000	1 in 640,000
		Non-Finnish European/Caucasian	99	1 in 353	1 in 35,000	1 in 140,000
		South Asian	98	1 in 424	1 in 21,000	1 in 84,000
		Other (population not assigned)	99	1 in 347	1 in 35,000	1 in 140,000
Glycogen storage disease type IV	***GBE1***	African/African American	98	1 in 590	1 in 29,000	1 in 120,000
		Latino/Admixed American	98	1 in 220	1 in 11,000	1 in 44,000
		Ashkenazi Jewish	99	1 in 72	1 in 7,100	1 in 28,000
		East Asian	99	1 in 1,124	1 in 110,000	1 in 440,000
		Finnish	99	1 in 511	1 in 51,000	1 in 200,000
		Non-Finnish European/Caucasian	99	1 in 180	1 in 18,000	1 in 72,000
		South Asian	99	1 in 411	1 in 41,000	1 in 160,000
		Other (population not assigned)	99	1 in 139	1 in 14,000	1 in 56,000
Glycogen storage disease type IX	***PHKA1***	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	98	N/A	N/A	N/A
		Other (population not assigned)	98	N/A	N/A	N/A
	PHKA2	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

Footnotes:

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

a Feng et al., PMID 28125085

b Luo et al., PMID 23788250

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

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N/A= Not Available

Disorder	Gene	Ethnicity (Source: https://gnomad.broadinstitute.org/ except CYP21A2 and HBA1/HBA2)	Detection Rate (%) (Derived from gnomAD and ClinVar except CYP21A2, GBA, and HBA1/HBA2)	Individual Carrier Risk Before Testing (Derived from gnomAD and ClinVar except CYP21A2 and HBA1/HBA2)	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
		Other (population not assigned)	99	N/A	N/A	N/A
	PHKB	African/African American	99	1 in 486	1 in 49,000	1 in 200,000
		Latino/Admixed American	99	1 in 456	1 in 46,000	1 in 180,000
		Ashkenazi Jewish	99	1 in 5,040	1 in 500,000	1 in 2,000,000
		East Asian	98	1 in 432	1 in 22,000	1 in 88,000
		Finnish	99	1 in 3,636	1 in 360,000	1 in 1,400,000
		Non-Finnish European/Caucasian	99	1 in 310	1 in 31,000	1 in 120,000
		South Asian	99	1 in 245	1 in 24,000	1 in 96,000
		Other (population not assigned)	99	1 in 435	1 in 43,000	1 in 170,000
	PHKG2	African/African American	97	1 in 176	1 in 5,800	1 in 23,000
		Latino/Admixed American	98	1 in 393	1 in 20,000	1 in 80,000
		Ashkenazi Jewish	97	1 in 2,514	1 in 84,000	1 in 340,000
		East Asian	98	1 in 657	1 in 33,000	1 in 130,000
		Finnish	97	1 in 375	1 in 12,000	1 in 48,000
		Non-Finnish European/Caucasian	98	1 in 476	1 in 24,000	1 in 96,000
		South Asian	98	1 in 657	1 in 33,000	1 in 130,000
		Other (population not assigned)	97	1 in 437	1 in 15,000	1 in 60,000
Glycogen storage disease type V	***PYGM***	African/African American	99	1 in 160	1 in 16,000	1 in 64,000
		Latino/Admixed American	99	1 in 48	1 in 4,700	1 in 19,000
		Ashkenazi Jewish	99	1 in 197	1 in 20,000	1 in 80,000
		East Asian	98	1 in 553	1 in 28,000	1 in 110,000
		Finnish	99	1 in 285	1 in 28,000	1 in 110,000
		Non-Finnish European/Caucasian	99	1 in 42	1 in 4,100	1 in 16,000
		South Asian	99	1 in 272	1 in 27,000	1 in 110,000
		Other (population not assigned)	99	1 in 72	1 in 7,100	1 in 28,000
Glycogen storage disease type VII	***PFKM***	African/African American	99	1 in 62	1 in 6,100	1 in 24,000
		Latino/Admixed American	99	1 in 647	1 in 65,000	1 in 260,000
		Ashkenazi Jewish	98	1 in 108	1 in 5,400	1 in 22,000
		East Asian	99	1 in 488	1 in 49,000	1 in 200,000
		Finnish	97	1 in 773	1 in 26,000	1 in 100,000
		Non-Finnish European/Caucasian	99	1 in 600	1 in 60,000	1 in 240,000
		South Asian	98	1 in 1,165	1 in 58,000	1 in 230,000
		Other (population not assigned)	99	1 in 280	1 in 28,000	1 in 110,000
GM1 gangliosidosis and mucopolysaccharidosis type IVB	***GLB1***	African/African American	98	1 in 272	1 in 14,000	1 in 56,000
		Latino/Admixed American	99	1 in 499	1 in 50,000	1 in 200,000
		Ashkenazi Jewish	98	N/A	N/A	N/A
		East Asian	99	1 in 489	1 in 49,000	1 in 200,000
		Finnish	98	1 in 251	1 in 13,000	1 in 52,000
		Non-Finnish European/Caucasian	99	1 in 343	1 in 34,000	1 in 140,000
		South Asian	99	1 in 239	1 in 24,000	1 in 96,000
		Other (population not assigned)	99	1 in 402	1 in 40,000	1 in 160,000
GRACILE syndrome	***BCS1L***	African/African American	99	1 in 568	1 in 57,000	1 in 230,000
		Latino/Admixed American	99	1 in 498	1 in 50,000	1 in 200,000
		Ashkenazi Jewish	99	1 in 170	1 in 17,000	1 in 68,000
		East Asian	98	1 in 902	1 in 45,000	1 in 180,000

Footnotes:

