

Supplemental data:

Q-PCR:

PCR conditions: 3min at 95°C , 45two-step cycles of 15s at 95°C and 1min at 60°C, followed by melt curve analyses (of 80 10s cycles with 0.5 °C increase per cycle) to exclude the presence primer-dimer amplification.

Supplemental Table 1. Q-PCR primer sequences.

Gene	Forward primer	Reverse primer
<i>β-actin</i>	5'- CAC CAC ACC TTC TAC AAT GA -3'	5'- AGC CTG GAT GGC TAC GTA CA -3'
<i>Cd2ap</i>	5'- ATC AAA CGG GAA AGG CAA GGA A -3'	5'- TGA CAT CCC CCA CGA TCA ATT -3'
<i>Kirrel</i>	5'- ACT CAG ACT CGC TTC AGC CA -3'	5'- AGC TCG GCA TCT GTG ATC TCC AA -3'
<i>Myh9</i>	5'- GTA GAT GTG GGG TGG CAT CT -3'	5'- GTA GAT GTG GGG TGG CAT CT -3'
<i>Nphs1</i>	5'- TGA AGG ACC CTA CTG AGG TGA A -3'	5'- TTG TCC ACG ATG CAC TGG TAA -3'
<i>Nphs2</i>	5'- GAC ACC TAT CAC AAG GTT GA -3'	5'- CCA TGC GGT AGT AGC AGA CA -3'
<i>Plce1</i>	5'- CAG AGA AGG AGC TCA CGG TC -3'	5'- CTG TGA CTC CTC GGA TCC AT -3'
<i>Synpo</i>	5'- AGG GAG GAC CCA GTC AGA -3'	5'- TCT CCA AGG TGA ACT CGT T -3'
<i>Wt1</i>	5'- TAC TGA CAG TTG CAC AGG CA -3'	5'- AGC TGG GAG GTC ATT TGG TA -3'

5'RACE: *Nphs2* outer: 5'- TTC CTC TGG TCG CTC GCT CT -3',
inner: 5'- AAC CTC GTC CAC GTC CAC TA -3';

3'RACE: *Nphs2* outer: 5' TGG AAG CTG AGG CAC AAA GAC A -3';
inner: 5' TTG CTG CAG AAG GGG AAA AG 3'

Nphs2 sequences with identified in the paper SNPs, varried in different mouse strains, have been submitted to NCBI (accession numbers FJ715751- FJ715776 and FJ717826-FJ717833).

Supplemental Table 2. Sequence variants in the *Nphs2* promoter region in the different mouse origin groups.

NM_130456.3 start	M.m.domesticus	M.m.castaneus	M.m.musculus	SNP annotation	Description
-2116.1	:::	:::	CAG	no	c.-2116insCAG
-2063	A	A	G	no	c.-2063A>G
-2060	T	T	A	no	c.-2060T>A
-2053.1			AAATAA	no	c.-2053insAAATAA
-1742	C	C	C	rs49276375	C57BL/6J, SJL/J, CFW: c.-1742C>T
-1736	G/A	G	G	rs47503396	129/SvEv, 129/SvimJ,SWR/J, C57BL/10J, WSB/EiJ: c.-1736G>A
-1697	C	C	T	rs48983674	c.-1697C>T
-1645	G/A	G	G	rs47553769	C57BL/6J, SJL/J,CFW: c.-1645G>A
-1618	G	A	A	rs48275693	c.-1618G>A
-1580	C	T	C	no	c.-1580C>T
-1572	C	C	A	rs50947839	c.-1572C>A
-1556	A	G	A	no	c.-1556A>G
-1545	G	G	G	rs50708799	C57BL/6J,SJL/J,CFW: c.-1545G>A
-1514	C	C	C	rs47338701	129/SvEv:c.-1514C>T
-1509	T/G	T	T	no	SWR/J, 129/SvimJ
-1428	A	G	G	rs50336828	c.-1428A>G
-1412	C	C	A	rs51733974	c.-1412C>A
-1398	T	T	G	rs50950421	c.-1398T>G
-1393	G	G	A	rs49915639	c.-1393G>A
-1335	G	G	T	no	c.-1335G>T
1334.1	:	:	A	no	c.-1334insA
-1321	C	C	G	no	c.-1321C>G
-1317	G	G	C	no	c.-1317G>C
-1314	A	A	T	no	c.-1314A>T
-1287	C	C	C	no	129/SvEv, 129/SvimJ:c.-1287C>T
-1275	C	C	C	no	PWD/PhJ: G
-1199	C	C	T	rs48275981	c.-1199C>T
1185	C	C	C	no	PWD/PhJ: T
1184	T	T	T	no	PWD/PhJ: G
-1118	C	C	T	rs47277012	c.-1118C>T
-1078	G	G	T	rs47102891	c.-1078G>T
-1029	G	G	A	rs49607688	c.-1029G>A
-1016	A	A	A, BALB/cJ/cJ-T	no	BALB/cJ: c.-1016A>T
-1007	G	G	G, BALB/cJ/cJ-T	no	BALB/cJ: c.-1007G>T
-979	A	A	G	rs45783950	c.-979A>G
-886	G	G	A	rs50825010	c.-886G>A
-884	A	A	G	rs48002893	c.-884A>G
-852	T	T	C	rs50527702	c.-852T>C
-837	T	:	T	no	c.-837delT
-829	T	T	T	no	CBA/J:c.-829T>G
-824.1	::	::	CT	no	c.-824insCT
-797	C	C	T	no	c.-797C>T
-795	T	T	C	no	c.-795T>C
-742	C	C	T	no	c.-740C>T
-740.1	::	::	AG	no	c.-742insAG
-719	G	G	T	rs50025277	c.-719G>T
-690	A	A	A	no	CBA/J: c.-690A>T
-683	C	C	T	rs49652584	c.-683C>T
-619	C	C	A/G	rs49646626	A/J,DBA/2J,FVB/NJ, BALB/cJ,RIII/J:c.-619C>A
-603	G	G	A	no	c.-603G>A
-592	A	A	C	rs51596239	A/J,DBA/2J,FVB/NJ, BALB/cJ,RIII/J:c.-592A>C
-561	C	T	C	no	c.-561C>T
-544	C	T	C	no	c.-544C>T
-507	T	T	C/T	rs49869548	c.-507T>C CBA/J,C3H/HeJ: T
-504	AG	AG	AG	no	CBA/J: c.-504delAGinsCA
-452	T	C	C	rs50133869	c.-452T>C, CBA/J,C3H/HeJ: T
-436	T	T	A/T	rs47216224	c.-436T>A, CBA/J,C3H/HeJ: T
-421	C	C	T/C	no	c.-421C>T, CBA/J,C3H/HeJ: C
-382	A	G	G/A	no	c.-382A>G, CBA/J,C3H/HeJ: A
-371	T	G	T	no	c.-371T>G
-353	G	G	A/G	rs46276644	c.-353G>A, CBA/J,C3H/HeJ-G
-344	G	G	A/G	rs47474991	c.-344G>A,CBA/J,C3H/HeJ-G
-324	C/A	C	C	rs48340066	C57BL/6J, SJL/J, CFW:c.-324C>A
-323	G	G	A/G	rs47347637	A/J,DBA/2J,FVB/NJ, BALB/cJ,RIII/J:c.-323G>A
-309	C	C	C/T	rs46094769	A/J,DBA/2J,FVB/NJ, BALB/cJ,RIII/J:c.-309C>T
-236	A	A	A	no	CBA/J:c.-236A>G
-202-182	AGAGGTATGTTGGCACCACCTCC	AGAGGTATGTTGGCACCACCTCC		no	c.-202 -182del
-154-150	TAGGT		TAGGT	no	c.-154 -150del
-87	G	G	T	no	c.-87G>T
-68	T	T	G	no	c.-68T>G
-52	G	G	A	no	c.-52G>A
-12	G	G	C	rs46640976	c.-12G>C

