Supplemental Data

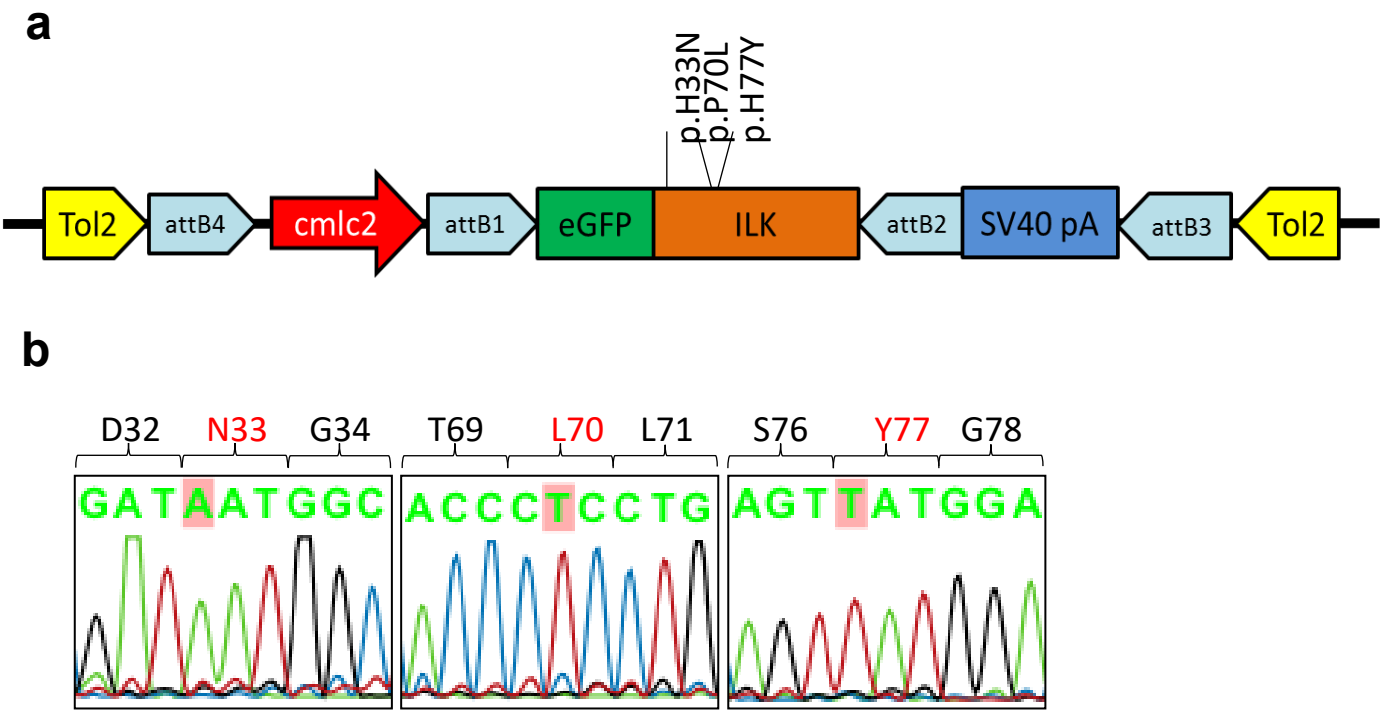
Supplemental Table 1. List of rare variants identified by exome sequencing that were shared by affected family members of family A