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a Feng et al., PMID 28125085

b Luo et al., PMID 23788250

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

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Disorder	Gene	Ethnicity (Source: https://gnomad.broadinstitute.org/ except CYP21A2 and HBA1/HBA2)	Detection Rate (%) (Derived from gnomAD and ClinVar except CYP21A2, GBA, and HBA1/HBA2)	Individual Carrier Risk Before Testing (Derived from gnomAD and ClinVar except CYP21A2 and HBA1/HBA2)	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
		Finnish	99	1 in 105	1 in 10,000	1 in 40,000
		Non-Finnish European/Caucasian	99	1 in 454	1 in 45,000	1 in 180,000
		South Asian	99	1 in 639	1 in 64,000	1 in 260,000
		Other (population not assigned)	99	1 in 458	1 in 46,000	1 in 180,000
Gyrate atrophy of choroid and retina	***OAT***	African/African American	97	1 in 2,600	1 in 87,000	1 in 350,000
		Latino/Admixed American	99	1 in 892	1 in 89,000	1 in 360,000
		Ashkenazi Jewish	99	1 in 615	1 in 61,000	1 in 240,000
		East Asian	99	1 in 2,935	1 in 290,000	1 in 1,200,000
		Finnish	99	1 in 142	1 in 14,000	1 in 56,000
		Non-Finnish European/Caucasian	99	1 in 426	1 in 43,000	1 in 170,000
		South Asian	99	1 in 904	1 in 90,000	1 in 360,000
		Other (population not assigned)	99	1 in 410	1 in 41,000	1 in 160,000
Hepatic venoocclusive disease with immunodeficiency	***SP110***	African/African American	99	1 in 677	1 in 68,000	1 in 270,000
		Latino/Admixed American	99	1 in 1,153	1 in 120,000	1 in 480,000
		Ashkenazi Jewish	99	1 in 5,039	1 in 500,000	1 in 2,000,000
		East Asian	99	1 in 613	1 in 61,000	1 in 240,000
		Finnish	99	1 in 5,412	1 in 540,000	1 in 2,200,000
		Non-Finnish European/Caucasian	98	1 in 941	1 in 47,000	1 in 190,000
		South Asian	99	1 in 289	1 in 29,000	1 in 120,000
		Other (population not assigned)	99	1 in 1,023	1 in 100,000	1 in 400,000
Hereditary folate malabsorption	***SLC46A1***	African/African American	98	1 in 3,964	1 in 200,000	1 in 800,000
		Latino/Admixed American	99	1 in 2,698	1 in 270,000	1 in 1,100,000
		Ashkenazi Jewish	98	N/A	N/A	N/A
		East Asian	98	1 in 1,773	1 in 89,000	1 in 360,000
		Finnish	99	1 in 8,724	1 in 870,000	1 in 3,500,000
		Non-Finnish European/Caucasian	98	1 in 2,468	1 in 120,000	1 in 480,000
		South Asian	99	1 in 1,256	1 in 130,000	1 in 520,000
		Other (population not assigned)	98	N/A	N/A	N/A
Hereditary fructose Intolerance	***ALDOB***	African/African American	99	1 in 336	1 in 34,000	1 in 140,000
		Latino/Admixed American	99	1 in 203	1 in 20,000	1 in 80,000
		Ashkenazi Jewish	99	1 in 137	1 in 14,000	1 in 56,000
		East Asian	98	1 in 676	1 in 34,000	1 in 140,000
		Finnish	99	1 in 95	1 in 9,400	1 in 38,000
		Non-Finnish European/Caucasian	99	1 in 80	1 in 7,900	1 in 32,000
		South Asian	99	1 in 394	1 in 39,000	1 in 160,000
		Other (population not assigned)	99	1 in 96	1 in 9,500	1 in 38,000
Hereditary spastic paraplegia	***CYP7B1***	African/African American	99	1 in 901	1 in 90,000	1 in 360,000
		Latino/Admixed American	99	1 in 1,878	1 in 190,000	1 in 760,000
		Ashkenazi Jewish	99	1 in 5,030	1 in 500,000	1 in 2,000,000
		East Asian	99	1 in 222	1 in 22,000	1 in 88,000
		Finnish	98	1 in 589	1 in 29,000	1 in 120,000
		Non-Finnish European/Caucasian	99	1 in 324	1 in 32,000	1 in 130,000
		South Asian	99	1 in 804	1 in 80,000	1 in 320,000
		Other (population not assigned)	99	1 in 597	1 in 60,000	1 in 240,000
	SPG11	African/African American	98	1 in 64	1 in 3,200	1 in 13,000

Footnotes:

