**Supporting Information**

**Table S1.** Fatty acid profiles of SP and MP.

| Fatty acids profile (wt%) | SP | MP |
|---|---|---|
| **C8:0** | ＜0.05 | 1.2 |
| **C10:0** | ＜0.05 | 3.0 |
| **C11:0** | ＜0.05 | ＜0.1 |
| **C12:0** | ＜0.1 | 4.6 |
| **C13:0** | ＜0.05 | 0.1 |
| **C14:0** | 0.2 | 10.1 |
| **C14:1** | ＜0.05 | 0.5 |
| **C15:0** | ＜0.1 | 0.9 |
| **C15:1** | 0.3 | ＜0.05 |
| **C16:0** | 18.7 | 25.0 |
| **C16:1** | ＜0.1 | 1.6 |
| **C17:0** | 0.2 | 0.6 |
| **C17:1** | ＜0.05 | 0.1 |
| **C18:0** | 5.2 | 11.9 |
| **C18:1** | 7.8 | 32.8 |
| **C18:2** | 59.2 | 3.3 |
| **C18:3 (n-6)** | ＜0.05 | ＜0.05 |
| **C18:3 (n-3)** | 7.5 | 1.3 |
| **C20:0** | ＜0.05 | ＜0.05 |
| **C20:1** | 0.0 | 0.1 |
| **C20:2** | 0.1 | 0.1 |
| **C21:0** | 0.0 | ＜0.05 |
| **C20:3 (n-6）** | ＜0.1 | 0.3 |
| **C20:4** | ＜0.1 | 0.8 |
| **C20:3 (n-3)** | ＜0.1 | ＜0.1 |
| **C20:5** | ＜0.1 | 0.6 |
| **C22:0** | 0.0 | ＜0.05 |
| **C22:2** | 0.2 | 0.4 |
| **C22:6** | ＜0.05 | 0.1 |
| **SFA** | 24.4 | 57.7 |
| **MUFA** | 8.2 | 35.6 |
| **PUFA** | 67.4 | 7.2 |

MUFA, monounsaturated fatty acid; PUFA, polyunsaturated fatty acid; SFA, saturated fatty acid;

**Table S2.** Primer sequences used in qRT-PCR

| Target genes | Primer sense (5′–3′) | Primer antisense (5′–3′) |
|---|---|---|
| *Muc2* | CTGACCAAGAGCGAACACAA | CATGACTGGAAGCAACTGGA |
| *Reg3γ* [1] | CCATCTTCACGTAGCAGC | CAAGATGTCCTGAGGGC |
| *Reg3β* [1] | TGGGAATGGAGTAACAATG | GGCAACTTCACCTCACAT |
| *Ang6* [1] | TTGGCTTGGCATCATAGT | CCAGCTTTGGAATCACTG |
| *Jag1*[2] | TGTGTCCCGGTGGCTGGGAA | GGCCACCCGTCCATTCAGGC |
| *Dll1*[2] | GACCCCGCCTTCAGCAACCC | GTCCCCGCAGGTGAAGTGGC |
| *Dll4*[2] | GGGGCAGCATGCCTGGGAAG | CGGTGCAACTCTTGGCGGGT |
| *Hes1*[3] | ACACCGGACAAACCAAAGAC | GTCACCTCGTTCATGCACTC |
| *Math1*[3] | GAGTGGGCTGAGGTAAAAGAGT | GGTCGGTGCTATCCAGGAG |
| *Lcn-2*[4] | AAGGCAGCTTTACGATGTACAGC | CTTGCACATTGTAGCTGTGTAC C |
| *Gapdh* | GCATGGCCTTCCGTGTTCCTA | GATGCCTGCTTCACCACCTTCT |

Table S2 references:


1 N. Burger-van Paassen, L. M. Loonen, J. Witte-Bouma, A. M. Korteland-van Male, A. C. de Bruijn, M. van der Sluis, P. Lu, J. B. Van Goudoever, J. M. Wells, J. Dekker, I. Van Seuningen and I. B. Renes, Mucin muc2 deficiency and weaning influences the expression of the innate defense genes reg3β, reg3γ and angiogenin-4. *PloS One*, 2012, **7**, e38798.

2 H. Imaeda, A. Andoh, T. Aomatsu, K. Uchiyama, S. Bamba, T. Tsujikawa, Y. Naito and Y. Fujiyama, Interleukin-33 suppresses Notch ligand expression and prevents goblet cell depletion in dextran sulfate sodium-induced colitis. *Int. J. Mol. Med.* 2011, **28**, 573-578.

3 S. Fre, M. Huyghe, P. Mourikis, S. Robine, D. Louvard and S. Artavanis-Tsakonas, Notch signals control the fate of immature progenitor cells in the intestine. Nature, 2005, 435, 964-968.

4 B. Chassaing, G. Srinivasan, M. A. Delgado, A. N. Young, A. T. Gewirtz and M. Vijay-Kumar, Fecal lipocalin 2, a sensitive and broadly dynamic non-invasive biomarker for intestinal inflammation. PloS One 2012, 7, e44328.

