Supplementary Table S2. Table listing the CDK genes with variants, zygosity, Clin Var classification, OMIM inheritance, sex, age and Allele Frequency (AF, source: gnomAD). "Variants highlighted in the same color co-occur in the same patients, suggesting digenic inheritance".

GENE	*POSITION hg19*	*TRANSCRIPT: VARIENT*	*PROTEIN CHANGE*	*ZYGOSITY*	*CLINVAR*	*OMIM*	*SEX*	*Age*	*AF*
CASR	121976118	NM_000388.4:c.376G>C	p.Asp126His	Heterozygosity	LP	AD	F	57	0.000000%
CASR	121976155	NM_000388.4:c.413C>G	p.Thr138Arg	Heterozygosity	LP	AD	M	26	0.000000%
CASR	121980495	NM_000388.4:c.613C>T	p.Arg205Cys	Heterozygosity	LP	AD	M	53	0.001627%
CASR	121980727	NM_000388.4:c.845A>G	p.Glu282Gly	Heterozygosity	LP	AD	F	74	0.001415%
CASR	121980727	NM_000388.4:c.845A>G	p.Glu282Gly	Heterozygosity	LP	AD	M	88	0.001415%
CASR	121981016	NM_000388.4:c.1134A>T	p.Glu378Asp	Heterozygosity	LP	AD	M	1	0.000000%
CASR	121994759	NM_000388.4:c.1478A>G	p.Asn493Ser	Heterozygosity	LP	AD	F	56	0.001053%
CASR	121994759	NM_000388.4:c.1478A>G	p.Asn493Ser	Heterozygosity	LP	AD	F	28	0.001053%
CASR	121994759	NM_000388.4:c.1478A>G	p.Asn493Ser	Heterozygosity	LP	AD	M	68	0.001053%
CASR	122002641	NM_000388.4:c.1840A>T	p.Ile614Phe	Heterozygosity	LP	AD	M	76	0.000707%
CASR	122002641	NM_000388.4:c.1840A>T	p.Ile614Phe	Heterozygosity	LP	AD	F	51	0.000707%
CASR	122002641	NM_000388.4:c.1840A>T	p.Ile614Phe	Heterozygosity	LP	AD	M	NA	0.000707%
CASR	122002956	NM_000388.4:c.2160dupG	p.Leu721fs	Heterozygosity	P	AD	M	16	0.000000%
CCNQ (FAM58A)	152864477	NM_152274.5:c.31_49delGCAGCGCGGGGCCCGGAGGGC	p.Ala11fs	Hemizygosity	P	XLD	M	4	0.000000%
CFHR1	196795975	NM_002113.3:c.273delT	p.Phe91fs	Heterozygosity	LP	AD	M	55	0.000144%
CFHR1	196797238	NM_002113.3:c.469_470delCA	p.His157fs	Heterozygosity	LP	AD	F	22	0.001048%
CFHR1	196797331	NM_002113.3:c.563dupT	p.Met189fs	Heterozygosity	LP	AD	M	2	0.001083%
CFHR1	196801125	NM_002113.3:c.989delG	p.Arg330fs	Heterozygosity	LP	AD	F	35	0.000000%

COL4A3	228029443	NM_000091.5:c.1A>G	p.Met1?	Heterozygosity	P	AD	F	52	0.000000%
COL4A3	228128558	NM_000091.5:c.1213G>T	p.Glu405*	Heterozygosity	P	AD	F	65	0.000000%
COL4A3	228131750	NM_000091.5:c.1450G>A	p.Gly484Arg	Heterozygosity	LP	AD	M	3	0.002806%
COL4A3	228131750	NM_000091.5:c.1450G>A	p.Gly484Arg	Heterozygosity	LP	AD	F	28	0.002806%
COL4A3	228145303	NM_000091.5:c.2371C>T	p.Arg791*	Heterozygosity	P	AD	F	43	0.003188%
COL4A3	228147212	NM_000091.5:c.2620G>A	p.Gly874Arg	Heterozygosity	P	AD	M	58	0.000000%
COL4A3	228155571	NM_000091.5:c.3180_3184delAGGTA	p.Glu1060fs	Heterozygosity	LP	AD	M	44	0.000000%