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

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N/A= Not Available

Disorder	Gene	Ethnicity (Source: https://gnomad.broadinstitute.org/ except CYP21A2 and HBA1/HBA2)	Detection Rate (%) (Derived from gnomAD and ClinVar except CYP21A2, GBA, and HBA1/HBA2)	Individual Carrier Risk Before Testing (Derived from gnomAD and ClinVar except CYP21A2 and HBA1/HBA2)	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
		Latino/Admixed American	97	1 in 232	1 in 7,700	1 in 31,000
		Ashkenazi Jewish	99	1 in 358	1 in 36,000	1 in 140,000
		East Asian	97	1 in 297	1 in 9,900	1 in 40,000
		Finnish	98	1 in 739	1 in 37,000	1 in 150,000
		Non-Finnish European/Caucasian	98	1 in 192	1 in 9,600	1 in 38,000
		South Asian	98	1 in 267	1 in 13,000	1 in 52,000
		Other (population not assigned)	97	1 in 292	1 in 9,700	1 in 39,000
	SPG21	African/African American	98	1 in 1,626	1 in 81,000	1 in 320,000
		Latino/Admixed American	99	1 in 1,668	1 in 170,000	1 in 680,000
		Ashkenazi Jewish	97	N/A	N/A	N/A
		East Asian	99	1 in 9,197	1 in 920,000	1 in 3,700,000
		Finnish	97	N/A	N/A	N/A
		Non-Finnish European/Caucasian	99	1 in 1,679	1 in 170,000	1 in 680,000
		South Asian	97	1 in 7,655	1 in 260,000	1 in 1,000,000
		Other (population not assigned)	99	1 in 3,066	1 in 310,000	1 in 1,200,000
	TECPR2	African/African American	97	1 in 1,983	1 in 66,000	1 in 260,000
		Latino/Admixed American	98	1 in 5,649	1 in 280,000	1 in 1,100,000
		Ashkenazi Jewish	97	1 in 152	1 in 5,000	1 in 20,000
		East Asian	98	1 in 823	1 in 41,000	1 in 160,000
		Finnish	98	1 in 1,914	1 in 96,000	1 in 380,000
		Non-Finnish European/Caucasian	98	1 in 1,946	1 in 97,000	1 in 390,000
		South Asian	98	1 in 5,103	1 in 260,000	1 in 1,000,000
		Other (population not assigned)	97	1 in 1,430	1 in 48,000	1 in 190,000
Hermansky-Pudlak syndrome	***AP3B1***	African/African American	99	1 in 1,599	1 in 160,000	1 in 640,000
		Latino/Admixed American	99	1 in 2,854	1 in 290,000	1 in 1,200,000
		Ashkenazi Jewish	98	N/A	N/A	N/A
		East Asian	98	1 in 4,597	1 in 230,000	1 in 920,000
		Finnish	99	1 in 3,580	1 in 360,000	1 in 1,400,000
		Non-Finnish European/Caucasian	98	1 in 3,747	1 in 190,000	1 in 760,000
		South Asian	98	1 in 1,700	1 in 85,000	1 in 340,000
		Other (population not assigned)	99	1 in 3,071	1 in 310,000	1 in 1,200,000
	AP3D1	African/African American	99	1 in 376	1 in 38,000	1 in 150,000
		Latino/Admixed American	98	1 in 1,519	1 in 76,000	1 in 300,000
		Ashkenazi Jewish	99	1 in 2,464	1 in 250,000	1 in 1,000,000
		East Asian	99	1 in 1,468	1 in 150,000	1 in 600,000
		Finnish	98	1 in 1,014	1 in 51,000	1 in 200,000
		Non-Finnish European/Caucasian	99	1 in 2,302	1 in 230,000	1 in 920,000
		South Asian	99	1 in 3,758	1 in 380,000	1 in 1,500,000
		Other (population not assigned)	99	1 in 1,380	1 in 140,000	1 in 560,000
	BLOC1S3	African/African American	99	1 in 5,317	1 in 530,000	1 in 2,100,000
		Latino/Admixed American	99	N/A	N/A	N/A
		Ashkenazi Jewish	99	1 in 1,457	1 in 150,000	1 in 600,000
		East Asian	99	1 in 1,515	1 in 150,000	1 in 600,000
		Finnish	99	N/A	N/A	N/A
		Non-Finnish European/Caucasian	99	1 in 1,818	1 in 180,000	1 in 720,000

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		South Asian	99	1 in 901	1 in 90,000	1 in 360,000
		Other (population not assigned)	99	1 in 405	1 in 40,000	1 in 160,000
	BLOC1S6	African/African American	99	1 in 1,351	1 in 140,000	1 in 560,000
		Latino/Admixed American	99	1 in 836	1 in 84,000	1 in 340,000
		Ashkenazi Jewish	99	1 in 809	1 in 81,000	1 in 320,000
		East Asian	99	1 in 1,052	1 in 110,000	1 in 440,000
		Finnish	99	1 in 339	1 in 34,000	1 in 140,000
		Non-Finnish European/Caucasian	99	1 in 365	1 in 36,000	1 in 140,000
		South Asian	98	1 in 787	1 in 39,000	1 in 160,000
		Other (population not assigned)	99	1 in 673	1 in 67,000	1 in 270,000
	DTNBP1	African/African American	98	1 in 379	1 in 19,000	1 in 76,000
		Latino/Admixed American	98	1 in 253	1 in 13,000	1 in 52,000
		Ashkenazi Jewish	97	1 in 206	1 in 6,800	1 in 27,000
		East Asian	98	1 in 266	1 in 13,000	1 in 52,000
		Finnish	97	1 in 532	1 in 18,000	1 in 72,000
		Non-Finnish European/Caucasian	98	1 in 295	1 in 15,000	1 in 60,000
		South Asian	98	1 in 226	1 in 11,000	1 in 44,000
		Other (population not assigned)	97	1 in 228	1 in 7,600	1 in 30,000
	HPS1	African/African American	98	1 in 2,695	1 in 130,000	1 in 520,000
		Latino/Admixed American	98	1 in 1,057	1 in 53,000	1 in 210,000
		Ashkenazi Jewish	97	N/A	N/A	N/A
		East Asian	98	1 in 2,279	1 in 110,000	1 in 440,000
		Finnish	99	1 in 10,813	1 in 1,100,000	1 in 4,400,000
		Non-Finnish European/Caucasian	97	1 in 1,250	1 in 42,000	1 in 170,000
		South Asian	99	1 in 1,085	1 in 110,000	1 in 440,000
		Other (population not assigned)	97	N/A	N/A	N/A
	HPS3	African/African American	98	1 in 541	1 in 27,000	1 in 110,000
		Latino/Admixed American	99	1 in 1,150	1 in 110,000	1 in 440,000
		Ashkenazi Jewish	99	1 in 242	1 in 24,000	1 in 96,000
		East Asian	99	1 in 289	1 in 29,000	1 in 120,000
		Finnish	98	1 in 524	1 in 26,000	1 in 100,000
		Non-Finnish European/Caucasian	99	1 in 590	1 in 59,000	1 in 240,000
		South Asian	99	1 in 322	1 in 32,000	1 in 130,000
		Other (population not assigned)	99	1 in 703	1 in 70,000	1 in 280,000
	HPS4	African/African American	98	1 in 1,402	1 in 70,000	1 in 280,000
		Latino/Admixed American	99	1 in 384	1 in 38,000	1 in 150,000
		Ashkenazi Jewish	97	N/A	N/A	N/A
		East Asian	98	1 in 2,289	1 in 110,000	1 in 440,000
		Finnish	98	1 in 5,412	1 in 270,000	1 in 1,100,000
		Non-Finnish European/Caucasian	99	1 in 703	1 in 70,000	1 in 280,000
		South Asian	98	1 in 2,003	1 in 100,000	1 in 400,000
		Other (population not assigned)	97	1 in 745	1 in 25,000	1 in 100,000
	HPS5	African/African American	97	1 in 69	1 in 2,300	1 in 9,200
		Latino/Admixed American	99	1 in 202	1 in 20,000	1 in 80,000
		Ashkenazi Jewish	97	1 in 275	1 in 9,100	1 in 36,000

