Table S1. Aflatoxin B_1 degradation products analyzed using UHPLC-Q-TOF-MS. The table shows the compound names and their corresponding molecular formulas.

Aflatoxin Degradation Products	Molecular Formula
1,2,5a,8a-tetrahydro-10-H-cyclobuta[c]furo[3′,2′:4,5]furo[2,3-h]chromen-10-one	C15H11O4
1,2-dihydroxy-5-(4-hydroxy-2-oxo-2,3,3a,8a-tetrahydrofuro[2,3-b]benzofuran-5-yl)cyclopentanecarboxylic acid	C16H17O8
1-hydroxy-2-(4-hydroxy-6-methoxy-2-oxo-2,3,3a,8a-tetrahydrofuro[2,3-b]benzofuran-5-yl)-5-oxocyclopentanecarboxylic acid	C17H17O9
1-hydroxy-2-oxo-5-(2,4,6-trihydroxy-2,3,3a,8a-tetrahydrofuro[2,3-b]benzofuran-5-yl)cyclopentanecarboxylic acid	C16H17O9
2-(2,4-dihydroxy-2,3,3a,8a-tetrahydrofuro[2,3-b]benzofuran-5-yl)-5-hydroxycyclopent-1-enecarboxylic acid	C16H17O7
2,3,3a,4,5,8a-hexahydrofuro[2,3-b]benzofuran-2,6-diol	C10H13O4
2,3,3a,6a-tetrahydrofuro[2,3-b]furan 8-methoxy-1,2-dihydro-3H-cyclopenta[b]benzofuran-3-one	C16H12O5
2,3,6a,9a-tetrahydro-4-methoxycyclopenta[c]furo[2,3:4-5]furo[2,3-h]chromene-1,11-dione	C17H13O6
3-(hydrometyl)-8,9-dihydro-2H-furo[2,3-h]chromen-8-ol	C12H14O4
3a,4,5,8a-tetrahydrofuro[2,3-b]benzofuran-2,6-diol	C10H11O4
8,9-Dihydroxy-8,9-dihydro-aflatoxin B_1	C17H14O8
8-Dichloroacetaxy-8,9-dihydro-aflatoxin B_1	C19H14Cl2O8
Aflatoxicol	C17H14O6
Aflatoxin B_1-8,9-epoxide	C17H12O7
Aflatoxin B_{2a}	C17H14O7
Aflatoxin D_1	C16H14O5
Aflatoxin D_2	C11H10O4
Aflatoxin P_1	C16H10O6
Phthalic anhydride	C8H4O3
Unnamed AFB_1 degraded compound 1	C16H14O6
Unnamed AFB_1 degraded compound 2	C14H11O6
Unnamed AFB_1 degraded compound 3	C16H13O5
Unnamed AFB_1 degraded compound 4	C17H15O6
Unnamed AFB_1 degraded compound 5	C18H33N3O3
Unnamed AFB_1 degraded compound 6	C18H34N3O3
Unnamed AFB_1 degraded compound 7	C6H10N
Unnamed AFB_1 degraded compound 8	C6H12NO
Unnamed AFB_1 degraded compound 9	C6H7
Unnamed AFB_1 degraded compound 10	C17H11O7
Unnamed AFB_1 degraded compound 11	C16H12O7
Unnamed AFB_1 degraded compound 12	C17H23O9
Unnamed AFB_1 degraded compound 13	C16H13O7
Unnamed AFB_1 degraded compound 14	C16H17O6
Unnamed AFB_1 degraded compound 15	C17H15O8
Unnamed AFB_1 degraded compound 16	C16H15O7

