

## Oral Nanozyme-Engineered Probiotics for the Treatment of Ulcerative Colitis

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## Supplementary Tables and figures

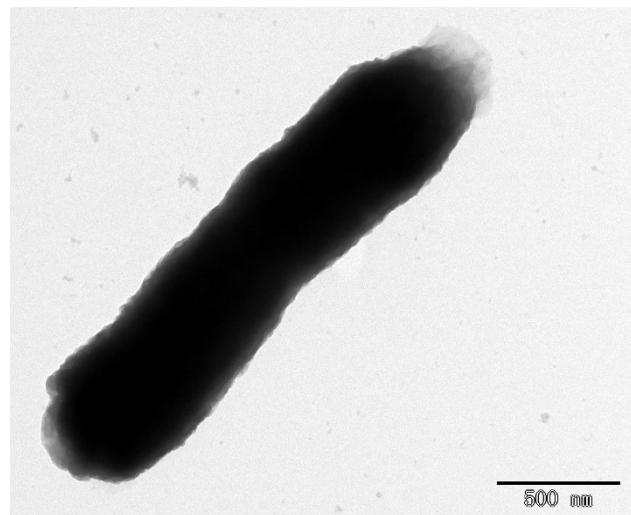
Table S1 Scoring system of histologic score

| Score <sup>a</sup> | Tissue damages                            | Lamina propria inflammatory cell infiltration     |
|--------------------|-------------------------------------------|---------------------------------------------------|
| 0                  | None                                      | infrequent                                        |
| 1                  | Isolated focal epithelial damage          | Increased, some neutrophils                       |
| 2                  | Mucosal erosions and ulcerations          | Submucosal presence of inflammatory cell clusters |
| 3                  | Extensive damage deep into the bowel wall | Transmural cell infiltrations                     |

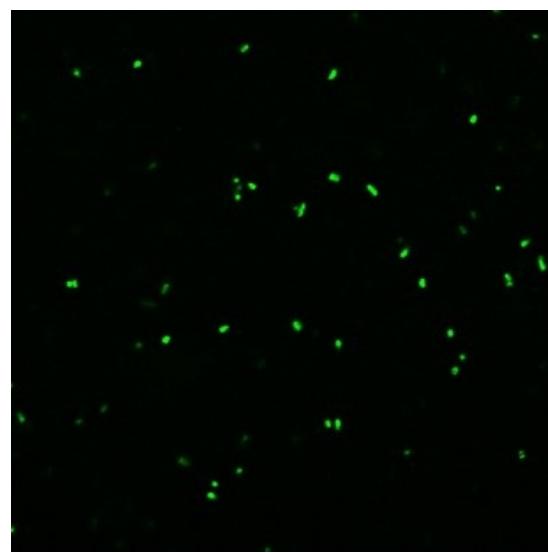
<sup>a</sup> The sum of the two subcores results in a combined score ranging from 0 (no changes) to 6 (wide-spread cellular infiltrations and extensive tissue damage).

Table S2 Sequences of primers used for qRT-PCR

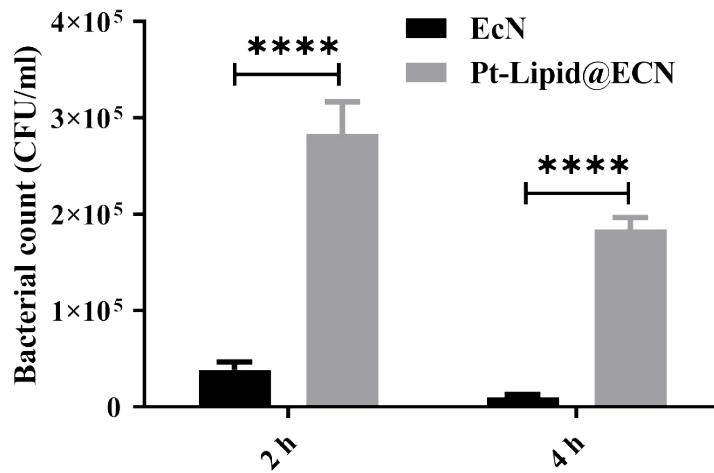
| Genes         | Primers                     |
|---------------|-----------------------------|
| TNF- $\alpha$ | F: CCCTCACACTCACAAACCAC     |
|               | R: ACAAGGTACAACCCATCGGC     |
| IL-1 $\beta$  | F: GCCACCTTTGACAGTGATGAG    |
|               | R: ATGTGCTGCTGCGAGATTG      |
| IL-6          | F: GAGGATACCACTCCAACAGACC   |
|               | R: AAGTGCATCATCGTTGTTCATACA |
| MCP-1         | F: CCCAATGAGTAGGCTGGAGA     |
|               | R: TCCTTCTGGGGTCAGCACAGAC   |
| iNOS          | F: GGGCTGACCTGTTCTACT       |
|               | R: GGAGGTTGAGACCCAATGGA     |
| <i>OCLN</i>   | F: TTGAAAGTCCACCTCCTACAGA   |
|               | R: CCGGATAAAAAGAGTACGCTGG   |
| <i>TJPI</i>   | F: GCTTTAGCGAACAGAAGGAGC    |
|               | R: TTCATTTTCCGAGACTTCACCA   |
| GADPH         | F: AGGTCGGTGTGAACGGATTG     |
|               | R: TGTAGACCATGTAGTTGAGGTCA  |



