

Supplementary Table

Table 4. Antimicrobial activity of the cell-free supernatant from lactic acid bacteria grown in media formulated with agroindustrial wastes.

	FOB							
	ELO8	PIM5	CAL14	PIM4	JAV15	TOV9	PEP11	PEP12
Bc	-8.2±10 ^{abc}	35.5±4.5 ^{ab}	-14.7±20.2 ^{abc}	-5±9.4 ^{abc}	-84.5±13.9 ^{cd}	-84.1± 18.2 ^{cd}	-27.1±13.4 ^{bcd}	-16.3±18.9 ^{abc}
Lm	15±2 ^{ab}	46.7±8.6 ^{ab}	-27.7±19.4 ^{abc}	-154.1±18.8 ^{cd}	-3.9±31.1 ^{ab}	4.8±27.6 ^{ab}	-132±23.2 ^{bc}	-21.5±15.8 ^{abc}
Sa	-549±78.2 ^d	-255±70.9 ^{cd}	-81.3±22.4 ^{abc}	-116.3±44.2 ^{abc}	-30.6±24.6 ^{ab}	-9.7±24.2 ^{ab}	-215.6±10.2 ^{bc}	-66.3±9 ^{abc}
Ca	5.2±1.9 ^a	39±5.5 ^a	9.17±5.5 ^a	-0.6±8.7 ^a	24.9±13.8 ^a	21.7±17.4 ^a	3.1±18.5 ^a	10.6±20.2 ^a
Sc	-2.2±5.9 ^a	45.2±14.9 ^a	9.64±2.5 ^a	-1.5±22.3 ^a	13.3±14.6 ^a	14.2±17.4 ^a	-1.4±14.2 ^a	19.3±20 ^a
Ct	-72.3±15.4 ^{ade}	49.2±15.1 ^{cde}	6.58±13.9 ^{bcd}	-3.6±13.1 ^{abcde}	10.3±5.8 ^{bcd}	10.6±9.8 ^{bcd}	-24.9±2.2 ^{abcde}	18.6±5.6 ^{bcd}
An	-1.5±5.6 ^{ab}	-41.6±15.5 ^{abc}	0.2±1.1 ^{ab}	29.2±25.2 ^{ab}	-111.1±23.3 ^{cde}	-138.7±12.5 ^{de}	-68.7±4.9 ^{bcd}	-70.6±4.5 ^{bcd}
Fo	13.4±11.5 ^{abc}	6.1±6.6 ^{abc}	-4.4±6.1 ^{abc}	-3.4±8.15 ^{abc}	-103.6±37.8 ^{cde}	-94.1±43.7 ^{cde}	-30,3±38.3 ^{abc}	-77.8±14.7 ^{bcd}
Pe	7.4±13.1 ^a	-14.5±5.1 ^a	-24.7±27.1 ^a	-27.4±10.3 ^a	-215.1±66.3 ^b	-218.5±47.7 ^b	-153.5±50.6 ^b	-209.2±31.4 ^b
	CWB							
Bc	5±8.5 ^a	39.5±6.6 ^a	47.9±27.4 ^a	56.2±22.7 ^a	7±39.9 ^a	19.3±47.7 ^a	15.5±17.5 ^a	25.5±1.7 ^a
Lm	20.7±12.1 ^{abc}	45.9±4.3 ^{abc}	56.5±34.9 ^a	-54±58.6 ^{abc}	-1.1±4.5 ^{abc}	-44.3±99.6 ^{abc}	-69.9±40.3 ^c	13.9±8.1 ^{abc}
Sa	-572.6±112.2 ^b	-459.1±28 ^b	-57.5±38.4 ^a	-64.8±12.2 ^a	-54.8±16 ^a	-76.3±27.9 ^a	-166.6±18 ^a	-73±14 ^a
Ca	4.1±1.4 ^{abc}	34.4±7.7 ^{ab}	6.8±20 ^{abc}	40.5±4.6 ^{ab}	31.1±7.2 ^{abc}	35.4±7.7 ^{ab}	-9.2±21.7 ^{ac}	39.5±5.7 ^{abc}
Sc	12.3±2 ^a	43.1±11.5 ^a	14.9±9.7 ^a	15.8±8.2 ^a	30.7±10.7 ^a	32.7±10.8 ^a	19.5±15.3 ^a	47.2±6 ^a

