

**Supplemental Table 1. Physiological parameters:**

	<i>WT animals</i> ( <i>n</i> =7)	<i>AQP2-CNT-KO</i> <i>animals (n=7)</i>
Weight (g)	24.2 ±0.9	24.7 ±0.9
Drinking (mL/20 g BW)	4.1 ±0.2	5.4 ±0.6
Food intake (g/20 g BW)	2.5 ±0.3	2.7 ±0.2
Urine volume (ml/20 g BW)	0.7 ±0.1	1.5 ±0.2*
Urine osmolality (mOsm/kg)	2881 ±288	1767 ±177*
Osmolar excretion (μOsm/24 hrs)	2416 ±227	3052 ±213

Values are the average measurements from two days. Values are mean ±s.e. \**P*<0.05

**Supplemental Table 2. Physiological parameters following lithium chloride treatment:**

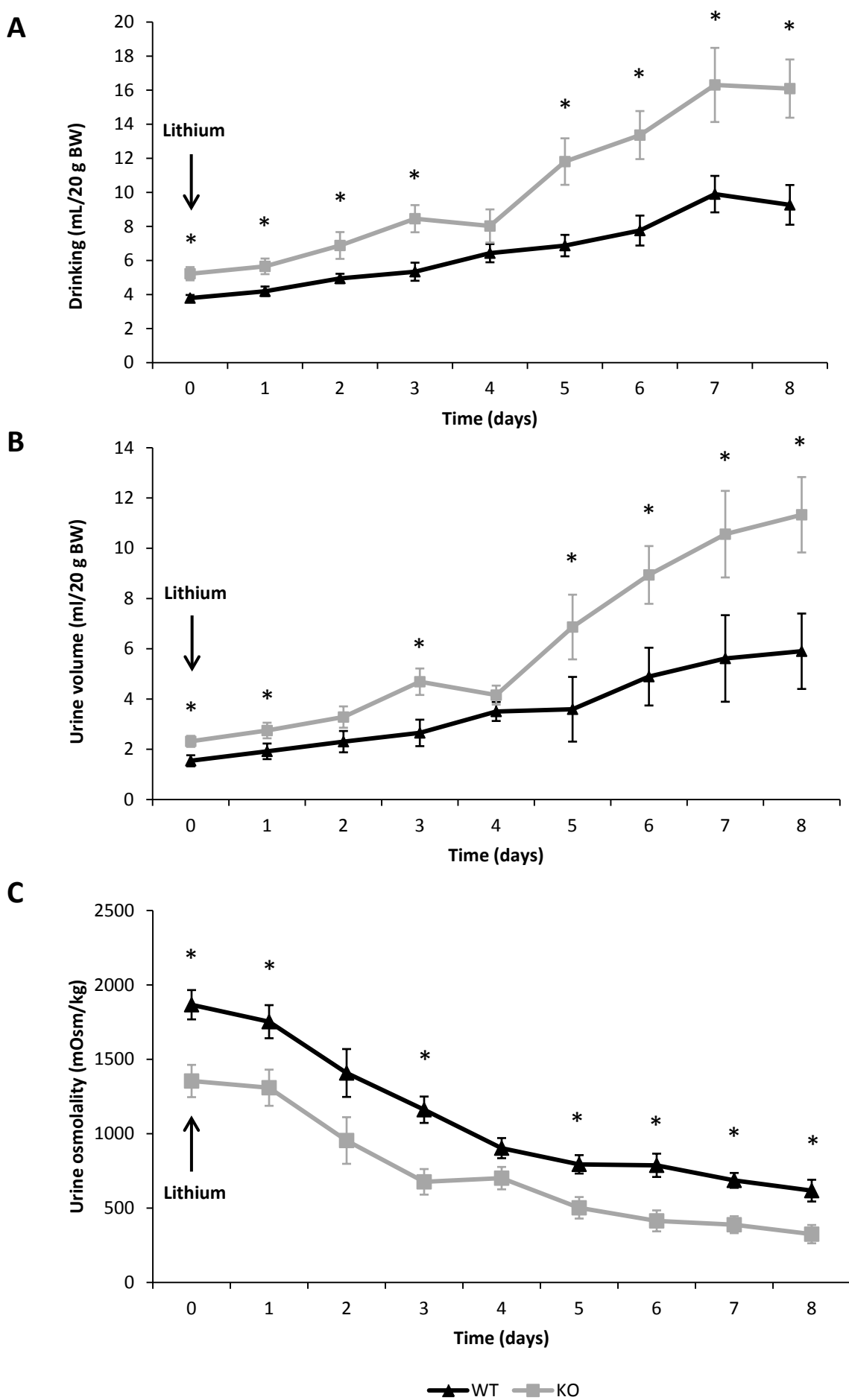
	<i>WT animals (n=8)</i>		<i>AQP2-CNT-KO animals</i> ( <i>n</i> =8)	
	<i>Normal diet</i> ( <i>day 0</i> )	<i>Li diet</i> ( <i>day 8</i> )	<i>Normal diet</i> ( <i>day 0</i> )	<i>Li diet</i> ( <i>day 8</i> )
Plasma Sodium (mM)		143.3 ±3.1		144.9 ±2.3
Plasma Lithium (mM)		0.27 ±0.02		0.34 ±0.06
Body weight (g)	23.8 ±1.0	22.7 ±0.7	23.5 ±0.9	22.6 ±0.8
Osmolar excretion (μOsm/24 hrs)	3380 ±235	3759 ±102	3568 ±292	3743 ±142
Food intake (g/20 g BW)	3.1 ±0.2	3.0 ±0.2	3.2 ±0.2	3.2 ±0.2