COL4A3	228158003	NM_000091.4:c.3321_3329delAAGTCCTGG	p.Ser1108_Gly1110del	Heterozygosity	LP	AD	M	1	0.004332%
COL4A3	228158003	NM_000091.4:c.3321_3329delAAGTCCTGG	p.Ser1108_Gly1110del	Heterozygosity	LP	AD	F	12	0.004332%
COL4A3	228158003	NM_000091.5:c.3321_3329delAAGTCCTGG	p.Ser1108_Gly1110del	Heterozygosity	LP	AD	M	33	0.004332%
COL4A3	228162571	NM_000091.5:c.3749delC	p.Pro1250fs	Heterozygosity	P	AD	M	11	0.000071%
COL4A3	228172594	NM_000091.5:c.4421T>C	p.Leu1474Pro	Heterozygosity	LP	AD	F	84	0.439608%
COL4A3	228173662	NM_000091.5:c.4510T>C	p.Phe1504Leu	Heterozygosity	LP	AD	F	40	0.019390%
COL4A4	227915799	NM_000092.5:c.3044G>A	p.Gly1015Glu	Heterozygosity	LP	AD	M	61	0.006010%
COL4A4	227915799	NM_000092.5:c.3044G>A	p.Gly1015Glu	Heterozygosity	LP	AD	M	64	0.006010%
COL4A4	227917111	NM_000092.5:c.2878G>A	p.Gly960Arg	Heterozygosity	LP	AD	F	74	0.000870%
COL4A4	227920687	NM_000092.5:c.2690G>A	p.Gly897Glu	Heterozygosity	LP	AD	M	58	0.000248%
COL4A4	227924184	NM_000092.5:c.2320G>C	p.Gly774Arg	Heterozygosity	LP	AD	F	70	0.004213%
COL4A4	227924262	NM_000092.5:c.2242G>A	p.Gly748Ser	Heterozygosity	LP	AD	F	83	0.003206%
COL4A4	227924262	NM_000092.5:c.2242G>A	p.Gly748Ser	Heterozygosity	LP	AD	M	80	0.003206%
COL4A4	227953412	NM_000092.5:c.1580delG	p.Gly527fs	Heterozygosity	P	AD	M	3	0.000658%
COL4A5	107802379	NM_033380.3:c.227A>C	p.Gln76Pro	Hemizygosity	LP	XLD	M	9	0.000000%
COL4A5	107834287	NM_033380.2:c.1166-1G>C	NA	Heterozygosity	P	XLD	F	4	0.000000%

COL4A5	107842023	NM_033380.3:c.1871G>A	p.Gly624Asp	Hemizygosity	P	XLD	M	1	0.008743%
COL4A5	107842023	NM_033380.3:c.1871G>A	p.Gly624Asp	Heterozygosity	LP	XLD	F	34	0.008743%
COL4A5	107845160	NM_033380.3:c.2088_2089insTCTCCTT	p.Lys698fs	Heterozygosity	P	XLD	F	67	0.000000%
COL4A5	107846275	NM_033380.2:c.2228G>C	p.Gly743Ala	Hemizygosity	LP	XLD	M	4	0.000000%
COL4A5	107929327	NM_033380.3:c.4283G>T	p.Arg1428Leu	Heterozygosity	LP	XLD	F	73	0.000000%
COL4A5	107930886	NM_033380.3:c.4490A>T	p.Tyr1497Phe	Heterozygosity	LP	XLD	F	61	0.000000%
COL4A5	107938603	NM_033380.3:c.4928C>T	p.Thr1643Ile	Heterozygosity	LP	XLD	F	56	0.000000%
EYA1	72111581	NM_000503.6:c.1773C>G	p.Tyr591*	Heterozygosity	P	AD	M	NA	0.000000%
FGA	155505965	NM_000508.5:c.1912delA	p.Thr638fs	Heterozygosity	P	AD	F	26	0.000657%
FGA	155506908	NM_021871.4:c.1670_1673delCAAA	p.Thr557fs	Heterozygosity	P	AD	M	4	0.000000%
FGA	155506928	NM_021871.4:c.1653delT	p.Gly552fs	Heterozygosity	LP	AD	F	65	0.003407%
FGA	155506928	NM_021871.4:c.1653delT	p.Gly552fs	Heterozygosity	P	AD	F	52	0.003407%