Unnamed AFB_1 degraded compound 17	$C_{12}H_8O_4$
Unnamed AFB_1 degraded compound 18	$C_{13}H_{12}O_2$
Unnamed AFB_1 degraded compound 19	$C_{14}H_{10}O_4$
Unnamed AFB_1 degraded compound 20	$C_{14}H_{12}O_3$
Unnamed AFB_1 degraded compound 21	$C_{14}H_{16}O_2$
Unnamed AFB_1 degraded compound 22	$C_{16}H_{16}O_6$
Unnamed AFB_1 degraded compound 23	$C_{14}H_{20}O_2$
Unnamed AFB_1 degraded compound 24	$C_{16}H_{12}O_2$
Unnamed AFB_1 degraded compound 25	$C_{16}H_{18}O_5$
Unnamed AFB_1 degraded compound 26	$C_{16}H_{20}O_4$
Unnamed AFB_1 degraded compound 27	$C_{17}H_{20}O_7$
Unnamed AFB_1 degraded compound 28	$C_{18}H_{16}O_8$
Unnamed AFB_1 degraded compound 29	C_6H_{10}
Unnamed AFB_1 degraded compound 30	$C_6H_{12}O$
Unnamed AFB_1 degraded compound 31	$C_8H_{12}O$
Unnamed AFB_1 degraded compound 32	$C_9H_{10}O_3$
Unnamed AFB_1 degraded compound 33	$C_{14}H_{12}O_5$
Unnamed AFB_1 degraded compound 34	$C_9H_{14}O_2$
Unnamed AFB_1 degraded compound 35	$C_9H_{14}O_4$
Unnamed AFB_1 degraded compound 36	$C_9H_{18}O_2$
Unnamed AFB_1 degraded compound 37	$C_{16}H_{16}O_7$
Unnamed AFB_1 degraded compound 38	$C_{17}H_{20}O_9$
Unnamed AFB_1 degraded compound 39	$C_{17}H_{12}O_8$
Unnamed AFB_1 degraded compound 40	$C_{17}H_8O_8$
Unnamed AFB_1 degraded compound 41	$C_{17}H_{18}O_8$
Unnamed AFB_1 degraded compound 42	$C_{17}H_{14}O_5$
Unnamed AFB_1 degraded compound 43	$C_{17}H_{16}O_6$
Unnamed AFB_1 degraded compound 44	$C_{14}H_{10}O_6$
Unnamed AFB_1 degraded compound 45	$C_{19}H_{18}O_8$
Unnamed AFB_1 degraded compound 46	$C_{12}H_{21}N_2O$
Unnamed AFB_1 degraded compound 47	$C_{12}H_{22}N_2O_2$
Unnamed AFB_1 degraded compound 48	$C_{12}H_{23}N_2O_2$
Unnamed AFB_1 degraded compound 49	$C_{13}H_{10}O_2$
Unnamed AFB_1 degraded compound 50	$C_{13}H_{17}O_4$
Unnamed AFB_1 degraded compound 51	$C_{14}H_{13}O_5$
Unnamed AFB_1 degraded compound 52	$C_{14}H_8O_3$
Unnamed AFB_1 degraded compound 53	$C_{15}H_{10}O_3$
Unnamed AFB_1 degraded compound 54	$C_{15}H_{11}O_5$
Unnamed AFB_1 degraded compound 55	$C_{15}H_{11}O_7$
Unnamed AFB_1 degraded compound 56	$C_{15}H_{12}O_4$
Unnamed AFB_1 degraded compound 57	$C_{15}H_{13}O_7$
Unnamed AFB_1 degraded compound 58	$C_{16}H_{11}O_6$
Unnamed AFB_1 degraded compound 59	$C_{16}H_{12}O_4$
Unnamed AFB_1 degraded compound 60	$C_{16}H_{15}O_5$
Unnamed AFB_1 degraded compound 61	$C_{17}H_{13}O_7$
Unnamed AFB_1 degraded compound 62	$C_{17}H_{15}O_7$
Unnamed AFB_1 degraded compound 63	$C_{17}H_{16}O_7$

Table S2. Fumonisin B_1 degradation products analyzed using UHPLC-Q-TOF-MS. The table shows the compound names and their corresponding molecular formulas.

Fumonisin B_1 Degradation Products	Molecular Formula
Hydrolyzed fumonisin B_1	C22H47NO5
Partial hydrolyzed fumonisin B_1	C28H53NO10
Fumonisin FP_1	C39H62NO16
Fumonisin C_1	C33H57NO15
Esterified FB_1 - linoleic acid	C52H89NO16
Esterified FB_1 - palmitic acid	C50H89NO16
Esterified FB_1 - oleic acid	C52H91NO16
N-(deossi-D-frutto-1yl)-fumonisin B_1	C40H69NO20
N-(carbossimetil)-fumonisin B_1	C36H61NO17
Lysil-fumonisin B_1	C43H75N3O17
Fumonisin B_1+Metossiglucosio	C50H85NO24
Heptadecanone	C17H34O
Isononadecene	C19H38
Octadecenal	C18H34O
Eicosane	C20H42

Table S3. Ochratoxin A degradation products analyzed using UHPLC-Q-TOF-MS. The table shows the compound names and their corresponding molecular formulas.