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		East Asian	98	1 in 471	1 in 24,000	1 in 96,000
		Finnish	99	1 in 145	1 in 14,000	1 in 56,000
		Non-Finnish European/Caucasian	99	1 in 89	1 in 8,800	1 in 35,000
		South Asian	99	1 in 201	1 in 20,000	1 in 80,000
		Other (population not assigned)	99	1 in 134	1 in 13,000	1 in 52,000
	HPS6	African/African American	98	1 in 1,121	1 in 56,000	1 in 220,000
		Latino/Admixed American	97	1 in 1,310	1 in 44,000	1 in 180,000
		Ashkenazi Jewish	97	1 in 4,990	1 in 170,000	1 in 680,000
		East Asian	98	1 in 1,090	1 in 54,000	1 in 220,000
		Finnish	99	1 in 1,352	1 in 140,000	1 in 560,000
		Non-Finnish European/Caucasian	98	1 in 745	1 in 37,000	1 in 150,000
		South Asian	98	1 in 1,767	1 in 88,000	1 in 350,000
		Other (population not assigned)	98	1 in 1,519	1 in 76,000	1 in 300,000
HMG-CoA lyase deficiency	***HMGCL***	African/African American	99	1 in 440	1 in 44,000	1 in 180,000
		Latino/Admixed American	99	1 in 130	1 in 13,000	1 in 52,000
		Ashkenazi Jewish	98	1 in 2,244	1 in 110,000	1 in 440,000
		East Asian	99	1 in 2,226	1 in 220,000	1 in 880,000
		Finnish	99	1 in 490	1 in 49,000	1 in 200,000
		Non-Finnish European/Caucasian	99	1 in 102	1 in 10,000	1 in 40,000
		South Asian	98	1 in 197	1 in 9,800	1 in 39,000
		Other (population not assigned)	99	1 in 136	1 in 14,000	1 in 56,000
Holocarboxylase synthetase deficiency	***HLCS***	African/African American	97	1 in 985	1 in 33,000	1 in 130,000
		Latino/Admixed American	99	1 in 1,073	1 in 110,000	1 in 440,000
		Ashkenazi Jewish	97	1 in 5,041	1 in 170,000	1 in 680,000
		East Asian	99	1 in 366	1 in 37,000	1 in 150,000
		Finnish	99	1 in 3,717	1 in 370,000	1 in 1,500,000
		Non-Finnish European/Caucasian	99	1 in 920	1 in 92,000	1 in 370,000
		South Asian	98	1 in 958	1 in 48,000	1 in 190,000
		Other (population not assigned)	98	1 in 724	1 in 36,000	1 in 140,000
Homocystinuria	***CBS***	African/African American	98	1 in 150	1 in 7,500	1 in 30,000
		Latino/Admixed American	98	1 in 95	1 in 4,700	1 in 19,000
		Ashkenazi Jewish	98	1 in 182	1 in 9,100	1 in 36,000
		East Asian	98	1 in 343	1 in 17,000	1 in 68,000
		Finnish	98	1 in 348	1 in 17,000	1 in 68,000
		Non-Finnish European/Caucasian	98	1 in 89	1 in 4,400	1 in 18,000
		South Asian	97	1 in 183	1 in 6,100	1 in 24,000
		Other (population not assigned)	98	1 in 132	1 in 6,600	1 in 26,000
HSD10 disease	***HSD17B10***	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

Footnotes:

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

a Feng et al., PMID 28125085

b Luo et al., PMID 23788250

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

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Disorder	Gene	Ethnicity (Source: https://gnomad.broadinstitute.org/ except CYP21A2 and HBA1/HBA2)	Detection Rate (%) (Derived from gnomAD and ClinVar except CYP21A2, GBA, and HBA1/HBA2)	Individual Carrier Risk Before Testing (Derived from gnomAD and ClinVar except CYP21A2 and HBA1/HBA2)	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
Hyaline fibromatosis syndrome	***ANTXR2***	African/African American	97	1 in 390	1 in 13,000	1 in 52,000
		Latino/Admixed American	97	1 in 284	1 in 9,400	1 in 38,000
		Ashkenazi Jewish	97	1 in 471	1 in 16,000	1 in 64,000
		East Asian	97	1 in 224	1 in 7,400	1 in 30,000
		Finnish	97	1 in 2,086	1 in 70,000	1 in 280,000
		Non-Finnish European/Caucasian	97	1 in 315	1 in 10,000	1 in 40,000
		South Asian	97	1 in 322	1 in 11,000	1 in 44,000
		Other (population not assigned)	97	1 in 558	1 in 19,000	1 in 76,000
Hydrolethalus syndrome	***HYLS1***	African/African American	98	1 in 670	1 in 33,000	1 in 130,000
		Latino/Admixed American	99	1 in 592	1 in 59,000	1 in 240,000
		Ashkenazi Jewish	99	1 in 4,925	1 in 490,000	1 in 2,000,000
		East Asian	99	1 in 1,150	1 in 110,000	1 in 440,000
		Finnish	99	1 in 54	1 in 5,300	1 in 21,000
		Non-Finnish European/Caucasian	99	1 in 443	1 in 44,000	1 in 180,000
		South Asian	98	1 in 487	1 in 24,000	1 in 96,000
		Other (population not assigned)	99	1 in 348	1 in 35,000	1 in 140,000
Hypomyelination and congenital cataract	***FAM126A***	African/African American	97	1 in 1,999	1 in 67,000	1 in 270,000
		Latino/Admixed American	98	1 in 2,458	1 in 120,000	1 in 480,000
		Ashkenazi Jewish	99	1 in 1,402	1 in 140,000	1 in 560,000
		East Asian	99	1 in 4,595	1 in 460,000	1 in 1,800,000
		Finnish	97	1 in 8,219	1 in 270,000	1 in 1,100,000
		Non-Finnish European/Caucasian	98	1 in 874	1 in 44,000	1 in 180,000
		South Asian	97	1 in 717	1 in 24,000	1 in 96,000
		Other (population not assigned)	98	1 in 780	1 in 39,000	1 in 160,000
Hypophosphatasia	***ALPL***	African/African American	98	1 in 956	1 in 48,000	1 in 190,000
		Latino/Admixed American	98	1 in 422	1 in 21,000	1 in 84,000
		Ashkenazi Jewish	99	1 in 827	1 in 83,000	1 in 330,000
		East Asian	99	1 in 145	1 in 14,000	1 in 56,000
		Finnish	99	1 in 29	1 in 2,800	1 in 11,000
		Non-Finnish European/Caucasian	99	1 in 135	1 in 13,000	1 in 52,000
		South Asian	99	1 in 959	1 in 96,000	1 in 380,000
		Other (population not assigned)	99	1 in 154	1 in 15,000	1 in 60,000
Immunodeficiency-centromeric instability-facial anomalies (ICF) syndrome	***CDCA7***	African/African American	97	1 in 1,350	1 in 45,000	1 in 180,000
		Latino/Admixed American	99	1 in 1,316	1 in 130,000	1 in 520,000
		Ashkenazi Jewish	99	1 in 4,880	1 in 490,000	1 in 2,000,000
		East Asian	97	N/A	N/A	N/A
		Finnish	99	1 in 11,136	1 in 1,100,000	1 in 4,400,000
		Non-Finnish European/Caucasian	99	1 in 3,526	1 in 350,000	1 in 1,400,000
		South Asian	99	1 in 5,107	1 in 510,000	1 in 2,000,000
		Other (population not assigned)	99	1 in 3,054	1 in 310,000	1 in 1,200,000
	DNMT3B	African/African American	99	1 in 7,657	1 in 770,000	1 in 3,100,000
		Latino/Admixed American	99	1 in 3,433	1 in 340,000	1 in 1,400,000
		Ashkenazi Jewish	99	1 in 5,041	1 in 500,000	1 in 2,000,000
		East Asian	99	1 in 8,621	1 in 860,000	1 in 3,400,000
		Finnish	98	1 in 5,412	1 in 270,000	1 in 1,100,000