FGA	155508049	NM_021871.4:c.532C>T	p.Arg178*	Heterozygosity	P	AD	F	63	0.000798%
FGA	155510652	NM_021871.4:c.117delT	p.Val40fs	Heterozygosity	P	AD	F	55	0.002830%
FGA	155510675	NM_021871.4:c.94G>T	p.Gly32*	Heterozygosity	P	AD	F	78	0.000398%
FGA	155506928	NM_000508.3:c.1653delT	p.Ser551fs	Heterozygosity	P	AD	F	81	0.008678%
FLCN	17118340	NM_144997.7:c.1496_1497delTG	p.Val499fs	Heterozygosity	P	AD	M	53	0.000000%
FLCN	17119709	NM_144997.7:c.1285delC	p.His429fs	Heterozygosity	P	AD	M	12	0.001054%
FLCN	17127409	NM_144997.7:c.445G>A	p.Gly149Ser	Heterozygosity	LP	AD	F	52	0.000683%
GATA3	8100451	NM_001002295.2:c.426_433delGGGGGGCC	p.Gly143fs	Heterozygosity	P	AD	F	38	0.000000%
GATA3	8100550	NM_001002295.2:c.524C>A	p.Ser175*	Heterozygosity	P	AD	M	15	0.000000%
GLA	100655719	NM_000169.3:c.574A>C	p.Asn192His	Hemizygosity	LP	XLD	M	54	0.000000%
GLA	100656740	NM_000169.3:c.427G>A	p.Ala143Thr	Heterozygosity	LP	XLD	F	67	0.050625%

GLA	100656740	NM_000169.3:c.427G>A	p.Ala143Thr	Hemizygosity	LP	XLD	M	36	0.050625%
GLA	100656740	NM_000169.3:c.427G>A	p.Ala143Thr	Homozygosity	LP	XLD	F	33	0.050625%
GLA	100658833	NM_000169.3:c.335G>A	p.Arg112His	Heterozygosity	P	XLD	F	73	0.001818%
GLA	100658833	NM_000169.3:c.335G>A	p.Arg112His	Heterozygosity	P	XLD	F	46	0.001818%
GLA	100658833	NM_000169.3:c.335G>A	p.Arg112His	Hemizygosity	P	XLD	M	54	0.001818%
GLA	100658833	NM_000169.3:c.335G>A	p.Arg112His	Heterozygosity	P	XLD	F	79	0.001818%
GLA	100662833	NM_000169.3:c.59C>T	p.Ala20Val	Heterozygosity	LP	XLD	F	27	0.000000%
GLI3	42005105	NM_000168.6:c.3566delG	p.Arg1189fs	Heterozygosity	P	AD	F	39	0.000000%
GLI3	42007251	NM_000168.6:c.2374C>T	p.Arg792*	Heterozygosity	P	AD	M	1	0.000398%
GLI3	42018223	NM_000168.6:c.1621_1622delAC	p.Thr541fs	Heterozygosity	P	AD	F	4	0.000000%
GLI3	42018223	NM_000168.6:c.1621_1622delAC	p.Thr541fs	Heterozygosity	P	AD	F	1	0.000000%
GNA11	3113443	NM_002067.5:c.437A>T	p.Asp146Val	Heterozygosity	LP	AD	F	46	0.000000%
HNF1B	36091704	NM_000458.4:c.927C>A	p.Phe309Leu	Heterozygosity	LP	AD	F	79	0.000000%
HNF1B	36099623	NM_000458.4:c.352C>G	p.Pro118Ala	Heterozygosity	LP	AD	M	1	0.000000%
HNF4A	43034772	NM_000457.5:c.190G>A	p.Gly64Arg	Heterozygosity	P	AD	F	90	0.000479%
HNF4A	43042354	NM_000457.5:c.406C>T	p.Arg136Trp	Heterozygosity	P	AD	F	66	0.011527%
HNF4A	43048453	NM_000457.5:c.829C>T	p.Gln277*	Heterozygosity	P	AD	F	52	0.000000%
JAG1	10629364	NM_000214.3:c.1402G>A	p.Val468Ile	Heterozygosity	LP	AD	F	84	0.000000%