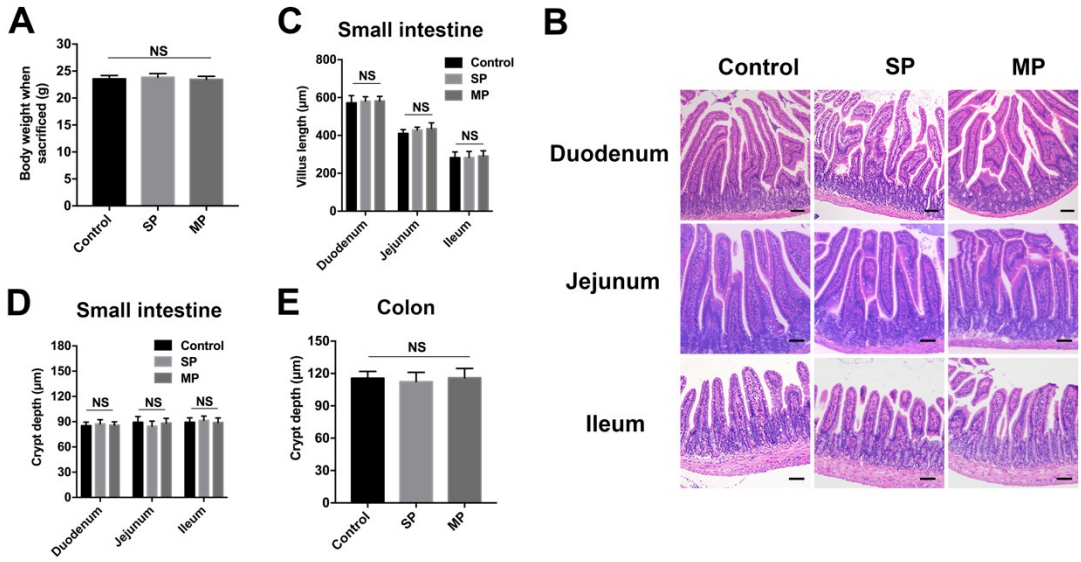


**Figure S1. Effect of SP or MP on mouse weight and intestinal histology in physiological states.** Mice in each three physiological group were orally treated by gavage with either 25 mg/kg SP or 25 mg/kg MP daily or equal volume of PBS for consecutive 24 days. (A) Body weight when sacrificed. (B) Representative microscopic images of HE staining sections from duodenum, jejunum and ileum. (C) Villus length of duodenum, jejunum and ileum. (D) Crypt depth of duodenum, jejunum and ileum. (E) Crypt depth of colon. Scale bars, 50 μm. Data are expressed as the mean ± SD.

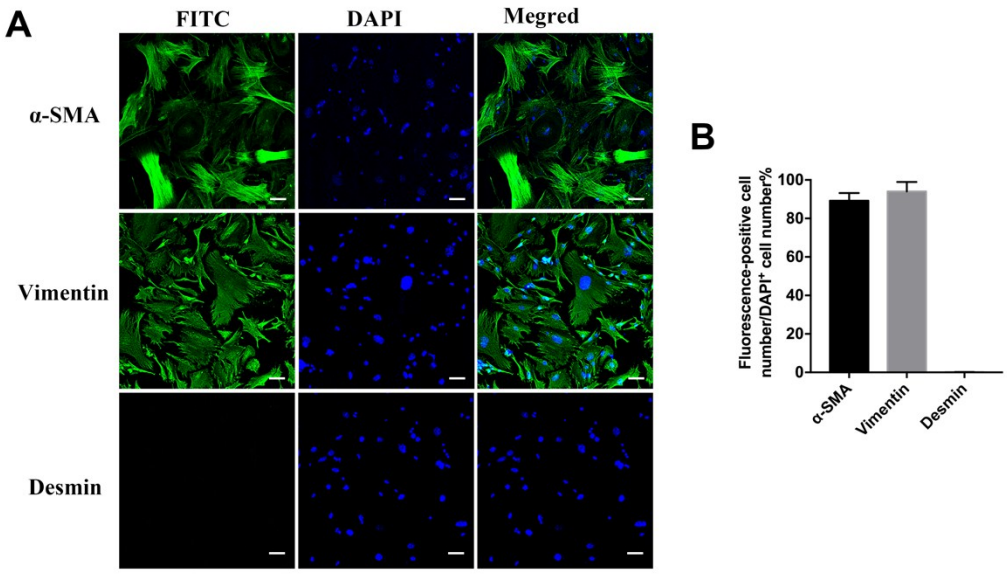


**Figure S2. Identification of the isolated mouse colonic myofibroblasts.** (A) Representative images of α-SMA, vimentin and desmin immunostaining in mouse colonic sections. (B) Qualification of the percentage of fluorescence-positive cells in ten representative images. Scale bars, 50 μm. Data are expressed as the mean ± SD.