|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Table S1: Clinical response to severe colitis during optimization**. | | | | | | |
| Days post colitis 1 | Number of individuals\* | | % with hematochezia | | Mean fecal consistency | |
| Control | Colitis | Control | Colitis | Control | Colitis |
| 1 | 7 | 7 | 0 | 100 | 5 | 1 |
| 4 | 7 | 7 | 0 | 100 | 5 | 1 |
| 6 | 7 | 7 | 0 | 100 | 5 | 1 |
| 8 | 7 | 7 | 0 | 43 | 5 | 1.9 |
| 10 | 7 | 7 | 0 | 0 | 5 | 2.7 |
| 1Indicates first colitis induction. Colitis induced a second time at 3 days post colitis. | | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Table S2: PERMANOVA tests for compositional differences during experiment 1B: the effect of mature *H. diminuta* on severe colitis** | | | | | | |
| Day | Days post initial colitis | colonization | cage | hematochezia | sample type |
| 4 | - | 0.003 | 0.051 | - | - |
| 8 | - | 0.011 | 0.008 | - | - |
| 12 | - | 0.006 | 0.001 | - | - |
| 16 | - | 0.001 | 0.003 | - | - |
| 20 | - | 0.016 | 0.001 | - | - |
| 22 | 1 | 0.014 | 0.011 | - | - |
| 25 | 4 | 0.181 | 0.178 | 0.405 | - |
| 27 | 6 | 0.175 | 0.626 | - | - |
| 29 | 8 | 0.06 | 0.133 | - | 0.02 |
| 31 | 10 | 0.16 | 0.783 | - | 0.702 |
| P-values for each factor calculated through PERMANOVA analyses conducted with Adonis in vegan. Separate tests for each day. Factors only included if at least two levels present on a given day. | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table S3: Adonis analysis of community composition during experiment 1C: the effect of immature *H. diminuta* on severe colitis** | | | | | | | | | | | | | | | |
|  |  | Whole experiment | | |  | Before colitis (day 4) | | | |  | Post colitis (day 6 - 15) | | | |
|  | df | F | R2 | P-value |  | df | F | R2 | P-value |  | df | F | R2 | P-value |
| Infected1 | 1 | 4.1 | 0.02 | 0.002 |  | 1 | 2.4 | 0.02 | 0.047 |  | 1 | 5.8 | 0.05 | 0.001 |
| Cage | 8 | 3.0 | 0.12 | 0.001 |  | 8 | 1.8 | 0.12 | 0.006 |  | 8 | 3.7 | 0.26 | 0.001 |
| Hematochezia | 1 | 37.4 | 0.19 | 0.002 |  | - | - | - | - |  | 1 | 9.3 | 0.08 | 0.01 |
| Sample type2 | 1 | 18.5 | 0.09307 | 0.001 |  | - | - | - | - |  | 1 | 9.4 | 0.08 | 0.001 |
| Day3 | 5 | 4.0 | 0.10 | 0.766 |  | - | - | - | - |  | 3 | 2.0 | 0.05 | 0.679 |
| Residuals | 95 |  | 0.48 |  |  | 10 |  | 0.86 |  |  | 57 |  | 0.48 |  |
| Total | 111 |  | 1 |  |  | 19 |  | 1 |  |  | 71 |  | 1 |  |
| 1Infected refers to *Hymenolepis diminuta* infected or uninfected controls.  2Sample type: refers to swabs collected for animals with diarrhea and loose stools, or pellets.  3Day: Adonis analysis run with experiment day as a strata to account for changes by day. Sequential model with factors added in the order above. | | | | | | | | | | | | | | | |