Positions are indicated relatively to the reference sequence NM_130456.3.

Supplemental table 3. Sequence variants in the *Nphs2* coding region in different mouse origin groups.

NM_130456.3	M.m.domesticus	M.m.castaneus	M.m.musculus	SNP annotation	SNP description	comments
12	G	G	A	no	c.12G>A	R4>R
143	C	C	G	no	c.143C>G	T48>S
152-153	CA	CA	GG	no	c.152delCAinsGG	T51>R
186.1-186.30	-	ACCCGAGGGGAGCCCCGAGCTCCAGCCGCC	ACCCGAGGGGAGCCCCGAGCTCCAGCCGCC	no	c.186delACCCGAGGGGAGCCCCGAGCTCCAGCCGCC	10aa del in B6, SLJ, CFW
268	C	C	A	no	c.268C>A	R90>R
327	C	T	T	rs51410983	c.327C>T	L109>L
354	G	A	G	rs51210901	c.354G>A	T118>T
480	T	T	C	rs46535730	c.480T>C	C160>C
493	C	C	T	rs48649241	c.493C>T	H165>Y
504	T	T	C	no	c.504T>C	D168>D
930	G	A	G	rs49852525	c.930G>A	A310>A
1,120	C	C	T	rs31909917	c.1120C>T	P374>S

Positions are indicated relative to the reference sequence NM_130456.3.

Supplemental Table 4. Sequence variants in the *Nphs2* 3'UTR in the different mouse origin groups.

NM_130456.3	M.m.domesticus	M.m.castaneus	M.m.musculus	SNP annotation	Description
1,281	T	C	C	rs32360787	c.1281T>C
1,410	A	A	G	rs30515072	c.1410A>G
1,563	T	C	C	rs32680340	c.1563T>C
1,567	A	A	G	rs31518016	c.1567A>G
1,587	G	G	A	rs32637930	C57BL/10J:c.1587G>A
1,637	G	G	G	rs51357667	C57BL/10J:c.1637G>A
1,656	C	C	C	no	129/SvEv:c.1656C>T
1,750	G	A	G	no	c.1750G>A
1,762	G	:	G	no	c.1762del
1,904	G	G	A	rs30947847	c.1904G>A
1,919	A	G	A	rs32454495	C57BL/10J:c.1919A>G
1,939	ctta	::::	ctta	no	c.1939 1942del
1,973	G	G	A	rs32454495	C57BL/10J:c.1973G>A
1,981	T	C	T	no	c.1981T>C
1,987	A	G	A	no	c.1987A>C
2,086	C	G	G	no	c.2086C>G
2,089	T	C	T	no	c.2089T>C
2,113	G	C	G	no	c.2113G>C
2,162	T	A	T	no	c.2162T>A
2,190	T	A	T	no	c.2190T>A
2,196	C	T	C	no	c.2196C>T
2,426	A	C	A	rs29223893-T	c.2426A>C
2,462	C	C	C	rs4222719	129/SvEv: c.2462C>T
2,543	T	C	T	rs4222717	c.2543T>C
2,692	C	C	T	rs4222713	c.2691C>T
2,700	C	C	C	rs46433307	C57BL/10J:c.2700C>T
2,703	A	A	A	rs4222712	129/SvEv:c.2703A>-G
2,949	G	G	A	rs32182511	c.2949G>A
3,010	T	A	T	rs49945755	c.3010T>A
3,015	C	C	T	rs32400815	c.3015C>T

Positions are indicated relatively to the reference sequence NM_130456.3.