JAG1	10632303	NM_000214.3:c.1046G>A	p.Gly349Asp	Heterozygosity	LP	AD	F	73	0.000000%
JAG1	10632835	NM_000214.3:c.949_950delCC	p.Pro317fs	Heterozygosity	P	AD	M	5	0.000000%
KMT2D	49420213	NM_003482.4:c.15536G>A	p.Arg5179His	Heterozygosity	P	AD	F	1	0.000000%
KMT2D	49425823	NM_003482.4:c.12659_12664dupAGCAGC	p.Gln4220_Gln4221dup	Heterozygosity	LP	AD	F	12	0.000000%
KMT2D	49438030	NM_003482.4:c.5141C>T	p.Pro1714Leu	Heterozygosity	LP	AD	F	50	0.000000%

KMT2D	49440471	NM_003482.4:c.4331_4339delTCTGTGATG	p.Leu1444_Asp1447delinsHis	Heterozygosity	LP	AD	NA	NA	0.000000%
KMT2D	49440507	NM_003482.4:c.4303C>A	p.Gln1435Lys	Heterozygosity	LP	AD	F	52	0.000000%
LMX1B	129377759	NM_001174147.2:c.237G>T	p.Glu79Asp	Heterozygosity	LP	AD	F	65	0.000000%
LMX1B	129455552	NM_001174147.2:c.691C>T	p.Arg231*	Heterozygosity	P	AD	F	84	0.000000%
LMX1B	129456037	NM_001174147.2:c.832G>A	p.Ala278Thr	Heterozygosity	LP	AD	F	59	0.000000%
MYH9	36680216	NM_002473.6:c.5687_5688delTG	p.Leu1896fs	Heterozygosity	P	AD	M	51	0.000000%
MYOCD	12659780	NM_001146312.1:c.2109delC	p.Ser703fs	Heterozygosity	LP	AD	F	11	0.000000%
NR3C1	142780131	NM_000176.3:c.274G>T	p.Glu92*	Heterozygosity	LP	AD	M	64	0.000000%
NR3C1	142780131	NM_000176.3:c.274G>T	p.Glu92*	Heterozygosity	P	AD	F	69	0.000000%
PAX2	102509528	NM_000278.5:c.76dupG	p.Val26fs	Heterozygosity	P	AD	F	1	0.001237%
PBX1	164781344	NM_002585.4:c.955C>T	p.His319Tyr	Heterozygosity	LP	AD	M	6	0.000000%
PBX1	164789315	NM_002585.4:c.1004C>G	p.Ser335Cys	Heterozygosity	LP	AD	F	55	0.000000%
PHEX	22245724	NM_000444.6:c.2066C>G	p.Ala689Gly	Hemizygosity	LP	XLD	M	2	0.000000%
PKD1	2140150	NM_001009944.3:c.12489_12490delTC	p.Arg4164fs	Heterozygosity	P	AD	F	50	0.000000%
PKD1	2141122	NM_001009944.3:c.11766G>A	p.Trp3922*	Heterozygosity	P	AD	M	50	0.000075%
PKD1	2143884	NM_001009944.3:c.10748dupG	p.Val3584fs	Heterozygosity	P	AD	M	2	0.000000%
PKD1	2147189	NM_001009944.3:c.10458_10459insGT	p.Thr3487fs	Heterozygosity	P	AD	F	3	0.000000%
PKD1	2147207	NM_001009944.3:c.10441delG	p.Val3481fs	Heterozygosity	P	AD	F	32	0.000071%
PKD1	2150195	NM_001009944.3:c.9683dupG	p.Leu3229fs	Heterozygosity	P	AD	M	8	0.000000%
PKD1	2153759	NM_001009944.3:c.8299C>T	p.Arg2767Cys	Heterozygosity	LP	AD	M	73	0.000000%
PKD1	2155412	NM_001009944.3:c.7926dupA	p.Arg2643fs	Heterozygosity	P	AD	F	41	0.000000%
PKD1	2159531	NM_001009944.3:c.5637C>A	p.Tyr1879*	Heterozygosity	P	AD	F	38	0.000000%
PKD1	2160153	NM_001009944.2:c.5014_5015delAG	p.Arg1672fs	Heterozygosity	P	AD	F	42	0.000000%

PKD1	2164490	NM_001009944.3:c.2534T>C	p.Leu845Ser	Heterozygosity	LP	AD	M	NA	0.000435%
