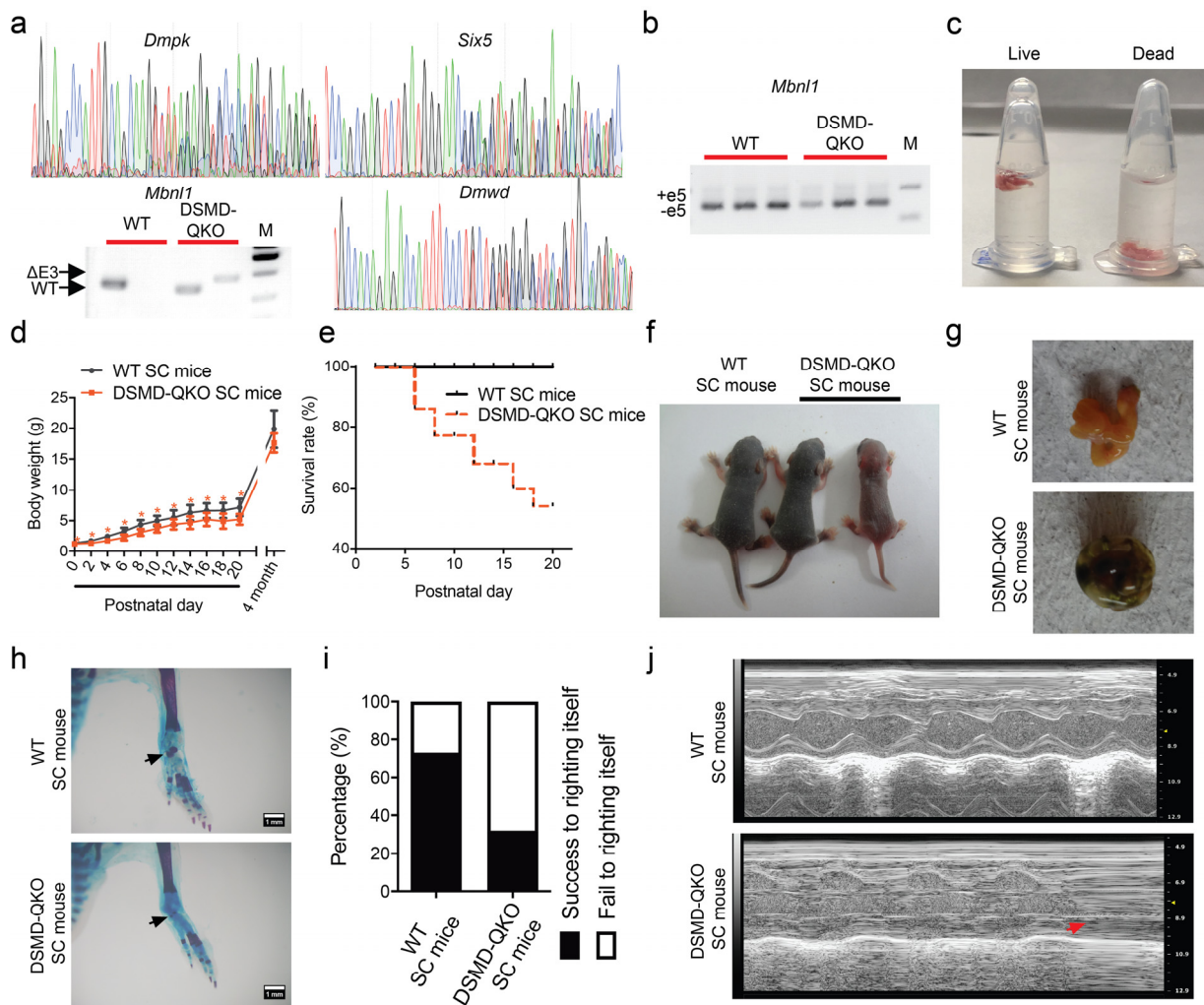


## Supplementary information, Figure S5



**Fig. S5** CDM1-related phenotypes exhibited in DSMD-QKO SC mice before weaning. **a**

Genotyping analysis of DMSD-QKO SC mice. **b** Alternative splicing of *Mbn1* exon5 in DSMD-

QKO SC mice and WT SC mice. **c** The lung dissected from dead or live DSMD-QKO SC pups

in water ( $n = 3$  per group). The lung of the dead DMSD-QKO SC pup never inflated with air

sinks to the bottom (right). **d** Body weight analysis of DSMD-QKO and control SC mice

revealing delayed growth in DSMD-QKO SC mice ( $n > 10$  per group). Unpaired Student's  $t$ -test,

\* $P < 0.05$ . **e** Survival curves of DSMD-QKO and WT SC mice ( $n > 10$  per group). **f** The image

of DSMD-QKO and WT SC pups on postnatal day 5 (P5). The right one is a QKO pup with growth-retarded phenotype. The middle one is a QKO pup with normal growth. The left one is a control SC pup. **g** Developmental failure of intestines (3/16) in DSMD-QKO SC pups. **h** Smaller talus bone (3/7, black arrows) in DSMD-QKO SC pups. Scale bar, 1.0 mm. **i** Righting assay showing that more QKO SC mice (P5) failed to righting itself than control SC mice (WT SC mice,  $n = 15$ ; QKO SC mice,  $n = 22$ ). **j** Echocardiography experiments showing ventricular premature beats in QKO mice (2/7). Red arrow indicates the ventricular premature beat.