

Enhanced S-adenosyl-L-methionine production by recombinant *Saccharomyces cerevisiae* sake Kyokai No. 6

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Saccharomyces cerevisiae sake kyokai No. 6 strain (*S. cerevisiae* sake K6) can accumulate remarkably higher level of S-adenosyl-L-methionine (SAM) compared to wild type *Saccharomyces cerevisiae*. However, DNA recombinant technologies to improve property of *S. cerevisiae* sake K6 have been trapped because of absence of selection marker. In our study, we developed leucine auxotrophic mutant of *S. cerevisiae* sake K6 strain through UV mutagenesis. This auxotrophic mutant strain (K6-1) showed similar growth rate and SAM productivity. Furthermore, we introduced plasmid contains *Sam2* gene, which encodes SAM synthase, to the auxotrophic mutant strain. This recombinant sake yeast strain can accumulate SAM about 50% of its dry cell weight, which is almost maximum amount in single yeast cell.