Ct	-31.5 ± 29.9 ^{cde}	13.6 ± 3.7 ^{abcde}	48.7 ± 1.1 ^{abc}	34.7 ± 16.5 ^{abcd}	23.3 ± 3.1 ^{abcd}	26.7 ± 6.2 ^{abcd}	-8.2 ± 11 ^{bcde}	32.5 ± 3.6 ^{abcd}
An	-128.3 ± 2.9 ^{cd}	-2.3 ± 12.6 ^{ab}	-202.8 ± 44.6 ^e	-13.8 ± 14.8 ^{ab}	-79.7 ± 31.7 ^{bcd}	-117.7 ± 29.9 ^{cd}	-92.2 ± 7.5 ^{bcd}	-50.9 ± 2.8 ^{abc}
Fo	16 ± 7.2 ^a	23.3 ± 3.4 ^a	-3.6 ± 4.9 ^a	-2.8 ± 4.6 ^a	-129.6 ± 19.7 ^b	-114.5 ± 30.1 ^b	-9 ± 19.3 ^a	-24.2 ± 17.4 ^a
Pe	-1.1 ± 3.3 ^a	6.3 ± 11.9 ^a	-33.7 ± 2.7 ^a	-29.9 ± 7.3 ^a	-155.5 ± 66 ^b	-171.1 ± 50.6 ^b	-172 ± 7.2 ^b	-117.3 ± 3.2 ^b
FFB								
Bc	0.0 ± 7.8 ^{ab}	-20.8 ± 17.9 ^{abc}	91.1 ± 20.6 ^d	11.7 ± 23.7 ^{ab}	-62.8 ± 7.7 ^{bc}	-60.8 ± 8.8 ^{bc}	-22.8 ± 11.5 ^{abc}	-15.9 ± 9.5 ^{bcd}
Lm	0.8 ± 8.3 ^{abc}	27.9 ± 21 ^{abc}	114.2 ± 53.5 ^{ab}	-127.3 ± 39.6 ^{cd}	18.7 ± 49.1 ^{abc}	17.8 ± 38 ^{abc}	-63.4 ± 99.8 ^{bc}	4.6 ± 72.7 ^{abc}
Sa	-380.2 ± 42.6 ^c	-255 ± 70.9 ^{bc}	-11.8 ± 22.4 ^{ab}	-127.3 ± 33.8 ^{ab}	5.4 ± 28 ^{ab}	-3.2 ± 14.2 ^{ab}	-121 ± 112 ^{ab}	-63 ± 121.7 ^{ab}
Ca	26 ± 5.3 ^{bcde}	39 ± 5.5 ^{abcde}	74.6 ± 2.6 ^{abc}	25.1 ± 12 ^{bcde}	75.5 ± 3.6 ^{abc}	67.1 ± 2.8 ^{abcd}	20 ± 42.4 ^{cde}	55.2 ± 32.8 ^{abcde}
Sc	47.5 ± 25.7 ^{ab}	45.2 ± 14.9 ^{ab}	80.4 ± 6.7 ^{ab}	-11.5 ± 7.7 ^a	75.5 ± 7.5 ^{ab}	73.7 ± 5.9 ^{ab}	31 ± 48.9 ^{abc}	-63 ± 121.7 ^{ab}
Ct	37.3 ± 17.4 ^{abcde}	49.2 ± 15.1 ^{abc}	62.8 ± 3.4 ^{abcd}	-3.2 ± 5.7 ^{cde}	78.3 ± 8 ^{abc}	72.8 ± 5.3 ^{abc}	21.1 ± 35.9 ^{bcde}	41.1 ± 45.4 ^{abcde}
An	-45.9 ± 9.2 ^{bc}	-41.6 ± 15.5 ^{bc}	-7.5 ± 2.8 ^{bc}	50.2 ± 13.5 ^a	-107.3 ± 6.7 ^{de}	-99.6 ± 4.3 ^{cde}	-41 ± 14.6 ^{bc}	-47.1 ± 3.8 ^{bcd}
Fo	-0.3 ± 1.5 ^a	6.1 ± 6.6 ^a	11.8 ± 3.8 ^a	-2.2 ± 4.7 ^a	-130.2 ± 40.4 ^b	-126 ± 9.6 ^b	-42.2 ± 46.7 ^a	-48.9 ± 24.4 ^a
Pe	-16.9 ± 4.6 ^a	-14.5 ± 5.1 ^a	-18.6 ± 5.9 ^a	-27.8 ± 12.8 ^a	-223.3 ± 12.1 ^b	-217.1 ± 16.4 ^b	-154.1 ± 56.4 ^b	-187.1 ± 22.3 ^b
MRS								
Bc*	7.6 ± 22.8 ^a	-1.6 ± 12.6 ^a	-4.5 ± 8.2 ^a	-16.8 ± 2.8 ^a	-42.7 ± 34.1 ^a	-46.9 ± 10.2 ^a	-1.8 ± 15.7 ^a	-19.2 ± 9.6 ^a
Lm†	22.3 ± 9.5 ^{abc}	40 ± 11 ^{ab}	-18.4 ± 13.2 ^{abc}	-41.5 ± 17.3 ^{abc}	-40.8 ± 29.2 ^{abc}	-69.6 ± 25.7 ^{abc}	-93.7 ± 6.3 ^{bc}	-12.5 ± 7.6 ^{abc}
Sa‡	-504.7 ± 33 ^f	-235.9 ± 90.8 ^{bcde}	-9.1 ± 22.2 ^{abc}	-47.8 ± 13.6 ^{abc}	-73.4 ± 30.9 ^{abc}	-82.6 ± 23.7 ^{abc}	-248.3 ± 7.7 ^{cde}	-104.3 ± 52.5 ^{abc}
Ca§	-1 ± 1 ^{bc}	10.1 ± 10.4 ^{abc}	47.3 ± 7 ^{ab}	55.9 ± 4.7 ^{ab}	28.5 ± 26.6 ^{abc}	29.6 ± 10.2 ^{abc}	15.9 ± 18.6 ^{abc}	37.4 ± 10.6 ^{abc}
Sc¶	21 ± 8.1 ^a	20.3 ± 8.1 ^a	16.4 ± 6.1 ^a	5.4 ± 2.5 ^a	11 ± 16.3 ^a	19 ± 9 ^a	5.2 ± 9.5 ^a	31.8 ± 8.7 ^a
Ct**	-61.6 ± 5.1 ^{cde}	-37.1 ± 7.7 ^{bcde}	20.7 ± 10.9 ^{abc}	12.1 ± 3.8 ^{abcd}	5.6 ± 6.7 ^{abcd}	7.9 ± 4 ^{abcd}	-27.7 ± 2.9 ^{abcde}	9.4 ± 2.3 ^{abcd}

