



Gene		NHHA	NENZ	NMEM	NCDA	Associated Disorders
<i>ABCB6</i>	ATP binding cassette subfamily B member 6	X		X		Pseudohyperkalemia, familial, 2
<i>AHSP</i>	α-hemoglobin stabilizing protein	X				Thalassemia
<i>AK1</i>	Adenylate kinase	X	X			Adenylate kinase deficiency
<i>ALDOA</i>	Aldolase	X	X			Aldolase deficiency
<i>ANK1</i>	Ankyrin	X		X		Hereditary spherocytosis
<i>BCL11A</i>	BAF chromatin remodeling complex subunit BCL11A	X				Fetal hemoglobin (Hb F) levels; Dias-Logan syndrome
<i>CDIN1 (C15ORF41)</i>	CDAN1 interacting nuclease 1	X			X	Congenital dyserythropoietic anemia (CDA) type Ib
<i>CD59</i>	CD59 glycoprotein	X				<i>CD59</i> -mediated hemolytic anemia with immune-mediated polyneuropathy)/neonatal anemia
<i>CDAN1</i>	Codanin1	X			X	Congenital dyserythropoietic anemia (CDA) type Ia
<i>EPB41</i>	Protein 4.1	X		X		Hereditary elliptocytosis, pyropoikilocytosis
<i>EPB42</i>	Protein 4.2	X		X		Hereditary spherocytosis
<i>G6PD</i>	Glucose-6 phosphate dehydrogenase	X	X			G6PD deficiency
<i>GATA1</i>	GATA binding protein 1	X			X	X-linked thrombocytopenia with thalassemia/ Congenital dyserythropoietic anemia (CDA) variant
<i>GCLC</i>	Gamma Glutamate Cysteine Ligase	X	X			Glutathione deficiency
<i>GPI</i>	Glucose-6 phosphate isomerase	X	X			Glucose phosphate isomerase (GPI) deficiency
<i>GSR</i>	Glutathione reductase	X	X			Glutathione deficiency
<i>GSS</i>	Glutathione synthetase	X	X			Glutathione deficiency
<i>GYPC</i>	Glycophorin C and D	X		X		Hereditary elliptocytosis
<i>HK1</i>	Hexokinase	X	X			Hexokinase (HK) deficiency
<i>HMOX1</i>	Heme oxygenase-1	X	X			HMOX1 deficiency (hemolysis, Fe accumulation, growth retardation), increased Hb F
<i>KCNN4</i>	Potassium calcium-activated channel subfamily N member 4	X		X		Dehydrated hereditary stomatocytosis-2 (DHS2) (hereditary xerocytosis)
<i>KIF23</i>	Kinesin family member	X			X	Congenital dyserythropoietic anemia (CDA) type III
<i>KLF1</i>	Kruppel-like factor 1	X			X	Congenital dyserythropoietic anemia (CDA) type IV, increased Hb A2, non-deletional HPFH
<i>NT5C3A</i>	5-Nucleotidase cytosolic 3A	X	X			P5NT deficiency (Pyrimidine 5' nucleotidase/uridine 5' monophosphate hydrolase UMPH1 deficiency)
<i>PFKM</i>	Phosphofructokinase	X	X			Phosphofructokinase (PFK) deficiency (glycogen storage disease VII/Tarui disease)
<i>PGK1</i>	Phosphoglycerate kinase	X	X			Phosphoglycerate kinase 1 (PGK1) deficiency
<i>PGLS</i>	6-Phosphogluconolactonase	X	X			6-phosphogluconolactonase deficiency
<i>PIEZO1</i>	PIEZO ion channel component 1	X		X		Dehydrated hereditary stomatocytosis/ hereditary xerocytosis, perinatal edema
<i>PKLR</i>	Pyruvate kinase	X	X			Pyruvate kinase (PK) deficiency

NHHA and Subpanel Comparison Gene List (continued)

Gene		NHHA	NENZ	NMEM	NCDA	Associated Disorders
<i>RHAG</i>	Rhesus blood group-associated glycoprotein	X		X		Overhydrated hereditary stomatocytosis, Rh-null hemolytic anemia
<i>SEC23B</i>	SEC23 homolog B, coat complex II component	X			X	Congenital dyserythropoietic anemia (CDA) type II
<i>SLC2A1</i>	Solute carrier family 2 (GLUT1)	X		X		Stomatin-deficient cryohydrocytosis, GLUT1 deficiency
<i>SLC4A1</i>	Solute carrier family 4 (Band3)	X		X		Hereditary spherocytosis, SE Asian ovalocytosis, cryohydrocytosis, stomatocytosis, acanthocytosis, distal renal tubular acidosis with hemolysis
<i>SPTA1</i>	Spectrin, alpha	X		X		Hereditary spherocytosis, hereditary elliptocytosis, pyropoikilocytosis
<i>SPTB</i>	Spectrin, beta	X		X		Hereditary spherocytosis, hereditary elliptocytosis, pyropoikilocytosis
<i>TMPRSS6</i>	Transmembrane serine protease 6	X				Iron-refractory iron deficiency anaemia (IRIDA)
<i>TPI1</i>	Triosephosphate isomerase	X	X			Triosephosphate isomerase (TPI) deficiency