PKD1	2164490	NM_001009944.3:c.2534T>G	p.Leu845Trp	Heterozygosity	LP	AD	F	50	0.000000%
PKD1	2165428	NM_001009944.2:c.2048G>A	p.Trp683*	Heterozygosity	P	AD	M	33	0.000000%
PKD1	2165428	NM_001009944.3:c.2048G>A	p.Trp683*	Heterozygosity	P	AD	F	50	0.000000%
PKD1	2166918	NM_001009944.3:c.1522T>C	p.Cys508Arg	Heterozygosity	LP	AD	F	3	0.025965%
PKD2	88929127	NM_000297.4:c.242C>A	p.Ser81*	Heterozygosity	P	AD	M	44	0.000000%
PKD2	88929231	NM_000297.4:c.346delG	p.Val116fs	Heterozygosity	P	AD	F	65	0.000000%
PKD2	88959475	NM_000297.4:c.916C>T	p.Arg306*	Heterozygosity	P	AD	F	10	0.000398%
PKD2	88959517	NM_000297.4:c.958C>T	p.Arg320*	Heterozygosity	P	AD	F	65	0.000186%
PKD2	88959517	NM_000297.4:c.958C>T	p.Arg320*	Heterozygosity	P	AD	F	60	0.000186%
PKD2	88959517	NM_000297.4:c.958C>T	p.Arg320*	Heterozygosity	P	AD	F	58	0.000186%
PKD2	88967917	NM_000297.4:c.1446_1449delCTTT	p.Phe482fs	Heterozygosity	P	AD	F	46	0.000000%
PRKCSH	11552071	NM_001289104.2:c.374_375delAG	p.Glu125fs	Heterozygosity	P	AD	F	49	0.000812%
PRKCSH	11559732	NM_001289104.2:c.1290C>G	p.Tyr430*	Heterozygosity	P	AD	M	52	0.001193%
REN	204129720	NM_000537.4:c.457_460delACAG	p.Thr153fs	Heterozygosity	LP	AD	M	38	0.000000%
REN	204131245	NM_000537.3:c.145C>T	p.Arg49*	Heterozygosity	P	AD	M	87	0.004469%
REN	204131263	NM_000537.4:c.127C>T	p.Arg43*	Heterozygosity	P	AD	M	36	0.001611%
RET	43609103	NM_020975.6:c.1859G>C	p.Cys620Ser	Heterozygosity	P	AD	M	1	0.000000%
RET	43609943	NM_020975.6:c.1895A>G	p.Glu632Gly	Heterozygosity	LP	AD	M	68	0.000000%
RET	43617415	NM_020975.6:c.2752A>G	p.Met918Val	Heterozygosity	P	AD	M	55	0.000000%
ROBO2	77629176	NM_001378191.1:c.2467G>T	p.Gly823*	Heterozygosity	LP	AD	F	NA	0.000000%
SLC4A1	42328846	NM_000342.4:c.2422C>G	p.Arg808Gly	Heterozygosity	LP	AD	M	3	0.000000%
SLC4A1	42330696	NM_000342.4:c.2101G>A	p.Gly701Ser	Heterozygosity	LP	AD	M	2	0.000620%

SLC4A1	42335888	NM_000342.3:c.980C>A	p.Pro327His	Heterozygosity	LP	AD	F	64	0.000000%
TBC1D8B	106065267	NM_017752.3:c.421C>T	p.Arg141*	Heterozygosity	LP	XLD	F	57	0.000662%
TRPC6	101341937	NM_004621.6:c.2386C>T	p.Gln796*	Heterozygosity	P	AD	M	29	0.000000%
TRPC6	101344331	NM_004621.6:c.1918delA	p.Ile640fs	Heterozygosity	P	AD	M	2	0.000000%
TRPC6	101362431	NM_004621.6:c.983_984delTT	p.Phe328fs	Heterozygosity	P	AD	F	26	0.000000%
TRPC6	101362435	NM_004621.6:c.979_980insC	p.Asp327fs	Heterozygosity	P	AD	F	NA	0.000000%
TRPC6	101362437	NM_004621.6:c.977_978delAA	p.Lys326fs	Heterozygosity	P	AD	F	1	0.000000%
TSC1	135781220	NM_000368.5:c.1744_1745insAA	p.Thr582fs	Heterozygosity	P	AD	F	1	0.000000%