Footnotes:

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Disorder	Gene	Ethnicity (Source: https://gnomad.broadinstitute.org/ except CYP21A2 and HBA1/HBA2)	Detection Rate (%) (Derived from gnomAD and ClinVar except CYP21A2, GBA, and HBA1/HBA2)	Individual Carrier Risk Before Testing (Derived from gnomAD and ClinVar except CYP21A2 and HBA1/HBA2)	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
		Non-Finnish European/Caucasian	99	1 in 2,684	1 in 270,000	1 in 1,100,000
		South Asian	99	1 in 1,175	1 in 120,000	1 in 480,000
		Other (population not assigned)	98	1 in 1,448	1 in 72,000	1 in 290,000
	HELLS	African/African American	97	1 in 1,081	1 in 36,000	1 in 140,000
		Latino/Admixed American	97	1 in 481	1 in 16,000	1 in 64,000
		Ashkenazi Jewish	97	1 in 1,222	1 in 41,000	1 in 160,000
		East Asian	99	1 in 413	1 in 41,000	1 in 160,000
		Finnish	98	1 in 1,793	1 in 90,000	1 in 360,000
		Non-Finnish European/Caucasian	98	1 in 1,155	1 in 58,000	1 in 230,000
		South Asian	98	1 in 674	1 in 34,000	1 in 140,000
		Other (population not assigned)	98	1 in 624	1 in 31,000	1 in 120,000
	ZBTB24	African/African American	99	1 in 2,655	1 in 270,000	1 in 1,100,000
		Latino/Admixed American	98	1 in 2,868	1 in 140,000	1 in 560,000
		Ashkenazi Jewish	99	1 in 5,041	1 in 500,000	1 in 2,000,000
		East Asian	99	1 in 1,006	1 in 100,000	1 in 400,000
		Finnish	99	1 in 516	1 in 52,000	1 in 210,000
		Non-Finnish European/Caucasian	98	1 in 2,817	1 in 140,000	1 in 560,000
		South Asian	97	1 in 3,023	1 in 100,000	1 in 400,000
		Other (population not assigned)	98	1 in 1,535	1 in 77,000	1 in 310,000
Immunodysregulation, polyendocrinopathy, and enteropathy	***FOXP3***	African/African American	98	N/A	N/A	N/A
		Latino/Admixed American	99	N/A	N/A	N/A
		Ashkenazi Jewish	98	N/A	N/A	N/A
		East Asian	99	N/A	N/A	N/A
		Finnish	98	N/A	N/A	N/A
		Non-Finnish European/Caucasian	98	N/A	N/A	N/A
		South Asian	98	N/A	N/A	N/A
		Other (population not assigned)	98	N/A	N/A	N/A
Inclusion body myopathy 2	***GNE***	African/African American	98	1 in 249	1 in 12,000	1 in 48,000
		Latino/Admixed American	99	1 in 793	1 in 79,000	1 in 320,000
		Ashkenazi Jewish	99	1 in 4,924	1 in 490,000	1 in 2,000,000
		East Asian	99	1 in 101	1 in 10,000	1 in 40,000
		Finnish	98	1 in 1,387	1 in 69,000	1 in 280,000
		Non-Finnish European/Caucasian	99	1 in 368	1 in 37,000	1 in 150,000
		South Asian	99	1 in 36	1 in 3,500	1 in 14,000
		Other (population not assigned)	99	1 in 252	1 in 25,000	1 in 100,000
Isovaleric acidemia	***IVD***	African/African American	98	1 in 461	1 in 23,000	1 in 92,000
		Latino/Admixed American	99	1 in 360	1 in 36,000	1 in 140,000
		Ashkenazi Jewish	99	1 in 420	1 in 42,000	1 in 170,000
		East Asian	99	1 in 303	1 in 30,000	1 in 120,000
		Finnish	98	1 in 1,099	1 in 55,000	1 in 220,000
		Non-Finnish European/Caucasian	99	1 in 232	1 in 23,000	1 in 92,000
		South Asian	99	1 in 507	1 in 51,000	1 in 200,000
		Other (population not assigned)	99	1 in 207	1 in 21,000	1 in 84,000
Joubert syndrome and related disorders, including Meckel-Gruber syndrome	***AHI1***	African/African American	99	1 in 172	1 in 17,000	1 in 68,000
		Latino/Admixed American	99	1 in 151	1 in 15,000	1 in 60,000

