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Supplemental Data

Defects of *CRB2* Cause Steroid-Resistant Nephrotic Syndrome

Lwaki Ebarasi, Shazia Ashraf, Agnieszka Bierzynska, Heon Yung Gee, Hugh J. McCarthy, Svjetlana Lovric, Carolin E. Sadowski, Werner Pabst, Virginia Vega-Warner, Humphrey Fang, Ania Koziell, Michael A. Simpson, Ismail Dursun, Ervin Serdaroglu, Shawn Levy, Moin A. Saleem, Friedhelm Hildebrandt, and Arindam Majumdar

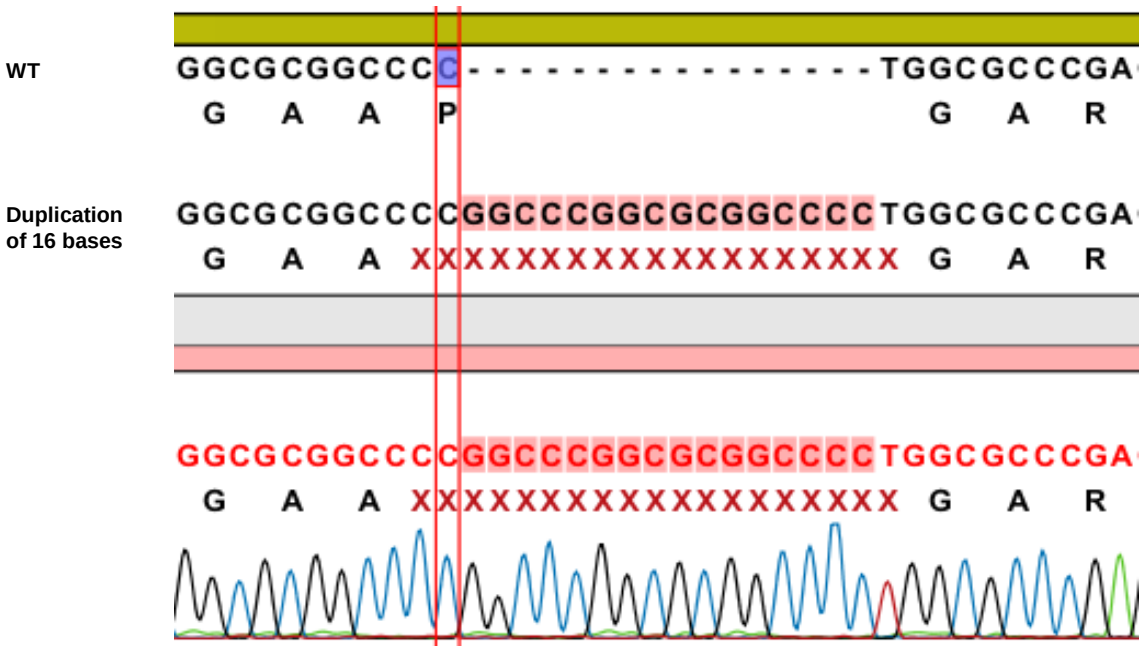

Figure S1. Amplification and cloning using the genomic DNA of the affected individual from family S1232 showed duplication of sixteen bases in exon 10 of CRB2.

