

Supplementary Data

Table S1. Ingredients for the sourdough and dough for baking white pan breads

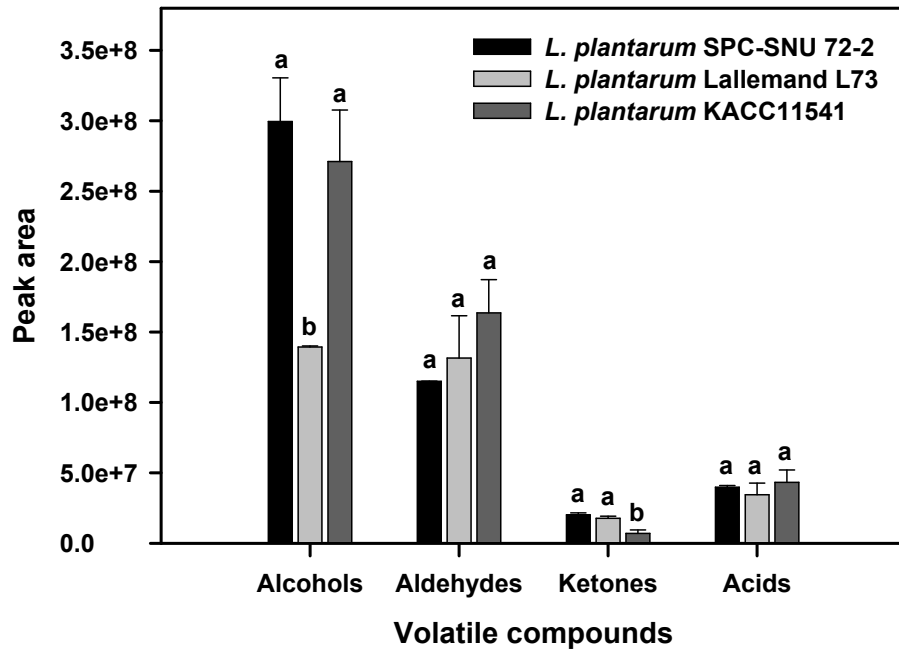
	Ingredients	Control* bread	72-2-bread	L73-bread	KACC11451- bread
Sourdough	Flour (g)	-	100	100	100
	Water (g)	-	80	80	80
	LAB (mL)**	-	20	20	20
Sponge dough	Flour (g)	70	70	70	70
	Yeast (mL) ***	2	2	2	2
	Water (g)	42	42	42	42
Dough	Flour (g)	30	20	20	20
	Salt (g)	2	2	2	2
	Sugar (g)	4	4	4	4
	Skim milk (g)	4	4	4	4
	Butter (g)	12	12	12	12
	Water (mL)	23	13	13	13
	Sourdough (g)	-	20	20	20
	Sponge dough (g)	114	114	114	114

* Control bread, the bread made of dough without LAB inoculation; 72-2-bread, the bread made of sourdough fermented by the isolate 72-2 strain; L73-bread, the bread made of sourdough fermented by the commercial strain L73; KACC11451-bread, the bread made of sourdough fermented by the type strain KACC11451. **Lactic acid bacteria were prepared by cultivating three strains of *Lactobacillus plantarum* in MRS broth at 30°C for 12 hr followed by centrifugation and resuspension with saline to adjust the bacterial concentration to 10⁸ CFU/mL. *** Dried yeast, *Saccharomyces cerevisiae* KCTC 12776BP, was used in the population of 10¹⁰ CFU/g.

Table S2. Biochemical characteristics of *Lactobacillus plantarum* strains tested in this study

Compounds	<i>L. plantarum</i> SPC-SNU 72-2	<i>L. plantarum</i> Lallemand L-73	<i>L. plantarum</i> KACC11451
Ccontrol	-	-	-
Glycerol	-	-	-
Erythritol	-	-	-
D-arabinose	-	-	-
L-arabinose	-	+	+
D-ribose	+	+	+
D-xylose	-	-	-
L-xylose	-	-	-
D-adonitol	-	-	-
Methyl- β -D-xylopyranoside	-	-	-
D-galactose	+	+	+
D-glucose	+	+	+
D-fructose	+	+	+
D-mannose	+	+	+
L-sorbose	-	-	-
L-rhamnose	-	-	-
Dulcitol	-	-	-
Inositol	-	-	-
D-mannitol	+	+	+
D-sorbitol	+	+	+
Methyl- α -D-mannopyranoside	+	+	+
Methyl- α -D-gucopyranoside	-	-	-
N-acetylglucosamine	+	+	+
Amygdalin	+	+	+
Arbutin	+	+	+
Esculin	+	+	+
Salicin	+	+	+

D-cellobiose	+	+	+
D-maltose	+	+	+
D-lactose	+	+	+
D-melibiose	+	+	+
D-saccharose	+	+	+
D-trehalose	+	+	+
Inulin	-	-	-
D-melezitose	+	+	+
D-raffinose	+	+	+
Amidon	-	-	-
Glycogen	-	-	-
Xylitol	-	-	-
Gentiobiose	+	+	+
D-turanose	-	+	+
D-lyxose	-	-	-
D-tagatose	-	-	-
D-fucose	-	-	-
L-fucose	-	-	-
D-arabitol	-	-	-
L-arabitol	-	-	-
Potassium gluconate	+	+	+
Potassium 2-ketogluconate	-	-	-
Potassium 5-ketogluconate	-	-	-



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2 **Fig. S1. Volatile compounds in breads produced with LAB-applied sourdough.** Error
 3 bars present represent the standard deviations, and the different letters on the error bars
 4 indicate significant differences within a group of volatile compound group ($p < 0.05$).

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