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

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Disorder	Gene	Ethnicity (Source: https://gnomad.broadinstitute.org/ except CYP21A2 and HBA1/HBA2)	Detection Rate (%) (Derived from gnomAD and ClinVar except CYP21A2, GBA, and HBA1/HBA2)	Individual Carrier Risk Before Testing (Derived from gnomAD and ClinVar except CYP21A2 and HBA1/HBA2)	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
		Ashkenazi Jewish	99	1 in 166	1 in 17,000	1 in 68,000
		East Asian	98	1 in 255	1 in 13,000	1 in 52,000
		Finnish	99	1 in 85	1 in 8,400	1 in 34,000
		Non-Finnish European/Caucasian	99	1 in 48	1 in 4,700	1 in 19,000
		South Asian	98	1 in 63	1 in 3,100	1 in 12,000
		Other (population not assigned)	99	1 in 64	1 in 6,300	1 in 25,000
	ARL13B	African/African American	97	1 in 41	1 in 1,300	1 in 5,200
		Latino/Admixed American	97	1 in 45	1 in 1,500	1 in 6,000
		Ashkenazi Jewish	97	1 in 63	1 in 2,100	1 in 8,400
		East Asian	97	1 in 65	1 in 2,100	1 in 8,400
		Finnish	97	1 in 140	1 in 4,600	1 in 18,000
		Non-Finnish European/Caucasian	97	1 in 72	1 in 2,400	1 in 9,600
		South Asian	97	1 in 52	1 in 1,700	1 in 6,800
		Other (population not assigned)	97	1 in 52	1 in 1,700	1 in 6,800
	B9D1	African/African American	99	1 in 643	1 in 64,000	1 in 260,000
		Latino/Admixed American	99	1 in 690	1 in 69,000	1 in 280,000
		Ashkenazi Jewish	97	N/A	N/A	N/A
		East Asian	97	1 in 1,146	1 in 38,000	1 in 150,000
		Finnish	97	1 in 266	1 in 8,800	1 in 35,000
		Non-Finnish European/Caucasian	99	1 in 571	1 in 57,000	1 in 230,000
		South Asian	98	1 in 1,108	1 in 55,000	1 in 220,000
		Other (population not assigned)	99	1 in 561	1 in 56,000	1 in 220,000
	B9D2	African/African American	97	1 in 2,710	1 in 90,000	1 in 360,000
		Latino/Admixed American	98	1 in 8,645	1 in 430,000	1 in 1,700,000
		Ashkenazi Jewish	98	1 in 446	1 in 22,000	1 in 88,000
		East Asian	99	1 in 9,185	1 in 920,000	1 in 3,700,000
		Finnish	98	1 in 5,059	1 in 250,000	1 in 1,000,000
		Non-Finnish European/Caucasian	99	1 in 4,005	1 in 400,000	1 in 1,600,000
		South Asian	98	1 in 956	1 in 48,000	1 in 190,000
		Other (population not assigned)	99	1 in 3,068	1 in 310,000	1 in 1,200,000
	CEP104	African/African American	97	1 in 44	1 in 1,400	1 in 5,600
		Latino/Admixed American	97	1 in 56	1 in 1,800	1 in 7,200
		Ashkenazi Jewish	98	1 in 67	1 in 3,300	1 in 13,000
		East Asian	97	1 in 87	1 in 2,900	1 in 12,000
		Finnish	99	1 in 141	1 in 14,000	1 in 56,000
		Non-Finnish European/Caucasian	98	1 in 108	1 in 5,400	1 in 22,000
		South Asian	98	1 in 93	1 in 4,600	1 in 18,000
		Other (population not assigned)	97	1 in 95	1 in 3,100	1 in 12,000
	CPLANE1	African/African American	99	1 in 97	1 in 9,600	1 in 38,000
		Latino/Admixed American	99	1 in 53	1 in 5,200	1 in 21,000
		Ashkenazi Jewish	99	1 in 156	1 in 16,000	1 in 64,000
		East Asian	98	1 in 217	1 in 11,000	1 in 44,000
		Finnish	99	1 in 232	1 in 23,000	1 in 92,000
		Non-Finnish European/Caucasian	99	1 in 42	1 in 4,100	1 in 16,000
		South Asian	99	1 in 143	1 in 14,000	1 in 56,000

