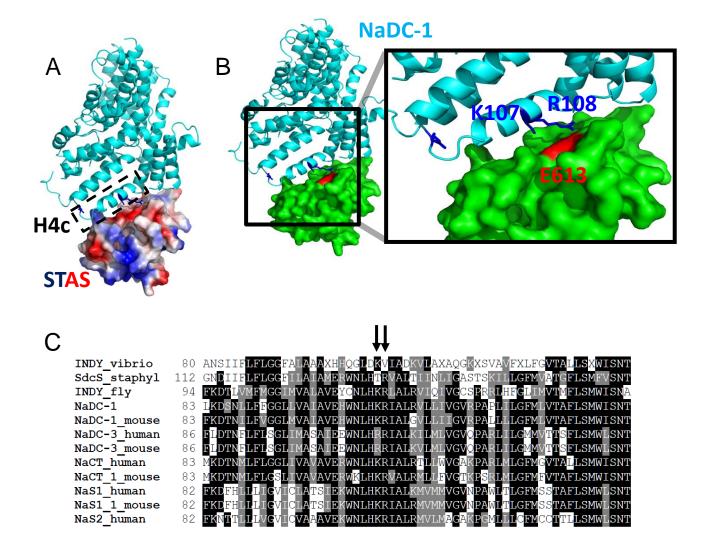
## **Supplemental material**

Supplementary Figure 1: Model of NaDC-1 and slc26a6/STAS interaction sites.

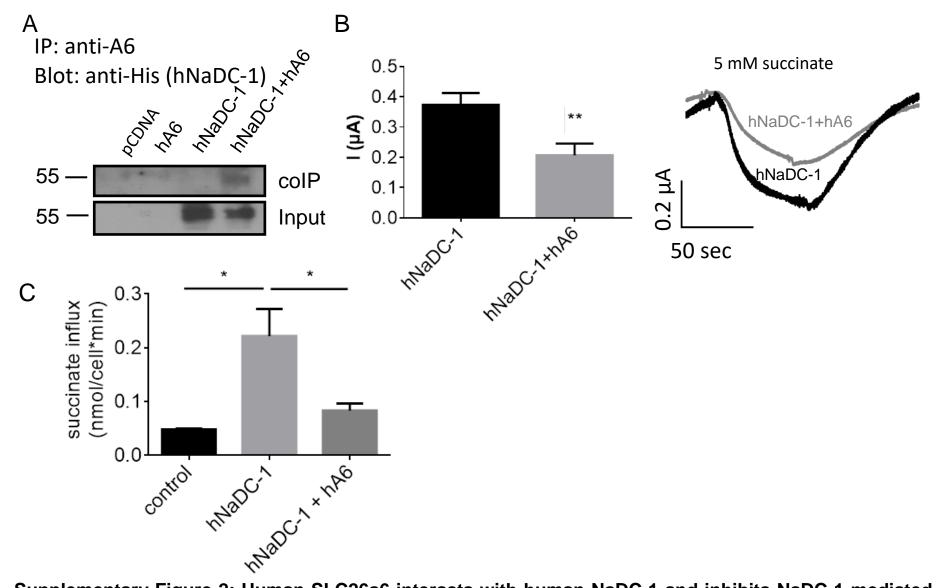
Supplementary Figure 2: Human SLC26a6 interacts with human NaDC-1 and inhibits NaDC-1 mediated succinate transport.

Supplementary Figure 3: Renal IRBIT expression.

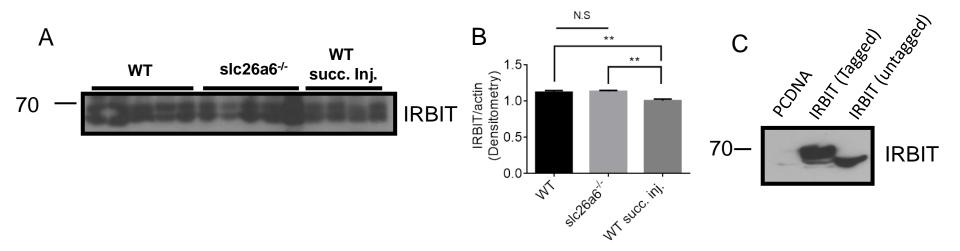
Supplementary Figure 4: Telemetric heart rate measurements and pNCC expression in slc26a6-/- mice.



