

GENETIC CONDITIONS



ENDOCRINE

| DISEASE <i>Gene</i> | AR | AD | XL |
|--|----|----|----|
| Congenital Adrenal Hyperplasia <i>CYP11B1</i> | ● | ● | |
| <i>CYP17A1, HSD3B2, POR, STAR</i> | ● | | |
| Congenital Hypothyroidism <i>PAX8, THRA</i> | | ● | |
| <i>SLC5A5, TG, TPO, TSHB</i> | ● | | |
| <i>TSHR</i> | ● | ● | |
| Pendred Syndrome <i>SLC26A4</i> | ● | | |

HEMOGLOBIN

| DISEASE <i>Gene</i> | AR | AD | XL |
|---|----|----|----|
| Beta-Thalassemia <i>HBB</i> | ● | | |
| S, Beta-Thalassemia (Sickle Cell Beta-Thalassemia) <i>HBB</i> | ● | | |
| S,C Disease (Sickle Cell Disease) <i>HBB</i> | ● | | |
| S,S Disease (Sickle Cell Disease, Sickle Cell Anemia) <i>HBB</i> | ● | | |

METABOLIC

| DISEASE <i>Gene</i> | AR | AD | XL |
|--|----|----|----|
| 2-Methyl-3-Hydroxybutyric Aciduria <i>HSD17B10</i> | | | ● |
| 2,4 Dienoyl-CoA Reductase Deficiency (NADKD1) <i>NADK2</i> | ● | | |
| 3-Methylglutaconic Aciduria Type I <i>AUH</i> | ● | | |
| β-Ketothiolase Deficiency <i>ACAT1</i> | ● | | |
| Argininemia <i>ARG1</i> | ● | | |
| Benign Hyperphenylalaninemia <i>PAH</i> | ● | | |
| Biotinidase Deficiency <i>BTD</i> | ● | | |
| Carnitine Palmitoyltransferase Type I Deficiency <i>CPT1A</i> | ● | | |
| Carnitine Uptake Defect/Carnitine Transport Defect <i>SLC22A5</i> | ● | | |
| Cerebrotendinous Xanthomatosis <i>CYP27A1, LHX3</i> | ● | | |
| Citrullinemia, Type II <i>SLC25A13</i> | ● | | |
| Classic Phenylketonuria <i>PAH</i> | ● | | |
| Congenital Disorder of Glycosylation 1b <i>MPI</i> | ● | | |
| Crigler-Najjar Syndrome <i>UGT1A1</i> | ● | | |
| Fabry Disease <i>GLA</i> | | | ● |
| Galactokinase Deficiency <i>GALK1</i> | ● | | |
| Glutaric Acidemia Type I <i>GCDH</i> | ● | | |

HEARING LOSS

| DISEASE <i>Gene</i> | AR | AD | XL |
|---|----|----|----|
| Non-Syndromic Hearing Loss | | | |
| <i>CDH23, MYO15A, OTOF, TMIE, TMPRSS3, TPRN, TRIOBP</i> | ● | | |
| <i>GJB2, GJB6,TECTA</i> | ● | ● | |
| Syndromic Hearing Loss | | | |
| Jervell and Lange-Nielsen Syndrome <i>KCNE1, KCNQ1</i> | ● | | |
| Pendred Syndrome <i>SLC26A4</i> | ● | | |
| Shah-Waardenburg Syndrome <i>SOX10</i> | | ● | |
| Usher Syndrome Type 1C <i>USH1C</i> | ● | | |
| Usher Syndrome 1G <i>USH1G</i> | ● | | |
| Usher Syndrome Type 2A <i>USH2A</i> | ● | | |
| Usher Syndrome IID <i>DFNB31</i> | ● | | |
| Waardenburg Syndrome <i>PAX3</i> | ● | ● | |

| DISEASE <i>Gene</i> | AR | AD | XL |
|--|----|----|----|
| 2-Methylbutyrylglucosuria <i>ACADSB</i> | ● | | |
| 3-Methylcrotonyl-CoA Carboxylase Deficiency <i>MCCCI, MCCC2</i> | ● | | |
| 3-Phosphoglycerate Dehydrogenase Deficiency <i>PHGDH</i> | ● | | |
| Abetalipoproteinemia <i>MTTP</i> | ● | | |
| Argininosuccinic Aciduria <i>ASL</i> | ● | | |
| Biopterin Defect In Cofactor Biosynthesis <i>GCHI</i> | ● | ● | |
| Carnitine Acylcarnitine Translocase Deficiency <i>SLC25A20</i> | ● | | |
| Carnitine Palmitoyltransferase Type II Deficiency <i>CPT2</i> | ● | | |
| Cerebral Creatine Deficiency Syndrome <i>GAMT, GATM</i> | ● | | |
| Citrullinemia, Type I <i>ASS1</i> | ● | | |
| Classic Galactosemia <i>GALT</i> | ● | | |
| Combined Pituitary Hormone Deficiency <i>PROPI</i> | ● | | |
| Corticosterone Methyloxidase Deficiency <i>CYP11B2</i> | ● | | |
| Cystinosis <i>CTNS</i> | ● | | |
| Galactoepimerase Deficiency <i>GALE</i> | ● | | |
| Glucose-6-Phosphate Dehydrogenase Deficiency <i>G6PD</i> | | | ● |
| Glutaric Acidemia Type II <i>ETFA, ETFB, ETFDH</i> | ● | | |