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		Other (population not assigned)	99	1 in 44	1 in 4,300	1 in 17,000
	INPP5E	African/African American	98	1 in 397	1 in 20,000	1 in 80,000
		Latino/Admixed American	99	1 in 1,685	1 in 170,000	1 in 680,000
		Ashkenazi Jewish	97	N/A	N/A	N/A
		East Asian	99	1 in 1,454	1 in 150,000	1 in 600,000
		Finnish	97	1 in 735	1 in 24,000	1 in 96,000
		Non-Finnish European/Caucasian	97	1 in 156	1 in 5,200	1 in 21,000
		South Asian	98	1 in 1,600	1 in 80,000	1 in 320,000
		Other (population not assigned)	99	1 in 1,933	1 in 190,000	1 in 760,000
	KIF14	African/African American	98	1 in 666	1 in 33,000	1 in 130,000
		Latino/Admixed American	98	1 in 1,218	1 in 61,000	1 in 240,000
		Ashkenazi Jewish	97	N/A	N/A	N/A
		East Asian	97	1 in 599	1 in 20,000	1 in 80,000
		Finnish	97	1 in 2,690	1 in 90,000	1 in 360,000
		Non-Finnish European/Caucasian	98	1 in 1,010	1 in 50,000	1 in 200,000
		South Asian	97	1 in 362	1 in 12,000	1 in 48,000
		Other (population not assigned)	98	1 in 767	1 in 38,000	1 in 150,000
	NPHP1	African/African American	98	1 in 218	1 in 11,000	1 in 44,000
		Latino/Admixed American	98	1 in 315	1 in 16,000	1 in 64,000
		Ashkenazi Jewish	98	N/A	N/A	N/A
		East Asian	99	1 in 164	1 in 16,000	1 in 64,000
		Finnish	98	1 in 806	1 in 40,000	1 in 160,000
		Non-Finnish European/Caucasian	98	1 in 418	1 in 21,000	1 in 84,000
		South Asian	98	1 in 536	1 in 27,000	1 in 110,000
		Other (population not assigned)	98	1 in 362	1 in 18,000	1 in 72,000
	NPHP3	African/African American	99	1 in 42	1 in 4,100	1 in 16,000
		Latino/Admixed American	98	1 in 69	1 in 3,400	1 in 14,000
		Ashkenazi Jewish	97	1 in 219	1 in 7,300	1 in 29,000
		East Asian	99	1 in 67	1 in 6,600	1 in 26,000
		Finnish	99	1 in 78	1 in 7,700	1 in 31,000
		Non-Finnish European/Caucasian	99	1 in 73	1 in 7,200	1 in 29,000
		South Asian	97	1 in 57	1 in 1,900	1 in 7,600
		Other (population not assigned)	98	1 in 66	1 in 3,300	1 in 13,000
	RPGRIP1L	African/African American	98	1 in 293	1 in 15,000	1 in 60,000
		Latino/Admixed American	98	1 in 605	1 in 30,000	1 in 120,000
		Ashkenazi Jewish	97	N/A	N/A	N/A
		East Asian	97	1 in 326	1 in 11,000	1 in 44,000
		Finnish	99	1 in 1,538	1 in 150,000	1 in 600,000
		Non-Finnish European/Caucasian	99	1 in 378	1 in 38,000	1 in 150,000
		South Asian	98	1 in 330	1 in 16,000	1 in 64,000
		Other (population not assigned)	98	1 in 490	1 in 24,000	1 in 96,000
	TCTN1	African/African American	99	1 in 320	1 in 32,000	1 in 130,000
		Latino/Admixed American	99	1 in 387	1 in 39,000	1 in 160,000
		Ashkenazi Jewish	97	N/A	N/A	N/A
		East Asian	99	1 in 1,257	1 in 130,000	1 in 520,000

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		Finnish	97	1 in 709	1 in 24,000	1 in 96,000
		Non-Finnish European/Caucasian	99	1 in 520	1 in 52,000	1 in 210,000
		South Asian	97	1 in 125	1 in 4,100	1 in 16,000
		Other (population not assigned)	98	1 in 468	1 in 23,000	1 in 92,000
	TCTN2	African/African American	98	1 in 572	1 in 29,000	1 in 120,000
		Latino/Admixed American	99	1 in 859	1 in 86,000	1 in 340,000
		Ashkenazi Jewish	98	N/A	N/A	N/A
		East Asian	99	1 in 2,299	1 in 230,000	1 in 920,000
		Finnish	98	N/A	N/A	N/A
		Non-Finnish European/Caucasian	99	1 in 1,046	1 in 100,000	1 in 400,000
		South Asian	98	1 in 766	1 in 38,000	1 in 150,000
		Other (population not assigned)	98	1 in 1,440	1 in 72,000	1 in 290,000
	TCTN3	African/African American	99	1 in 489	1 in 49,000	1 in 200,000
		Latino/Admixed American	97	1 in 257	1 in 8,500	1 in 34,000
		Ashkenazi Jewish	99	1 in 410	1 in 41,000	1 in 160,000
		East Asian	98	1 in 786	1 in 39,000	1 in 160,000
		Finnish	99	1 in 10,821	1 in 1,100,000	1 in 4,400,000
		Non-Finnish European/Caucasian	98	1 in 487	1 in 24,000	1 in 96,000
		South Asian	97	1 in 552	1 in 18,000	1 in 72,000
		Other (population not assigned)	98	1 in 1,274	1 in 64,000	1 in 260,000
	TMEM67	African/African American	99	1 in 309	1 in 31,000	1 in 120,000
		Latino/Admixed American	99	1 in 233	1 in 23,000	1 in 92,000
		Ashkenazi Jewish	99	1 in 164	1 in 16,000	1 in 64,000
		East Asian	99	1 in 132	1 in 13,000	1 in 52,000
		Finnish	99	1 in 321	1 in 32,000	1 in 130,000
		Non-Finnish European/Caucasian	99	1 in 147	1 in 15,000	1 in 60,000
		South Asian	99	1 in 206	1 in 21,000	1 in 84,000
		Other (population not assigned)	99	1 in 101	1 in 10,000	1 in 40,000
	TMEM138	African/African American	97	N/A	N/A	N/A
		Latino/Admixed American	99	1 in 4,323	1 in 430,000	1 in 1,700,000
		Ashkenazi Jewish	97	N/A	N/A	N/A
		East Asian	97	1 in 4,599	1 in 150,000	1 in 600,000
		Finnish	97	N/A	N/A	N/A
		Non-Finnish European/Caucasian	98	1 in 5,161	1 in 260,000	1 in 1,000,000
		South Asian	99	1 in 1,694	1 in 170,000	1 in 680,000
		Other (population not assigned)	97	N/A	N/A	N/A
	TMEM216	African/African American	99	1 in 7,745	1 in 770,000	1 in 3,100,000
		Latino/Admixed American	97	1 in 488	1 in 16,000	1 in 64,000
		Ashkenazi Jewish	99	1 in 141	1 in 14,000	1 in 56,000
		East Asian	99	1 in 8,621	1 in 860,000	1 in 3,400,000
		Finnish	97	N/A	N/A	N/A
		Non-Finnish European/Caucasian	99	1 in 934	1 in 93,000	1 in 370,000
		South Asian	99	1 in 73	1 in 7,200	1 in 29,000
		Other (population not assigned)	99	1 in 378	1 in 38,000	1 in 150,000
	TMEM231	African/African American	99	1 in 924	1 in 92,000	1 in 370,000

Footnotes:

