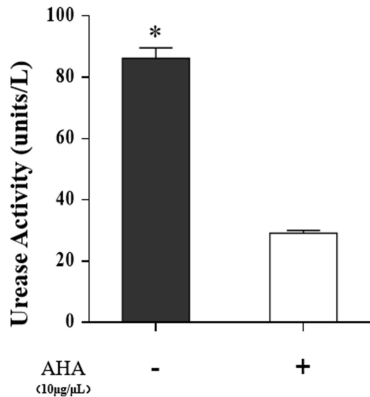
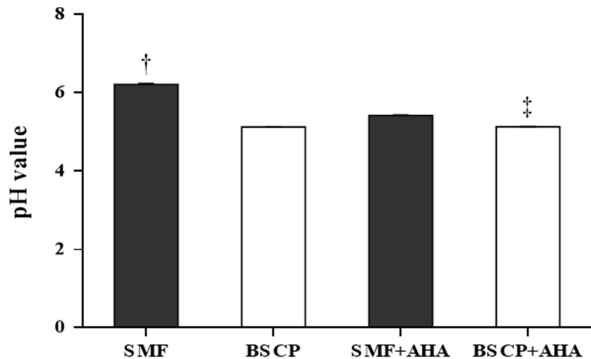
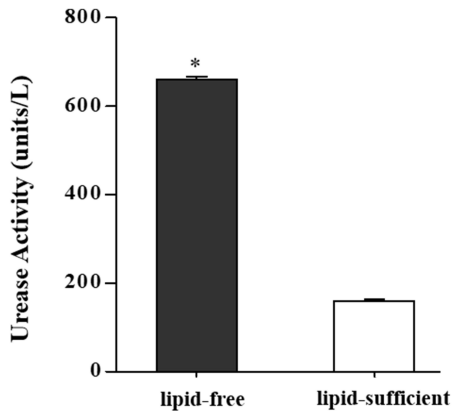
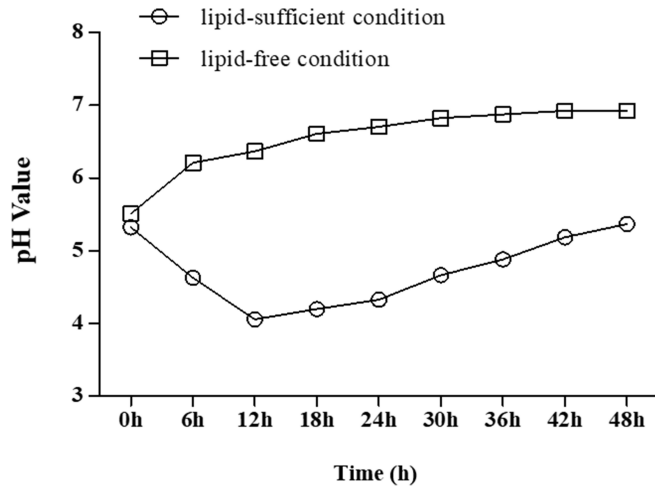


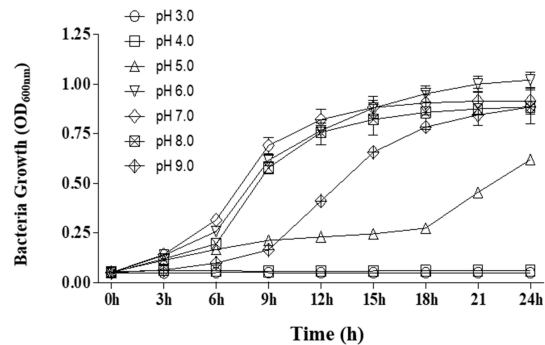
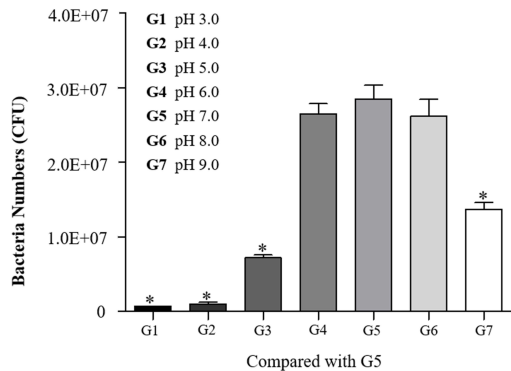
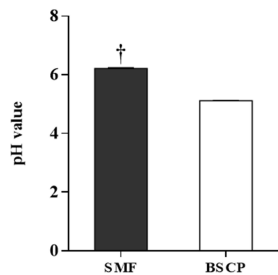
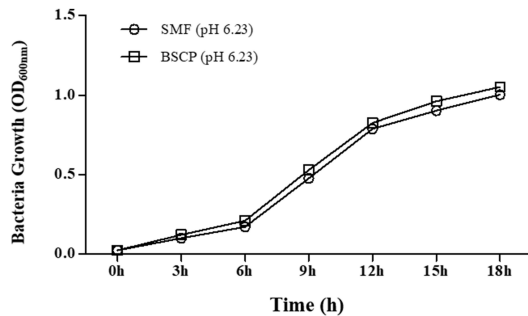
**Supplementary Figure 1.** Effect of pH on the growth of *S. epidermidis*. (A) Growth curves for *S. epidermidis* cultured at pH 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, and 9.0, respectively. (B) Flow cytometry quantification of the numbers of *S. epidermidis* after culture for 15 h at each pH value. Asterisks indicate significant deviations from control cells cultured at pH 7.0. \*Compared with G5,  $F=91.287$ ,  $P<0.001$ . (C) The pH values of SMF and BSCP. SMF had a higher pH than BSCP. †Compared with BSCP,  $t=48.361$ ,  $P<0.001$ . (D and E) After synchronizing the pH values of BSCP and SMF, the growth curves for *S. epidermidis* in the two groups almost overlapped. SMF: supernatant of *Malassezia furfur*; BSCP: beef extract-sodium chloride-Peptide;

Supplementary Figure 2. Changes in the urease activity of *M. furfur* and culture supernatant pH values. (A) *M. furfur* showed increased urease activity after being cultured for 15 h in lipid-free medium. \*Compared with lipid-sufficient,  $t=67.540$ ,  $P<0.001$ . (B) pH changes that occurred after *M. furfur* was cultured in a lipid sufficient or lipid-free environment.

**Supplementary Figure 3.** Influence of AHA on the urease activity of *M. furfur* and the pH value of SMF. (A) AHA inhibited the urease activity of *M. furfur* after co-culture for 15 h. \*Compared with plus AHA group,  $t=15.959$ ,  $P<0.001$ . (B) The pH values of SMF, SMF plus AHA, BSCP, and BSCP plus AHA. AHA at a concentration of 10 mg/mL inhibited the increase in SMF pH values after being co-cultured for 15 h. †Compared with SMF+AHA,  $t=32.092$ ,  $P<0.001$ . ‡Compared with SMF+AHA,  $t=22.463$ ,  $P<0.001$ . AHA: acetohydroxamic acid; SMF: supernatant of *Malassezia furfur*; BSCP: beef extract-sodium chloride-Peptide.

**A****B**

**A****B**

**A****B****C****D****E**