

1 **Additional file 1: Ethics statement, selection and treatment**

2 All animal procedures were conducted at the “Research Institutes for Experimental
3 Medicine”, Charité - Universitätsmedizin Berlin, Germany, in accordance with the FELASA
4 guidelines [1] and approved by the local governmental authorities (State Office of Health and
5 Social Affairs Berlin, approval IDs: T 0394/12; G 0170/12).

6 Weight- and age-matched female *Ctca1*^{-/-} and WT mice were given 2.5 % DSS (MW 36,000 -
7 50,000, 17.1 % sulfur substitution, no detectable free sulfate, pH 7.1, MP Biomedicals, LLC.,
8 Illkirch, France) for 24 (24 h-group) or 48 hours (48 h-group) to allow for the investigation of
9 initial DSS effects, and for 7 days with 2 consecutive days of tap water only (7 d-group) for
10 monitoring effects during acute colitis with beginning regenerative effects as described [2].
11 Solely female mice were used in the experiment due to ethical and animal welfare reasons.
12 Using female mice reduces the risk of stress and rank fights with subsequent injuries and the
13 possibility of stress-induced weight loss. Second, as females are more resistant to DSS
14 compared to male mice [3], the risk of the animals losing weight too rapidly within the
15 experiment is reduced. A too rapid weight loss could have lead to an exclusion of animals
16 from the experiment in terms of humane end points which would have increased the overall
17 number of animals used in the experiment.

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19 References:

- 20 1. Mahler M, Berard M, Feinstein R, Gallagher A, Illgen-Wilcke B, Pritchett-Corning K,
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- 24 2. Erickson NA, Nystrom EE, Mundhenk L, Arike L, Glauben R, Heimesaat MM, Fischer A,
25 Bereswill S, Birchenough GM, Gruber AD, Johansson ME: **The Goblet Cell Protein *Ctca1***

26 **(Alias mClca3 or Gob-5) Is Not Required for Intestinal Mucus Synthesis, Structure and**
27 **Barrier Function in Naive or DSS-Challenged Mice.** PLoS One 2015, **10**:e0131991.
28 3. Mahler M, Bristol IJ, Leiter EH, Workman AE, Birkenmeier EH, Elson CO, Sundberg JP:
29 **Differential susceptibility of inbred mouse strains to dextran sulfate sodium-induced**
30 **colitis.** American Journal of Physiology - Gastrointestinal and Liver Physiology 1998, **274**:
31 G544-G551