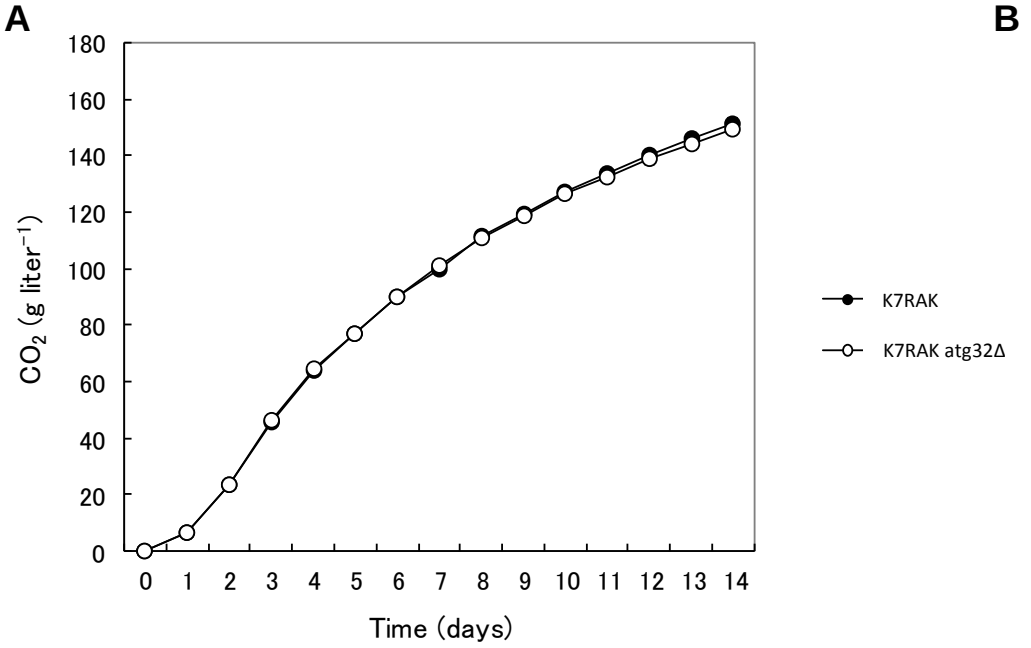
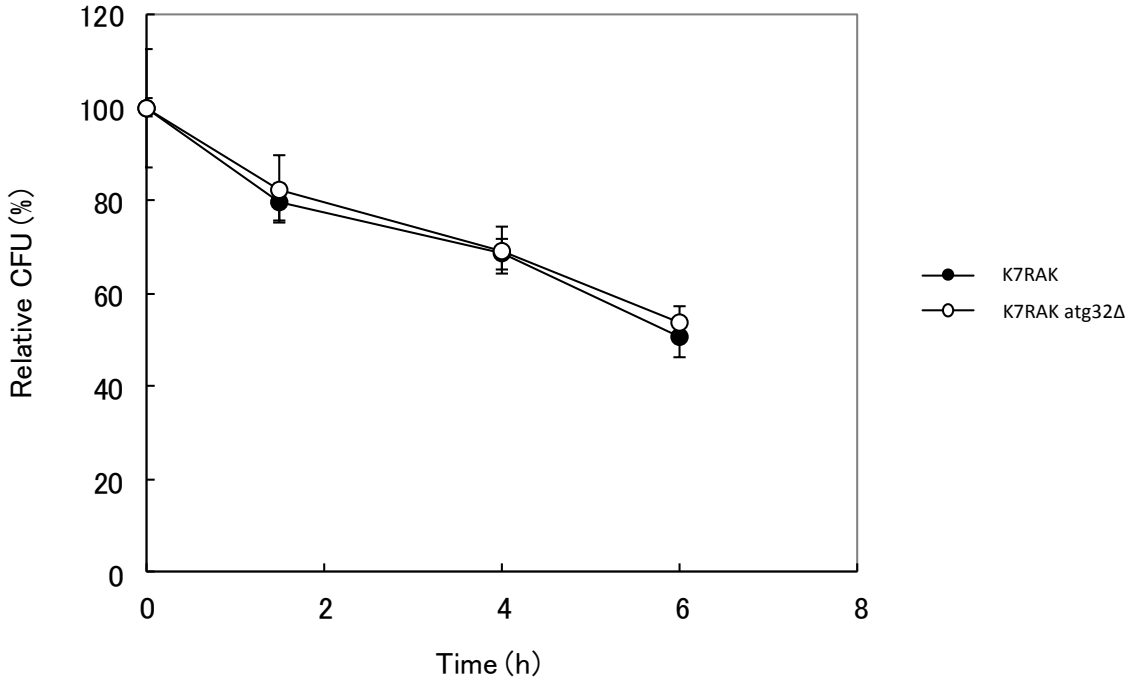


Supplementary Fig. S1. Fermentation profiles of *atg32Δ* strain and its parent diploid sake yeast during the production of normal sake.

(A) CO_2 evolution during sake brewing. The results are expressed as the weight loss of the mash, which represents the weight of CO_2. (B) Final ethanol concentration (% (v/v)). Closed black and open symbols or boxes represent the results for sake diploid yeast K7RAK and K7RAK *atg32Δ* strains, respectively. The results are expressed as the mean ± SEM of three independent brewing experiments initiated with respective starter cultures (n = 3; *: $p < 0.05$, unpaired one-tailed Student's *t*-test).



Supplementary Fig. S2. Ethanol sensitivity of *atg32Δ* and its parent sake yeast.
Sake yeast K7RAK and K7RAK *atg32Δ* strains were incubated statically in minimal synthetic medium, and cells were collected by centrifugation. Cells (1×10^6 cells) were washed once with sterile water, and dissolved in 1 ml solution containing 15% (v/v) ethanol and 67 mM KH_2PO_4 (pH 4.5). The solution was placed at 30℃ statically. A small aliquot of the solution was recovered after homogenization at 0, 1.5, 4, 6 h from the start, diluted in sterile water and plated on YPD plates. The plates were incubated at 30℃ for 2 d and formed colonies were counted. Open symbols represent the results of K7RAK and closed symbols represent those of K7RAK *atg32Δ*. The results are mean ± SEM of three independent ethanol exposure experiments cultures (n = 3; *: $p < 0.05$, unpaired one-tailed Student's *t*-test).