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|---|---|---|---|
| Glycogen Storage Disease Type O <i>GYS2</i> | ● | | |
| Glycogen Storage Disease Type Ib <i>SLC37A4</i> | ● | | |
| Glycogen Storage Disease IIIa <i>AGL</i> | ● | | |
| Hereditary Fructose Intolerance <i>ALDOB</i> | ● | | |
| Holocarboxylase Synthase Deficiency <i>HLCS</i> | ● | | |
| Hypercholesterolemia <i>LDLR</i> | ● | ● | |
| Hypophosphatasia <i>ALPL</i> | ● | ● | |
| Isovaleric Acidemia <i>IVD</i> | ● | | |
| Lipoprotein Lipase Deficiency (LPL) <i>LPL</i> | ● | | |
| Lysinuric Protein Intolerance <i>SLC7A7</i> | ● | | |
| Malonic Acidemia <i>MLYCD</i> | ● | | |
| Maple Syrup Urine Disease Type III <i>DLD</i> | ● | | |
| Medium/Short-Chain L-3-Hydroxyacyl-CoA Dehydrogenase Deficiency <i>HADH</i> | ● | | |
| Methylmalonic Acidemia with Homocystinuria <i>ABCD4, LMBRD1, MMACHC, MMADHC, HCFC1</i> | ● | | ● |
| Methylmalonic Aciduria, Type mut(0) <i>MMUT</i> | ● | | |
| Methylmalonyl-CoA Epimerase Deficiency <i>MCEE</i> | ● | | |
| Mucopolysaccharidosis Type II (Hunter Syndrome) <i>IDS</i> | | | ● |
| Nephrogenic Diabetes Insipidus Type II <i>AQP2</i> | ● | ● | |
| Niemann-Pick Disease Type C1 <i>NPC1</i> | ● | | |
| Ornithine Translocase Deficiency; Triple H Syndrome <i>SLC25A15</i> | ● | | |
| Primary Hyperoxaluria Type II <i>GRHPR</i> | ● | | |
| Propionic Acidemia <i>PCCA, PCCB</i> | ● | | |
| Transient Infantile Liver Failure <i>TRMU</i> | ● | | |
| Tyrosine Hydroxylase Deficiency <i>TH</i> | ● | | |
| Tyrosinemia, Type II <i>TAT</i> | ● | | |
| Very Long-Chain Acyl-CoA Dehydrogenase Deficiency (VLCAD) <i>ACADVL</i> | ● | | |
| X-Linked Adrenoleukodystrophy <i>ABCD1</i> | | | ● |

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| Glycogen Storage Disease Ia <i>G6PC</i> | ● | | |
| Glycogen Storage Disease Type II (Pompe) <i>GAA</i> | ● | | |
| Glycogen Storage Disease VI <i>PYGL</i> | ● | | |
| HMG-CoA Lyase Deficiency <i>HMGCL</i> | ● | | |
| Homocystinuria <i>CBS</i> | ● | | |
| Hypermethioninemia <i>AHCY, GNMT, MAT1A</i> | ● | ● | |
| Isobutyrylglycinuria <i>ACAD8</i> | ● | | |
| Krabbe Disease <i>GALC</i> | ● | | |
| Long-Chain L-3 Hydroxyacyl-CoA Dehydrogenase Deficiency (LCHAD Deficiency) <i>HADHA</i> | ● | | |
| Lysosomal Acid Lipase Deficiency <i>LIPA</i> | ● | | |
| Maple Syrup Urine Disease <i>BCKDHA, BCKDHB, DBT</i> | ● | | |
| Medium-Chain Acyl-CoA Dehydrogenase Deficiency <i>ACADM</i> | ● | | |
| Metachromatic Leukodystrophy <i>ARSA</i> | ● | | |
| Methylmalonic Acidemia (Cobalamin Disorders) <i>MMAA, MMAB</i> | ● | | |
| Methylmalonic Aciduria and Homocystinuria <i>MTR, MTRR</i> | ● | | |
| Mucopolysaccharidosis Type I <i>IDUA</i> | ● | | |
| N-Acetylglutamate Synthase Deficiency <i>NAGS</i> | ● | | |
| Niemann-Pick Disease Type A/B <i>SMPD1</i> | ● | | |
| Ornithine Transcarbamylase Deficiency <i>OTC</i> | | | ● |
| Primary Hyperoxaluria Type I <i>AGXT</i> | ● | | |
| Primary Hyperoxaluria Type III <i>HOGA1</i> | ● | ● | |
| Short-Chain Acyl-CoA Dehydrogenase Deficiency <i>ACADS</i> | ● | | |
| Trifunctional Protein Deficiency <i>HADHA, HADHB</i> | ● | | |
| Tyrosinemia, Type I <i>FAH</i> | ● | | |
| Tyrosinemia, Type III <i>HPD</i> | ● | ● | |
| Wilson Disease <i>ATP7B</i> | ● | | |

OTHER – Genetic, Immunodeficiency, Pulmonary, Musculoskeletal

| DISEASE <i>Gene</i> | AR | AD | XL |
|---|----|----|----|
| Cystic Fibrosis <i>CFTR</i> | ● | | |
| Spinal Muscular Atrophy due to homozygous deletion of exon 7 & 8 in SMN1 <i>SMN1, SMN2</i> | ● | | |

| DISEASE <i>Gene</i> | AR | AD | XL |
|---|----|----|----|
| Severe Combined Immunodeficiencies <i>ADA, IL7R, JAK3, IL2RG</i> | ● | | ● |
| T-cell Related Lymphocyte Deficiencies <i>PIK3CD</i> | | ● | |

● AR: AUTOSOMAL RECESSIVE

● AD: AUTOSOMAL DOMINANT

● XL: X-LINKED