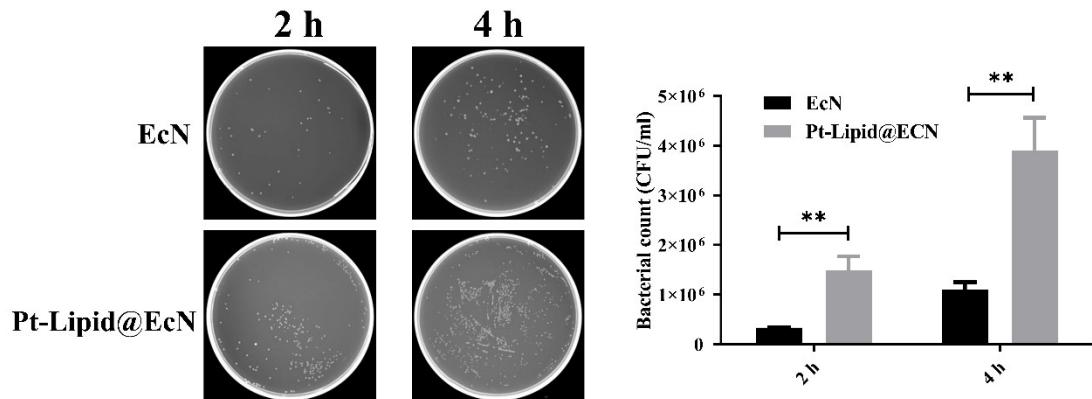
**Figure S1.** TEM image of ECN.



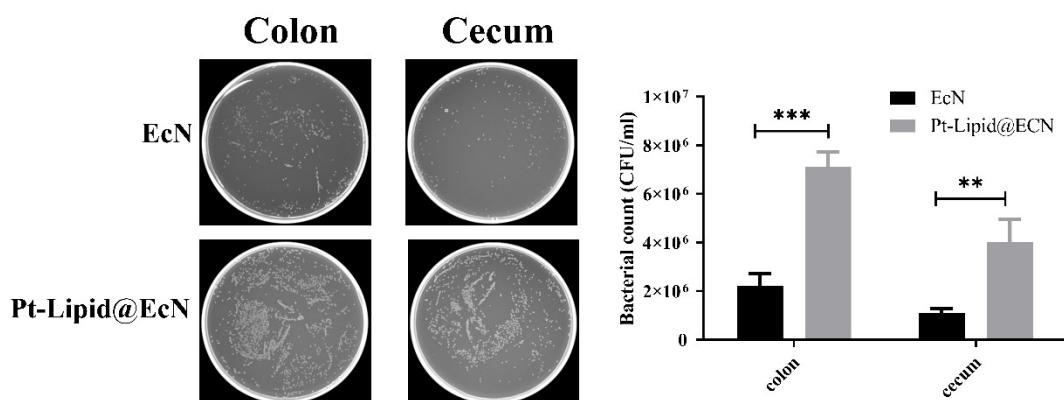
**Figure S2.** CLSM photo of FITC-Pt-Lipid@ECN.



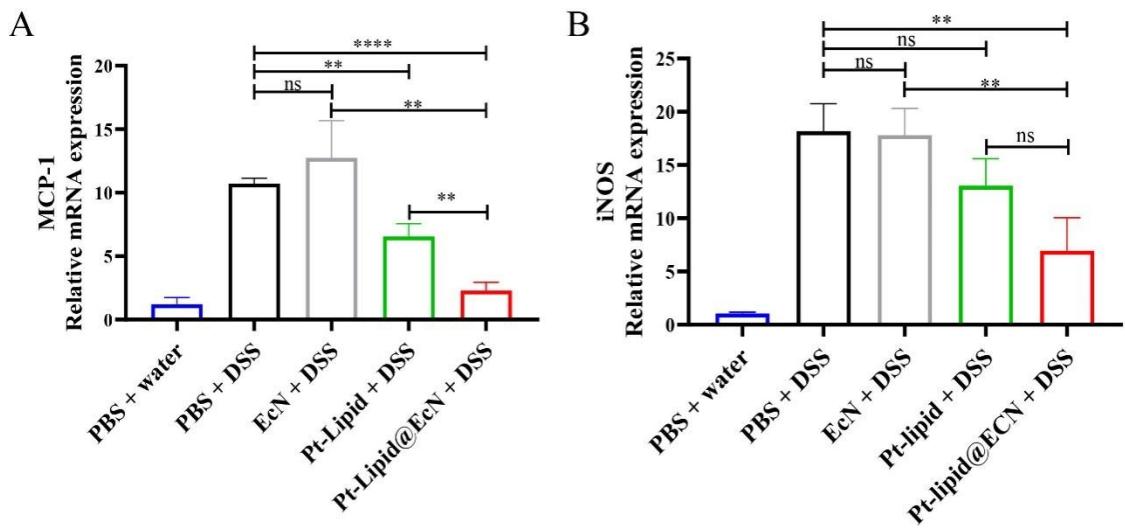
**Figure S3.** Resistance of Coated EcN against SGF supplemented with pepsin



**Figure S4.** Resistance of Coated EcN against bile acid.



**Figure S5.** Overall survival rate of coated bacteria in colon and cecum.



**Figure S6.** The mRNA expressions of inflammatory mediators MCP1 (A) and iNOS (B) in colonic tissue. \* $P < 0.05$ , \*\* $P < 0.01$ , \*\*\* $P < 0.005$ , \*\*\*\* $P < 0.001$ ; Student's t-test.