Ochratoxin A Degradation Products	Molecular Formula
4-Hydroxy ochratoxin A-β-D-glucoside	C26H28ClNO12
4-hydroxy-ochratoxin A methyl ester	C21H20ClNO7
Ethylamide ochratoxin A	C22H23ClN2O5
Hydroxy-ochratoxin A	C20H18ClNO7
Lactone-opened ochratoxin A	C20H20ClNO7
Lactone-opened ochratoxin B	C20H21NO7
Lactone-opened ochratoxin β	C11H9O5
Ochratoxin A cellobiose ester	C32H38ClNO16
Ochratoxin A decarboxylated	C19H18ClNO4
Ochratoxin A quinone	C20H17NO7
Ochratoxin B	C20H19NO6
Ochratoxin B ethyl ester	C22H23NO6
Ochratoxin B methyl ester	C21H21NO6
Ochratoxin C	C22H22ClNO6
Ochratoxin α	C11H9ClO5
Ochratoxin α methyl ester	C12H11ClO5
Ochratoxin α-amide	C11H12ClNO4
Ochratoxin β	C11H10O5

Table S4. Absorbance values at 630 nm after culturing *P. fermentans* KCB21_L2 on PDB at different pH levels (3.0, 5.5, and 7.0) and treatments (control, AFB_1 (10 μg/L), FB_1 (100 μg/L), and OTA (0.5 μg/L)). The results are the mean ± standard deviation of two replicates. For each pH value, comparisons were performed between different treatments. There were no significant differences between the control and any treatment ($p > 0.05$).

pH	Treatment			
	Control	**AFB_1**	**FB_1**	**OTA**
pH 3.0	1.38 ± 0.02	1.41 ± 0.03	1.44 ± 0.02	1.43 ± 0.02
pH 5.5	1.49 ± 0.04	1.50 ± 0.02	1.56 ± 0.03	1.51 ± 0.02
pH 7.0	1.52 ± 0.01	1.50 ± 0.03	1.50 ± 0.04	1.49 ± 0.01

Table S5. Counts of viable cells (CFU/mL) of *P. fermentans* KCB21_L2 after exposure to high concentrations of AFB_1, FB_1, and OTA, at different pH values (3.0, 5.5, and 7.0). The results are the mean ± standard deviation of two replicates. Asterisks (*) indicate significant differences ($p \leq 0.05$) compared to the control.

Count of viable cells (CFU/mL)				
		pH 3.0	**pH 5.5**	**pH 7.0**
Control		$9.79 \times 10^7 \pm 2.10 \times 10^6$	$3.95 \times 10^8 \pm 5.00 \times 10^6$	$2.78 \times 10^8 \pm 1.02 \times 10^8$
AFB_1	200 μg/L	$8.80 \times 10^7 \pm 1.00 \times 10^6$	$2.05 \times 10^8 \pm 4.50 \times 10^7$	$1.40 \times 10^8 \pm 8.50 \times 10^6$
	100 μg/L	$7.95 \times 10^7 \pm 1.15 \times 10^7$	$3.30 \times 10^8 \pm 4.00 \times 10^7$	$2.15 \times 10^8 \pm 8.50 \times 10^7$
	20 μg/L	$6.55 \times 10^7 \pm 1.25 \times 10^7$	$3.89 \times 10^8 \pm 1.92 \times 10^8$	$1.66 \times 10^8 \pm 2.75 \times 10^7$
FB_1	2000 μg/L	$8.70 \times 10^7 \pm 3.00 \times 10^6$	$1.22 \times 10^8 \pm 1.50 \times 10^7$ *	$1.24 \times 10^8 \pm 2.60 \times 10^7$ *
	1000 μg/L	$8.10 \times 10^7 \pm 7.00 \times 10^6$	$1.51 \times 10^8 \pm 1.60 \times 10^7$	$1.97 \times 10^8 \pm 1.04 \times 10^8$
	200 μg/L	$8.30 \times 10^7 \pm 2.70 \times 10^7$	$2.80 \times 10^8 \pm 9.00 \times 10^7$	$3.55 \times 10^8 \pm 3.50 \times 10^7$
OTA	100 μg/L	$8.05 \times 10^7 \pm 5.50 \times 10^6$	$3.10 \times 10^8 \pm 3.00 \times 10^7$	$1.68 \times 10^8 \pm 2.50 \times 10^6$
	10 μg/L	$1.18 \times 10^8 \pm 1.65 \times 10^7$	$3.40 \times 10^8 \pm 2.00 \times 10^7$	$1.34 \times 10^8 \pm 6.50 \times 10^6$

	1 μg/L	$9.05 \times 10^7 \pm 1.45 \times 10^7$	$3.30 \times 10^8 \pm 3.00 \times 10^7$	$2.35 \times 10^8 \pm 9.50 \times 10^7$