TSC1	135787701	NM_000368.4:c.881C>A	p.Thr294Asn	Heterozygosity	LP	AD	M	15	0.000000%
TSC1	135797303	NM_000368.5:c.566A>T	p.His189Leu	Heterozygosity	LP	AD	M	78	0.000000%
TSC2	2121892	NM_000548.5:c.2054C>G	p.Pro685Arg	Heterozygosity	LP	AD	F	73	0.000000%
TSC2	2122258	NM_000548.5:c.2114T>C	p.Val705Ala	Heterozygosity	LP	AD	M	62	0.000137%
TSC2	2129160	NM_000548.5:c.3094C>G	p.Arg1032Gly	Heterozygosity	LP	AD	F	52	0.000000%
TSC2	2129341	NM_000548.5:c.3196C>G	p.Leu1066Val	Heterozygosity	LP	AD	F	58	0.000000%
TSC2	2138123	NM_000548.5:c.5143A>G	p.Met1715Val	Heterozygosity	LP	AD	F	1	0.000000%
TTR	29172903	NM_000371.4:c.114T>A	p.Asp38Glu	Heterozygosity	P	AD	F	64	0.000000%
TTR	29172937	NM_000371.4:c.148G>A	p.Val50Met	Heterozygosity	P	AD	M	27	0.010153%
TTR	29172937	NM_000371.4:c.148G>A	p.Val50Met	Heterozygosity	P	AD	F	70	0.010153%
TTR	29172937	NM_000371.4:c.148G>A	p.Val50Met	Heterozygosity	P	AD	M	14	0.010153%
TTR	29175091	NM_000371.4:c.209G>A	p.Ser70Asn	Heterozygosity	LP	AD	M	85	0.001921%
TTR	29175144	NM_000371.4:c.262A>T	p.Ile88Leu	Heterozygosity	LP	AD	M	49	0.002165%
TTR	29178618	NM_000371.4:c.424G>A	p.Val142Ile	Heterozygosity	LP	AD	M	2	0.088781%
TTR	29178618	NM_000371.4:c.424G>A	p.Val142Ile	Heterozygosity	LP	AD	M	11	0.088781%

TTR	29178618	NM_000371.4:c.424G>A	p.Val142Ile	Heterozygosity	LP	AD	M	61	0.088781%
UMOD	20360056	NM_003361.4:c.567C>G	p.Tyr189*	Heterozygosity	LP	AD	F	7	0.000574%
UMOD	20360310	NM_003361.4:c.313G>C	p.Gly105Arg	Heterozygosity	LP	AD	M	1	0.000774%
UMOD	20360363	NM_003361.4:c.260C>T	p.Pro87Leu	Heterozygosity	LP	AD	F	62	0.000000%
UMOD	20360363	NM_003361.4:c.260C>T	p.Pro87Leu	Heterozygosity	LP	AD	M	61	0.000000%
UMOD	20360393	NM_003361.4:c.230G>T	p.Cys77Phe	Heterozygosity	LP	AD	F	67	0.000000%
UMOD	20360508	NM_003361.4:c.115G>A	p.Ala39Thr	Heterozygosity	LP	AD	F	13	0.000000%
UMOD	20360510	NM_003361.4:c.113A>G	p.Asn38Ser	Heterozygosity	LP	AD	F	54	0.000000%
WNK4	40932717	NM_032387.5:c.1A>G	p.Met1?	Heterozygosity	LP	AD	F	67	0.000000%
WNK4	40933065	NM_032387.5:c.349A>T	p.Lys117*	Heterozygosity	P	AD	F	57	0.000000%
WNK4	40933065	NM_032387.5:c.349A>T	p.Lys117*	Heterozygosity	P	AD	F	66	0.000000%
WNK4	40947945	NM_032387.5:c.3326_3329delTGTG	p.Val1109fs	Heterozygosity	P	AD	M	8	0.000000%
WT1	32456813	NM_024426.6:c.94C>T	p.Gln32*	Heterozygosity	P	AD	F	4	0.000000%
ZMYM2	20567828	NM_197968.4:c.617dupA	p.Asp206fs	Heterozygosity	LP	AD	F	8	0.000000%
ZMYM2	20625636	NM_197968.4:c.2356G>A	p.Glu786Lys	Heterozygosity	LP	AD	F	40	0.000000%