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

a Feng et al., PMID 28125085

b Luo et al., PMID 23788250

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

The detection rates and risks set forth below were derived using publicly available information, including gnomAD and ClinVar, and the rates were extrapolated using appropriate scientific methodologies. As additional clinical evidence is available, the data in these charts may be updated from time to time. This data is provided for general informational purposes only and is 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

Disorder	Gene	Ethnicity (Source: https://gnomad.broadinstitute.org/ except CYP21A2 and HBA1/HBA2)	Detection Rate (%) (Derived from gnomAD and ClinVar except CYP21A2, GBA, and HBA1/HBA2)	Individual Carrier Risk Before Testing (Derived from gnomAD and ClinVar except CYP21A2 and HBA1/HBA2)	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
		Latino/Admixed American	99	1 in 869	1 in 87,000	1 in 350,000
		Ashkenazi Jewish	99	1 in 2,463	1 in 250,000	1 in 1,000,000
		East Asian	99	1 in 656	1 in 66,000	1 in 260,000
		Finnish	99	1 in 2,060	1 in 210,000	1 in 840,000
		Non-Finnish European/Caucasian	99	1 in 560	1 in 56,000	1 in 220,000
		South Asian	99	1 in 392	1 in 39,000	1 in 160,000
		Other (population not assigned)	99	1 in 968	1 in 97,000	1 in 390,000
	TMEM237	African/African American	99	1 in 1,501	1 in 150,000	1 in 600,000
		Latino/Admixed American	99	1 in 379	1 in 38,000	1 in 150,000
		Ashkenazi Jewish	99	1 in 4,108	1 in 410,000	1 in 1,600,000
		East Asian	98	1 in 368	1 in 18,000	1 in 72,000
		Finnish	98	N/A	N/A	N/A
		Non-Finnish European/Caucasian	99	1 in 942	1 in 94,000	1 in 380,000
		South Asian	99	1 in 1,564	1 in 160,000	1 in 640,000
		Other (population not assigned)	99	1 in 1,369	1 in 140,000	1 in 560,000
Junctional epidermolysis bullosa	***LAMA3***	African/African American	99	1 in 348	1 in 35,000	1 in 140,000
		Latino/Admixed American	99	1 in 288	1 in 29,000	1 in 120,000
		Ashkenazi Jewish	99	1 in 5,030	1 in 500,000	1 in 2,000,000
		East Asian	99	1 in 70	1 in 6,900	1 in 28,000
		Finnish	97	1 in 1,502	1 in 50,000	1 in 200,000
		Non-Finnish European/Caucasian	99	1 in 320	1 in 32,000	1 in 130,000
		South Asian	98	1 in 201	1 in 10,000	1 in 40,000
		Other (population not assigned)	99	1 in 760	1 in 76,000	1 in 300,000
	LAMB3	African/African American	99	1 in 172	1 in 17,000	1 in 68,000
		Latino/Admixed American	98	1 in 1,012	1 in 51,000	1 in 200,000
		Ashkenazi Jewish	99	1 in 1,001	1 in 100,000	1 in 400,000
		East Asian	98	1 in 1,007	1 in 50,000	1 in 200,000
		Finnish	98	1 in 1,007	1 in 50,000	1 in 200,000
		Non-Finnish European/Caucasian	99	1 in 252	1 in 25,000	1 in 100,000
		South Asian	98	1 in 603	1 in 30,000	1 in 120,000
		Other (population not assigned)	99	1 in 725	1 in 72,000	1 in 290,000
	LAMC2	African/African American	99	1 in 2,653	1 in 270,000	1 in 1,100,000
		Latino/Admixed American	99	1 in 3,438	1 in 340,000	1 in 1,400,000
		Ashkenazi Jewish	98	1 in 2,489	1 in 120,000	1 in 480,000
		East Asian	99	1 in 1,022	1 in 100,000	1 in 400,000
		Finnish	99	1 in 10,825	1 in 1,100,000	1 in 4,400,000
		Non-Finnish European/Caucasian	98	1 in 1,067	1 in 53,000	1 in 210,000
		South Asian	98	1 in 1,093	1 in 55,000	1 in 220,000
		Other (population not assigned)	98	1 in 1,535	1 in 77,000	1 in 310,000
Juvenile hereditary hemochromatosis	***HAMP***	African/African American	98	1 in 4,059	1 in 200,000	1 in 800,000
		Latino/Admixed American	98	N/A	N/A	N/A
		Ashkenazi Jewish	98	N/A	N/A	N/A
		East Asian	99	1 in 1,150	1 in 110,000	1 in 440,000
		Finnish	98	N/A	N/A	N/A
		Non-Finnish European/Caucasian	99	1 in 8,124	1 in 810,000	1 in 3,200,000

Footnotes:

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

a Feng et al., PMID 28125085

b Luo et al., PMID 23788250

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

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N/A= Not Available

Disorder	Gene	Ethnicity (Source: https://gnomad.broadinstitute.org/ except CYP21A2 and HBA1/HBA2)	Detection Rate (%) (Derived from gnomAD and ClinVar except CYP21A2, GBA, and HBA1/HBA2)	Individual Carrier Risk Before Testing (Derived from gnomAD and ClinVar except CYP21A2 and HBA1/HBA2)	Individual Residual Risk After Negative Result	Risk of Affected Fetus When One Partner has a Carrier Result and One Partner has a Negative Result
		South Asian	99	1 in 7,653	1 in 770,000	1 in 3,100,000
		Other (population not assigned)	98	N/A	N/A	N/A
	HJV	African/African American	97	N/A	N/A	N/A
		Latino/Admixed American	97	1 in 3,456	1 in 120,000	1 in 480,000
		Ashkenazi Jewish	97	N/A	N/A	N/A
		East Asian	99	1 in 2,225	1 in 220,000	1 in 880,000
		Finnish	97	N/A	N/A	N/A
		Non-Finnish European/Caucasian	99	1 in 858	1 in 86,000	1 in 340,000
		South Asian	97	1 in 766	1 in 26,000	1 in 100,000
		Other (population not assigned)	99	1 in 1,449	1 in 140,000	1 in 560,000

Footnotes:

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

a Feng et al., PMID 28125085

b Luo et al., PMID 23788250