Position	Ref	Alt	Gene	Omim_inheritance	Orphanet	Clinvar	Protein_change	rsIDs	Exac_maf	Maf_all	Exac_pLi_score (0.9 very intolerant of LoF)	Exac_missense_score	Exac_het	Conserved_in_29_mammals	Sift_score (<0.05 predicted damaging)	Polyphen_score (>0.85 predicted damaging)	Cadd_score (>15 predicts pathogenicity)	Expression in Heart
chr11:6629415	C	T	ILK	NA	NA	None	ENSP00000299421.3:p.His77Tyr	rs750788075	0	0	0.021825196	0.97341716	0	1.00	0.04	0.92	24.2	good
chr10:135098975	G	C	TUBGCP2	NA	NA	None	ENSP00000252936.3:p.Ser627Trp	rs148683984	0	0	0.0031858	1.1997263	0	1.00	0	1	18.9	Moderate protein, good RNA expression in heart;
chr19:3753873	C	T	APBA3	NA	NA	None	ENSP00000315136.2:p.Gly301Ser	None	0	0	8.58E-11	-1.3398271	0	1.00	0	0.995	22.8	NO protein expressed in adult or fetal heart; RNA is expressed in 2/3 methods in adult heart
chr17:62530821	C	T	CEP95	NA	NA	None	ENSP00000450906.1:p.Ala515Val	rs374995934	5.80E-05	0.0005339	1.10E-10	-2.0912751	7	1.00	0	0.897	18.73	NO protein expressed in adult or fetal heart; RNA is well expressed in in adult heart
chr7:101891806	G	C	CUX1	NA	NA	None	ENSP00000292535.7:p.Glu1334Asp	rs782199350	7.22E-05	0.0002561	0.999952378	4.74833816	2	1.00	0.35	0.217	18.97	Moderate RNA and protein expression in heart
chr2:26204522	A	C	KIF3C	NA	NA	None	ENSP00000264712.3:p.Phe89Val	None	0	0	0.966979331	2.91839731	0	1.00	None	0.844	22.4	RNA expression in 2/3 methods; protein expression moderate in adult heart; no protein expression in fetal heart
chr7:91871373	C	T	KRIT1	NA	Familial cerebral cavernous malformation	None	ENSP00000344668.2:p.Arg26Gln	rs34358665	0.001005	0.001649	0.041234245	0.89988444	122	1.00	0.67	0.058	23.4	Low protein expression in adult heart; almost no protein expression in fetal heart; RNA expression good in heart
chr22:41617247	C	T	L3MBTL2	NA	NA	None	ENSP00000216237.5:p.Arg300Trp	rs2277846	0.0002072	0.002	0.028506885	1.81221723	8	1.00	0	0.759	28.2	RNA and protein expression moderate in adult heart; no protein expression in fetal heart
chr3:3886878	C	T	LRRN1	NA	NA	None	ENSP00000314901.3:p.Arg185Cys	rs142381203	0.000313	0.001	0.841865339	0.39410044	38	1.00	0	0.832	19.26	NO protein expressed in adult or fetal heart; RNA expressed in heart (1/2 methods)
chr1:169138782	C	T	NME7	NA	NA	None	ENSP00000356785.3:p.Arg334Gln	rs150610040	9.06E-05	0.0002326	0.011293123	-0.4595322	11	1.00	0	0.563	29.8	NO protein expressed in adult heart; RNA is expressed
chr22:50969367	T	G	ODF3B	NA	NA	None	ENSP00000382804.2:p.Lys180Thr	rs201117478	0.000359	0.0006404	0.042086148	2.05739462	39	1.00	0	0.931	22.8	NO protein expressed in adult or fetal heart; RNA is expressed in 2/3 methods in adult heart
chr1:204242827	G	A	PLEKHA6	NA	NA	None	ENSP00000272203.2:p.Pro10Leu	rs150173263	0.0006836	0.002907	0.990590539	-0.6347875	83	1.00	0	0.026	15.93	Moderate RNA and protein expression in heart

chr3:20025757	G	C	PP2D1	NA	NA	None	ENSP00000331295.7:p.Tyr374Ter	rs759393574	0	0	NA	NA	0	0.00	None	None	12.67	NO protein expressed in adult or fetal heart; RNA is expressed
chr11:14316075	C	T	RRAS2	-	NA	None	ENSP00000256196.4:p.Arg117His	rs566703225	4.12E-05	0.001	0.629480625	2.00161751	5	1.00	0.02	0.999	24.5	good
chr1:204095168	C	T	SOX13	NA	NA	None	ENSP00000356172.1:p.Ser592Leu	rs376615783	6.60E-05	8.00E-04	0.940358305	0.9954718	8	1.00	0.07	0.996	18.9	NO protein expressed in adult or fetal heart; RNA is expressed in 2/3 methods in adult heart
chr13:33704030	G	A	STARD13	NA	NA	None	ENSP00000255486.4:p.Arg254Cys	rs145202504	0.0004942	0.001	3.49E-07	-0.1288533	60	1.00	0.02	0.169	17.97	Moderate RNA and protein expression in heart (SAGE data not available.)
chr17:53798368	C	T	TMEM100	NA	NA	None	ENSP00000395328.2:p.Glu22Lys	rs756172311	8.24E-06	1.50E-05	0.483326089	0.13785496	1	1.00	0.17	0.991	17.31	NO protein expressed in adult or fetal heart; RNA is well expressed in in adult heart

Supplemental Figure S2

Design of constructs for transgenic zebrafish lines (a) and electropherograms from genotyped F1 fish for each mutant line showing germline transmission of the dedicated mutation (b).



Supplemental Figure S3

Ventricular diameter / body weight (a) and Ventricular diameter / eye diameter (b) measured in adult (> 3 months) transgenic ILK lines and the non-transgenic control line (NT). No significant changes were observed.