

TABLE 8

probe	signal of PM probe	signal of M M probe		
M t-6s at 653 337	112.38	634.39	DNA sequence of PM	GAATCAATTAAGTATGGTTTCTTA
			DNA sequence of tested strain	GAATCAATTAACATATGGTTTCTTA
Sc-2133-1_at 591_283	47.25	278.25	DNA sequence of PM	CCCCTTAGTGGCGAAGATATCTTTT
			DNA sequence of tested strain	GCTCTTGGTGACCAGGATACTTTT

INDUSTRIAL APPLICABILITY

[9046] A database compiling the data of the whole genome sequences of an industrial yeast or, particularly, of a brewing yeast used for the production of alcoholic beverages such as beer is prepared. Using such a database, genes of brewing yeast are selected, and functions of the genes are analyzed by disruption or overexpression in yeast cells, and find genes involved in the desired brewing character. Furthermore, it is possible to breed yeast strains by controlling the expression of the said genes, and produce an alcohol or an alcoholic beverage where productivity and quality are improved, such as alcoholic beverages with high concentration of sulfite which shows antioxidant activity in the product, excellent flavor stability and a longer quality preservation period.

[9047] Based on the database compiling the data of the genome sequences of an industrial yeast or, particularly, of a brewing yeast, a DNA array is produced. Using the DNA array, it is possible to analyze functions of the genes, classify industrial yeasts and detect nucleotide polymorphism and so on.

SEQUENCE LISTING

The patent application contains a lengthy "Sequence Listing" section. A copy of the "Sequence Listing" is available in electronic form from the USPTO web site (<http://seqdata.uspto.gov/?pageRequest=docDetail&DocID=US20060099612A1>). An electronic copy of the "Sequence Listing" will also be available from the USPTO upon request and payment of the fee set forth in 37 CFR 1.19(b)(3).

1. A method for analyzing gene of an industrial yeast comprising

(a) analyzing nucleotide sequence of the genome sequence of the industrial yeast; and

(c-1) selecting a gene of the industrial yeast encoding an amino acid sequence having 70 to 97% identity to an amino acid sequence encoded by the gene of *Saccharomyces cerevisiae*, or

(c-2) selecting a gene of the industrial yeast consisting of a nucleotide sequence having 60 to 94% identity to the nucleotide sequence of the gene of *Saccharomyces cerevisiae*.

2. The analyzing method according to claim 1, comprising,

(b) comparing the genome sequence of the industrial yeast with the genome sequence of *Saccharomyces cerevisiae* after the step (a) and before the step (c-1) or (c-2).

3. The analyzing method according to claim 1, comprising

(d) carrying out functional analysis of the selected gene after the step (c-1) or (c-2).

4. The analyzing method according to claim 3, which comprises screening genes involved in increase of productivity and/or improvement in flavor in the production of an alcohol or an alcoholic beverage by the functional analysis of the step (d).