Fig. S1

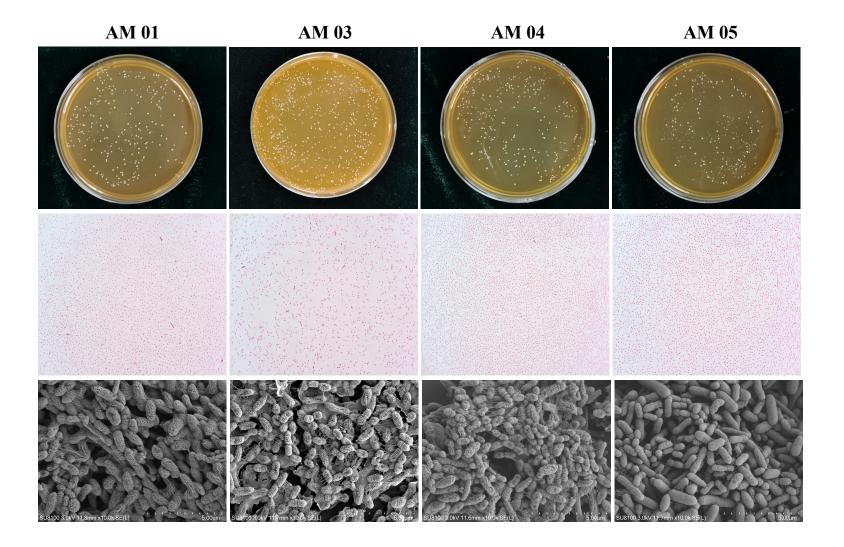


Figure S1. Bacterial colonies on agar medium, gram staining under the optical microscope, and morphological characteristics of bacterial cells under the scanning electron microscope of *A. muciniphila* AM01 and AM03–05.

Fig. S2 DOWN **AM04 AM01** PC2 (7.85%) UP DOWN DEPs Numbers DEPs Number **AM05 AM02** -100 100 -50 50 PC1 (11.30%) **(B)** 1.5 UP DOWN PC2 (12.71%) DEPs Numbers 1.5-**AM03 AM06** -10-Global and overview maps PC1 (14.81%) -10 **Negtive mode Positive mode Negtive mode Positive mode**

Figure S2. Major components of the culture supernatant of *A. muciniphila* AM01–06 and *A. muciniphila ATCC BAA-835* under positive mode (A) and negative mode (B). (C) Differential metabolite pathways between *A. muciniphila* AM01–06 and *A. muciniphila ATCC BAA-835*.