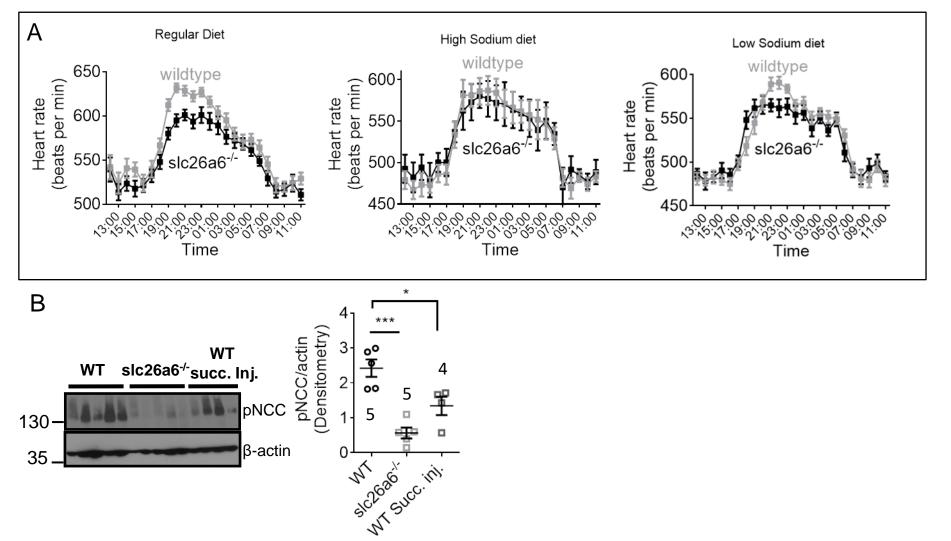
**Supplementary Figure 1: Model of NaDC-1 and slc26a6/STAS interaction sites.** (**A** and **B**) Cartoon representation of NaDC-1 (cyan, H4c domain in black box) and a surface representation of slc26a6–STAS. (**A**) shows an electrostatics analysis (blue: positive, red: negative) and (**B**) shows slc26a6(E613) (red) and NaDC-1(K107,R108) (blue). (**C**) Multiple sequence alignment of slc13 transporters. Specific charged amino acids that may mediate the NaDC-1–slc26a6 interaction are indicated by arrows.



**Supplementary Figure 2: Human SLC26a6 interacts with human NaDC-1 and inhibits NaDC-1 mediated succinate transport.** (**A**) CoIP of WT hNaDC-1 and WT hSLC26a6 (hA6).(**B**) Summary and representative traces of the current mediated by hNaDC-1-dependent Na+-succinate co-transport in *Xenopus* oocytes expressing hNaDC-1 alone and in the presence of hSlc26a6 (hA6), as indicated. (**C**) <sup>14</sup>C-succinate uptake, measured in *Xenopus* oocytes injected with either water (control) hNaDC-1 alone or with hSlc26a6 (hA6). (2 oocyte batches were used for both electrophysioloy measurements and <sup>14</sup>C-succinate uptake).



**Supplementary Figure 3 : Renal IRBIT expression.** (A) Representative blot and (B) summary of IRBIT expression analysis in renal lysates from either WT mice, slc26a6<sup>-/-</sup> mice or WT injected with 10mg/1Kg body weight of succinic acid. Note: The membranes which were exposed to anti-pNCC antibody (Fig. 6) were stripped and exposed to anti-IRBIT. Therefore, similar actin densitometry data was used for the statistical analysis.(C) WB analysis of IRBIT expression in HEK293 cells transfected with either mCherry/Flag tagged IRBIT or untagged IRBIT using a similar anti-IRBIT antibody as in (A).



**Supplementary Figure 4 : Telemetric heart rate measurements and pNCC expression in slc26a6**-<sup>1</sup>- **mice. (A)** Heart rate measurements and blood pressure (see Fig. 6) were acquired simultaneously, as described in the methods section. Heart rate was monitored in the same mice fed with either regular diet, high- or low- salt diets, as indicated. **(B)** Expression analysis of phosphorylated NCC (pNCC) in renal lysates of either WT mice, slc26a6-<sup>1</sup>- mice or WT injected with 10mg/1Kg body weight of succinic acid.