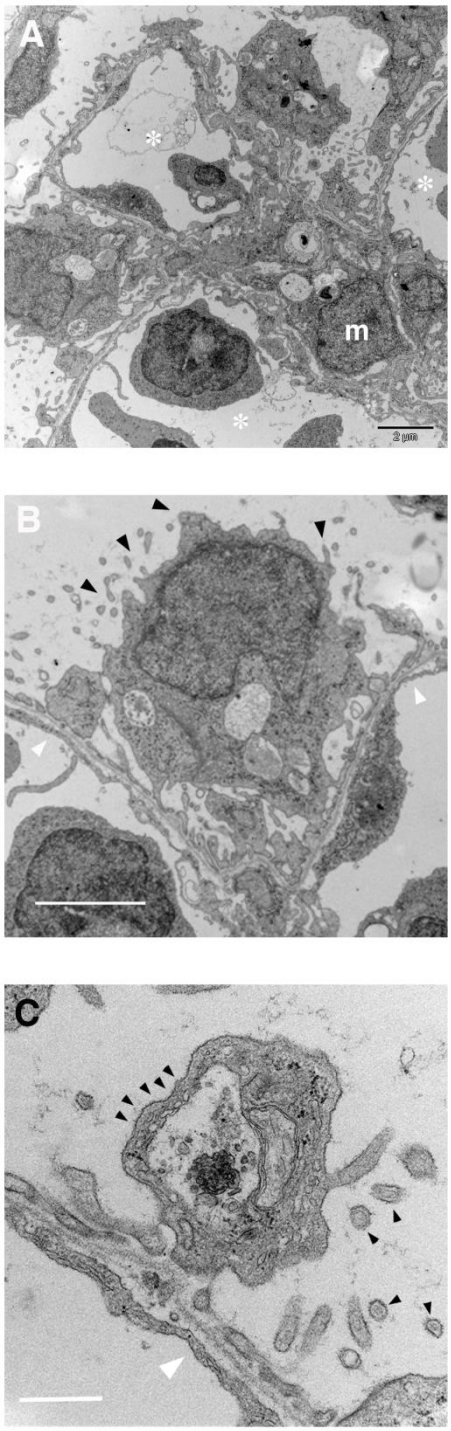

Figure S2. **Electron microscopic analysis of crb2b-/- glomeruli and podocytes.**
(A) Capillary loops in *crb2b*$^{-/-}$ glomeruli are disorganized. Capillary endothelia lack fenestrations (capillary lumens are marked with asterisks). Mesangial cells (m) can be identified closedly associated with endothelia and surrounded by GBM. Scale bar, 2 mm.
(B) Representative *crb2b*$^{-/-}$ podocyte shows apical membrane projections (black arrowheads) and disorganized foot process structure. Note the absence of endothelial fenestrations (white arrowhead). Scale bar, 2 mm.
(C) Detail of *crb2b*$^{-/-}$ podocyte process. The disorganized process contains vesicular structures (black arrowheads) and apical membrane extensions. The GBM is visible and endothelial membranes lack fenestrations (white arrowhead). Scale bar, 500 nm.

Table S1. Filtering process for variants from normal reference sequence (VRS) following WES in one sibling from family A1968 affected with SRNS.

FAMILY	A1968
[a]AFFECTED SIBLING SENT FOR WES	A1968-21
Consanguinity	Yes
[b]# of homozygosity peaks	5
Cumulative Homozygosity by descent[c] [Mb]	106
[c]Hypothesis from mapping: homozygous (Hom), heterozygous (het)	Hom
Total sequence reads (Mill.)	212
Matched Reads	98.2%
Total DIPs	79,344
Exonic DIPs	325
% exonic / total DIPs	0.40%
DIPS not SNP137	152
DIPS in linked region	24
DIPS after after inspection and not SNP138 (>1% MAF)	0
Sanger confirmation / Segregation	-
Total SNPs	319,298
Exonic SNPs	5,529
% exonic / total SNPs	1.70%
SNPs not SNP137	466
SNPs in linked region	132
SNPs after after inspection and not SNP138 (>1% MAF)	15
[d]Sanger confirmation / Segregation	1
Causative gene	*CRB2*
Mutation effect on gene product	Cys620Ser (Hom)

[a]see Table 1

[b]see Fig. 1

[c]evaluation for homozygous variants was done in regions of homozygosity by descent for 2 affected sibs.

[d]red numbers denote number of filtered-down variant(s) that contained the disease causing gene.

"-" , not applicable; DIP, deletion/insertion polymorphism; SNPs, single nucleotide polymorphism; SRNS, Steroid Resistant Nephrotic Syndrome.