Supplementary Table 1. Thirty genes that are known to cause monogenic forms of NL/NC and that were included in this study.

	Gene Symbol	Gene Name	Accession #	Disease entity	MIM-Phenotype #	Mode	Coding Exons	Reference
1	***AGXT***	Alanine-glyoxylate aminotransferase	NM_000030.2	Primary hyperoxaluria, type 1	259900	AR	11	[1]
2	***APRT***	Adenine phosphoribosyltransferase	NM_000485.2	Adenine phosphoribosyltransferase deficiency, Urolithiasis (DHA stones), renal failure	614723	AR	5	[2]
3	***ATP6V0A4***	ATPase, H+ transporting, lysosomal V0 subunit a4	NM_020632.2	dRTA	602722	AR	20	[3]
4	***ATP6V1B1***	ATPase, H+ transporting, lysosomal 56/58kDa, V1 subunit B1	NM_001692.3	Distal renal tubular acidosis (dRTA) with deafness	267300	AR	14	[4]
5	***CA2***	Carbonic anhydrase II	NM_000067.2	Osteopetrosis + d/pRTA	259730	AR	7	[5]
6	***CASR***	Calcium-sensing receptor	NM_001178065.1	Hypocalcemia with Bartter syndrome / hypocalcemia, autosomal dominant	601198	AD	6	[6]
7	***CLCN5***	Chloride channel, voltage-sensitive 5	NM_001127898.3	Dent disease / Nephrolithiasis, type 1	300009 / 310468	XR	14	[7]
8	***CLCNKB***	Chloride channel, voltage-sensitive Kb	NM_000085.4	Bartter syndrome, type 3	607364	AR	19	[8]
9	***CLDN16***	Claudin 16	NM_006580.3	Familial hypomagnesemia with hypercalciuria & nephrocalcinosis (FHHNC)	248250	AR	5	[9]
10	***CLDN19***	Claudin 19	NM_001123395.1	Familial hypomagnesemia with hypercalciuria & nephrocalcinosis (FHHNC) with ocular abnormalities	248190	AR	4	[10]
11	***CYP24A1***	Cytochrome P450, family 24, subfamily A, polypeptide 1	NM_000782.4	1,25-(OH) vitamin D-24 hydroxylase deficiency, infantile hypercalcemia	143880	AR	11	[11]
12	***FAM20A***	Family with sequence similarity 20, member A	NM_017565.3	Enamel-renal syndrome, amelogenesis imperfect and nephrocalcinosis	204690	AR	12	[12]
13	***GRHPR***	Glyoxylate reductase/hydroxypyruvate reductase	NM_012203.1	Primary hyperoxaluria, type 2	260000	AR	9	[13]
14	***HNF4A***	Hepatocyte nuclear factor 4, alpha	NM_000457.4	Mature onset diabetes of the young Fanconi syndrome + Nephrocalcinosis	125850	AD	1	[14]
15	***HOGA1***	4-hydroxy-2-oxoglutarate aldolase 1	NM_138413.3	Primary hyperoxaluria, type 3	613616	AR	7	[15]
16	***HPRT1***	Hypoxanthine phosphoribosyltransferase 1	NM_000194.2	Kelley-Seegmiller syndrome, partial HPRT deficiency, HPRT-related gout	300323	XR	9	[16]
17	***KCNJ1***	Potassium inwardly-rectifying channel, subfamily J, member 1	NM_000220.4	Bartter syndrome, type 2	241200	AR	2	[17]
18	***OCRL***	Oculocerebrorenal syndrome of Lowe	NM_000276.3	Lowe syndrome / Dent disease 2	309000 / 300555	XR	24	[18]

19	***SLC12A1***	Solute carrier family 12, member 1	NM_000338.2	Bartter syndrome, type 1	601678	AR	27	[19]
20	***SLC22A12***	Solute carrier family 22 (organic anion/urate transporter), member 12	NM_144585.3	Renal hypouricemia, RHUC1	220150	AR/AD	10	[20]
21	***SLC26A1***	Solute carrier family 26 (sulfate transporter), member 1	NM_213613	Nephrolithiasis, calcium oxalate	167030	AR	4	[21]
22	***SLC2A9***	Solute carrier family 2 (facilitated glucose transporter), member 9	NM_001001290.1	Renal hypouricemia, RHUC2	612076	AR/AD	13	[22]
23	***SLC34A1***	Solute carrier family 34 (sodium phosphate), member 1	NM_003052.4	Hypophosphatemic nephrolithiasis/osteoporosis-1, NPHLOP1 / Fanconi renotubular syndrome 2	612286 / 613388	AR/AD	13	[23]
24	***SLC34A3***	Solute carrier family 34 (sodium phosphate), member 3	NM_001177316.1	Hypophosphatemic rickets with hypercalciuria	241530	AR	12	[24]
25	***SLC3A1***	Solute carrier family 3 (cystine, dibasic and neutral amino acid transporters, activator of cystine, dibasic and neutral amino acid transport), member 1	NM_000341.3	Cystinuria, type A	220100	AR	10	[25]
26	***SLC4A1***	Solute carrier family 4, anion exchanger, member 1 (erythrocyte membrane protein band 3, Diego blood group)	NM_000342.3	Primary distal renal tubular acidosis, dominant / recessive	179800 / 611590	AR/AD	19	[26]
27	***SLC7A9***	Solute carrier family 7 (glycoprotein associated amino acid transporter light chain, bo,+ system), member 9	NM_014270.4	Cystinuria, type B	220100	AR/AD	12	[27]
28	***SLC9A3R1***	Solute carrier family 9, subfamily A (NHE3, cation proton antiporter 3), member 3 regulator 1	NM_004252.4	Hypophosphatemic nephrolithiasis/osteoporosis 2, (NPHLOP2)	612287	AD	6	[28]
29	***VDR***	Vitamin D (1,25-dihydroxyvitamin D3) receptor	NM_000376.2	Idiopathic hypercalciuria	277440	AD	11	[29]
30	***XDH***	Xanthine dehydrogenase	NM_000379.3	Xanthinuria, type 1	278300	AR	36	[30]

AD, autosomal dominant; AR, autosomal recessive.

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