Values are mean ±s.e. \**P*<0.05

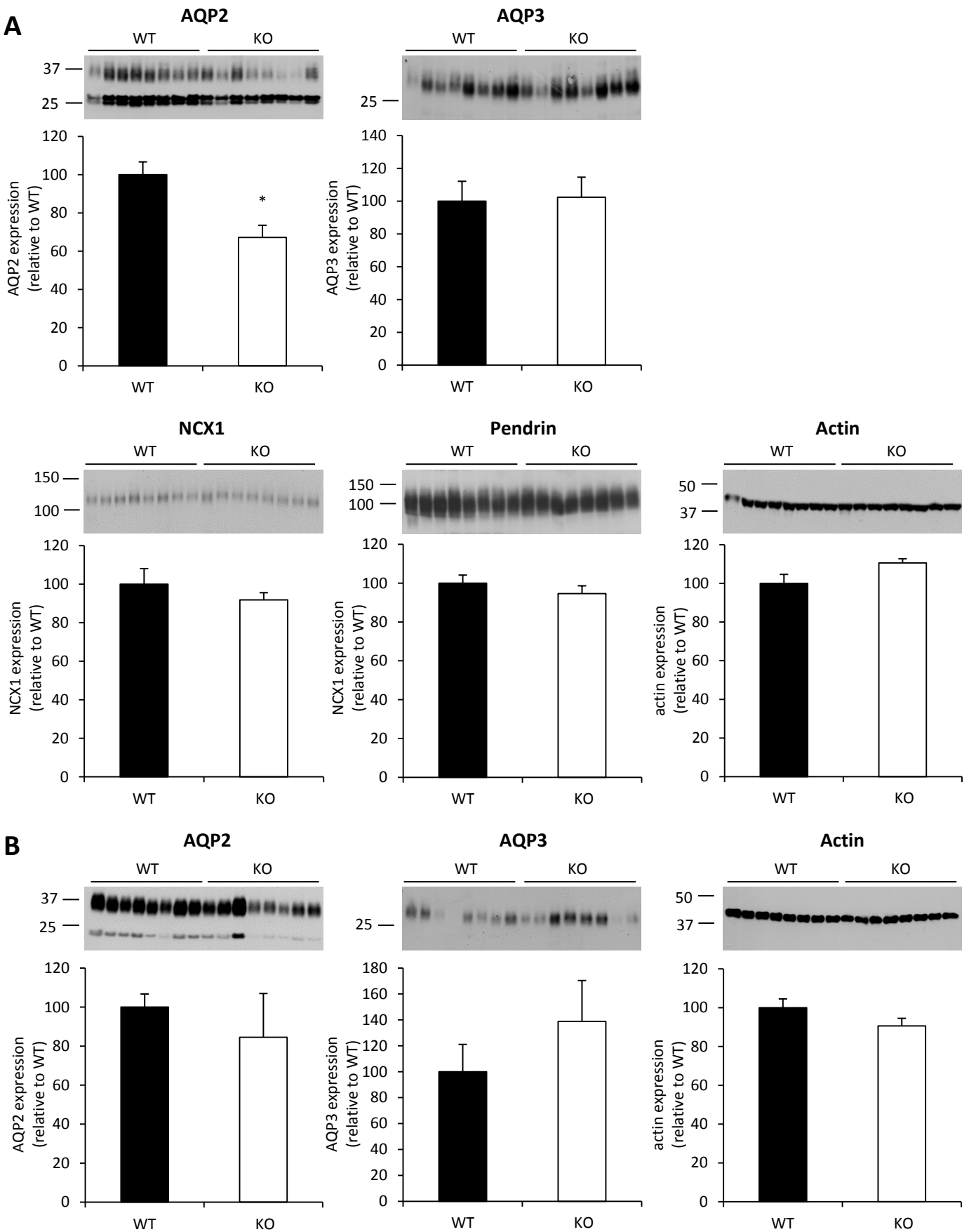
## Supplemental figure legends

**Supplemental figure 1:** Effects of lithium chloride treatment on urinary concentration in AQP2-CNT-KO mice. 24 hr drinking volume (A), urine volume (B) and urine osmolality (C) of control (WT) and AQP2-CNT-KO mice (KO) during 8 days lithium chloride diet. n=8 per group. Values are mean  $\pm$ s.e. \* $P$ <0.05 .

**Supplemental figure 2:** Immunoblots of cortical and inner medullary kidney homogenates of mice treated with lithium chloride for 8 days. A) The expression of AQP2, AQP3, NCX1, Pendrin and actin was determined in cortical kidney homogenates from either wildtype (WT) or AQP2-CNT-KO mice (KO). B) The expression of AQP2, AQP3 and actin was determined in inner medullary kidney homogenates from the same animals. Data are band densities relative to WT (mean  $\pm$ s.e.) after normalization to actin expression. n=8 per group. \* $P$  <0.05.



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