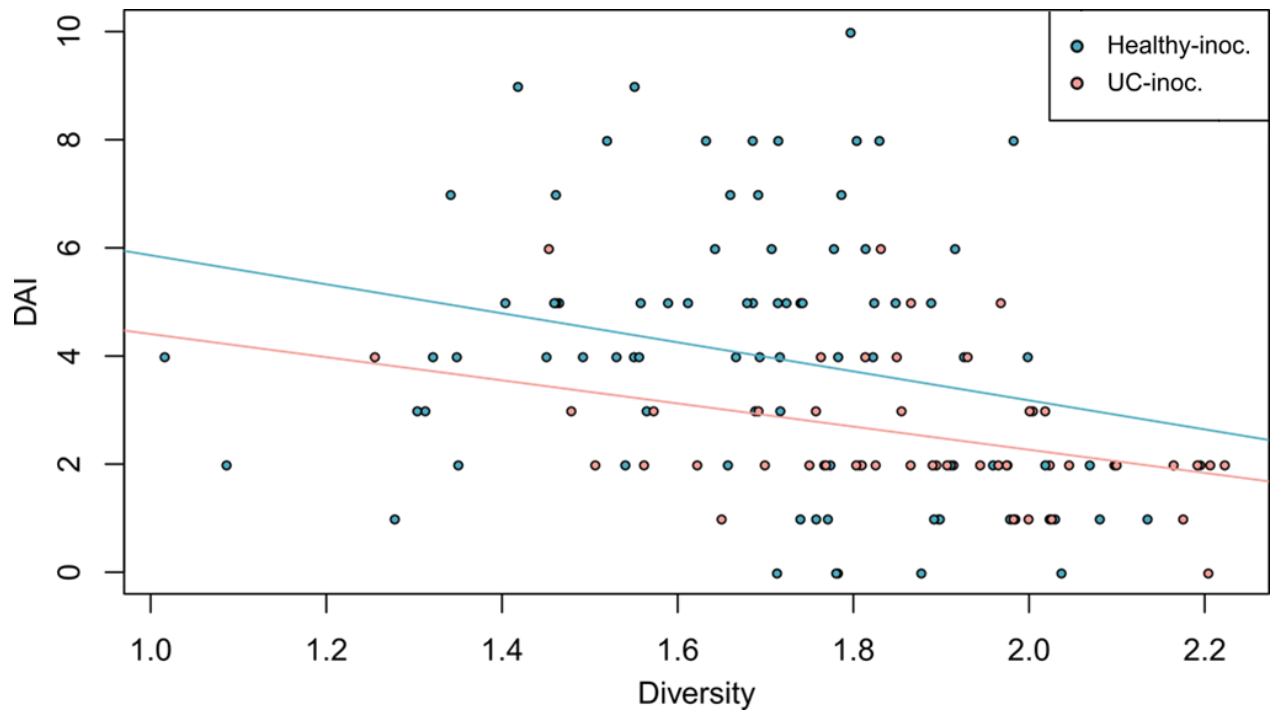


1 **Supplementary Materials**

2 **Supplementary Figure S1: DAI scores and diversity are negatively correlated.**



3

4 Correlation between DAI scores and alpha diversity (Shannon index diversity measure) at the
5 family level in fecal samples from mice inoculated with fecal matter from the healthy co-twin (blue)
6 and UC-twin (red), respectively, from all three time points (baseline, after DSS, after recovery). UC
7 = ulcerative colitis; DAI = disease activity index.

8

10 **Supplementary Table S1: Disease activity index (DAI) scoring system**

Weight loss	Score	Feces	Score	Fecal blood	Score
<1%	0	Hard/firm	0	negative	0
1-5 %	1	Firm but sticky	1	Hidden	1
5-10 %	2	Soft but still coherent	2	Visual	2
10-15 %	3	Soft with loss of shape, mucus visible	3	Rectal bleeding	3
15-20 %	4	liquid without any firm consistency	4		

11 (Modified from Holgersen et al. 2014 [1])

13 **Supplementary Table S2: Histological damage score parameters**

Severity of inflammation	
0	Rare inflammatory cells in the lamina propria
1	Increased numbers of granulocytes in the lamina propria
2	Confluence of inflammatory cells extending into the submucosa
3	Transmural extension of the inflammatory infiltrate and ulceration of the mucosa
Crypt abscess	
0	Absent
1	Present
Goblet cell depletion	
0	Absent
1	Present
Level of goblet cell depletion	
0	Normal (no depletion)
1	Light decreased number of goblet cells
2	Pronounced goblet cell depletion but goblet cells present in all areas
3	Severe goblet cell depletion. In areas no goblet cells present
Muscle thickening (base of crypt on the muscularis mucosa)	
0	Absent
1	Slight thickening
2	Moderate thickening
3	Marked

Supplementary Table S3: Metabolites significantly differentiated between mice inoculated with fecal matter from the UC twin (UC-inoc.) and mice inoculated with fecal matter from the healthy co-twin (healthy-inoc.).

Metabolite	Class	UC-inoc. vs healthy-inoc.
Valyl-Alanine	Dipeptide	↑
L-Leucyl-L-Alanine	Dipeptide	↑
Valyl-Valine	Dipeptide	↑
3-Hydroxydodecanedioic acid	Medium-chain hydroxy acid	↑
1-Methylguanine	6-Oxopurine	↓

Reference

- Holgersen, K.; Kvist, P.H.; Hansen, A.K.; Holm, T.L. Predictive validity and immune cell involvement in the pathogenesis of piroxicam-accelerated colitis in interleukin-10 knockout mice. *International immunopharmacology* **2014**, *21*, 137-147, doi:10.1016/j.intimp.2014.04.017.