An††	39.2±30.4 ^a	39.4±3.6 ^a	58.3±5 ^a	56.3±4.4 ^a	-121.5±9.4 ^d	-64.2±31.2 ^{bc}	20.6±2.9 ^{abc}	-59.4±4.8 ^{bc}
Fo‡‡	33.7±24.9 ^{abc}	47.1±10.3 ^{abc}	22.2±16.7 ^{abc}	34.7±23 ^{abc}	-86.5±47.4 ^{cde}	-68.7±11.5 ^{bcde}	-16.2±27.6 ^{abcde}	-5.5±6.9 ^{abcd}
Pe§§	32.2±26.9 ^{abcd}	17.7±13.1 ^{abcd}	33.4±17.9 ^{abcd}	40.6±11.1 ^{abc}	-116±47.5 ^{cde}	-57.9±21.6 ^{bcde}	-22.2±32.2 ^{abcde}	-119.2±15 ^{cde}

Classification of Antimicrobial activity: > 50 % = strong inhibition; 15- 50 % = moderate inhibition; <14.99 % = No inhibition.

Culture media: FOB: Forage oats broth, CWB: Cheese whey broth, FFB: Flour fish broth.

Indicator microorganisms: **Bc*: *B. cereus*, †*Lm*: *L. monocytogenes*, ‡*Sa*: *S. aureus*, §*Ca*: *C. albicans*, ¶*Sc*: *S. cerevisiae*, ***Ct*: *C. tropicalis*, ††*n*: *A. niger*, ‡‡*Fo*: *F. oxysporum*, §§*Pe*: *P. expansum*.

Different letters correspond to significant differences on each row, for each growth media analyzed $P < 0.05$.