

Supplementary data

Table S1. Procedure for assay of ACE activity.

	Test samples	Positive control	Negative control
ACE-1 positive control (μl)	10	10	10
ACE1 assay buffer (μl)	40	40	60
Inhibitor (μL)	20	20	0
ACE-1 substrate (μl)	50	50	50

Table S2. Organic acids and volatile compounds in destarched rice, Prozyme treated destarched rice (DP) and fermented DP.

Retention Time (min)	Adduct / Charge	Peak area			Precursor mass	Found at mass	Formula finder results	Organic acids
		Destarched rice	Destarched rice + Prozyme (DP)	Fermented DP				
1	[M-H]-	20840000	1.80E+07	2.01E+07	195.052	195.0511	C6H12O7	Gluconic acid
1.01	[M-H]-	328000	3.31E+05	0	209.031	209.0307	C6H10O8	Glucaric acid
1.17	[M-H]-	151700	2.39E+05	1.96E+06	133.015	133.0143	C4H6O5	Malic acid
1.49	[M-H]-	64250	8.04E+04	5.62E+05	111.01	111.0089	C5H4O3	Furoic acid
1.79	[M-H]-	178600	1.83E+05	0.00E+00	117.02	117.0194	C4H6O4	Succinic acid
2.44	[M-H]-	4298	6.29E+03	1.17E+06	103.041	103.0401	C4H8O3	Hydroxybutanoic acid
3.35	[M-H]-	638700	6.42E+05	6.43E+05	205.036	205.0356	C7H10O7	Homocitric acid
5.97	[M-H]-	803100	2.31E+05	5.76E+05	218.104	218.1036	C9H17NO5	Pantothenic acid
8.65	[M-H]-	211100	2.16E+05	1.20E+05	259.077	259.0761	C18H12O2	Pyreneacetic acid
9.95	[M-H]-	329500	2.88E+05	3.18E+05	191.021	191.0191	C6H8O7	Citric acid
10.01	[M-H]-	0	0.00E+00	4.78E+04	355.068	355.0656	C12H8N10O4	Binicotinic acid
11.3	[M-H]-	0	2.74E+05	2.21E+05	157.051	157.0512	C7H10O4	Dioxoheptanoic acid
11.56	[M-H]-	0	0.00E+00	3.91E+02	131.072	131.0713	C6H12O3	Butoxyacetic acid
12.96	[M-H]-	0	0.00E+00	7.74E+02	173.083	173.0821	C8H14O4	Suberic acid
13.33	[M-H]-	0	0.00E+00	3.99E+03	237.041	237.0406	C11H10O6	Oxobutyric acid
15.81	[M-H]-	0	3.98E+05	3.49E+05	201.114	201.1134	C10H18O4	Sebacic acid
17.27	[M-H]-	0	0.00E+00	1.31E+04	327.219	327.2178	C18H32O5	Malyngic acid
18.55	[M-H]-	0	0.00E+00	6.41E+05	333.131	333.13	C13H22N2O8	Pseudaminic acid
19.2	[M-H]-	0	1.84E+05	5.15E+04	154.975	154.9742	C5H4N2S2	Pyrazinoic acid
19.62	[M-H]-	0	2.92E+05	3.47E+05	297.208	297.2073	C17H30O4	Butanedioic acid

Table S3. Amino acids in destarched rice, Prozyme treated destarched rice (DP) and fermented DP.

Retention time (min)	Adduct / Charge	Peak area			Precursor mass	Found at mass	Formula finder results	Amino acids
		Destarched rice	Destarched rice + Prozyme (DP)	Fermented DP				
0.89	[M-H]-	6573	4.05E+05	514400	131.084	131.0827	C5H12N2O2	Ornithine
0.89	[M-H]-	31680	1.57E+06	1159000	154.063	154.0624	C6H9N3O2	Histidine
0.95	[M-H]-	36870	0	1681000	104.036	104.0354	C3H7NO3	Serine
0.97	[M-H]-	183500	5.81E+05	501000	131.047	131.0463	C4H8N2O3	Asparagine
0.97	[M-H]-	597800	1.06E+06	623200	132.031	132.0303	C4H7NO4	Aspartic acid
0.97	[M-H]-	278200	1.57E+06	2685000	102.057	102.0561	C4H9NO2	α -Aminobutyric acid
0.97	[M-H]-	105800	4.15E+05	703500	146.047	146.0459	C5H9NO4	Glutamic acid
0.97	[M-H]-	530100	2.45E+06	4215000	145.063	145.0619	C5H10N2O3	Glutamine
0.98	[M-H]-	154100	7.95E+05	415600	118.052	118.051	C4H9NO3	Threonine
1.26	[M-H]-	44610	3.12E+06	4225000	148.045	148.0441	C5H11NO2S	Methionine
1.55	[M-H]-	95130	6.26E+06	2249000	128.036	128.0354	C5H7NO3	Pyroglutamic acid
1.76	[M-H]-	115300	0	0	130.088	130.0874	C6H13NO2	Leucine
3.13	[M-H]-	3404	7.80E+03	0	164.073	164.0717	C9H11NO2	Phenylalanine
6.03	[M-H]-	47720	2.57E+06	0	203.084	203.0828	C11H12N2O2	Tryptophan
12.27	[M-H]-	283200	0	0	339.106	339.1052	C12H16N6O6	Arginine
14.89	[M-H]-	0	8.16E+05	5.43E+05	269.047	269.0444	C7H14N2O7S	Cysteic acid

Table S4. Phenolic compounds in destarched rice, Prozyme treated destarched rice (DP) and fermented DP.

Retention Time (min)	Adduct / Charge	Peak area			Precursor Mass	Found At Mass	Formula Finder Results	Phenolic compounds
		Destarched rice	Destarched rice + Prozyme (DP)	Fermented DP				
3.16	[M-H]-	519400	0	0	147.046	147.0453	C9H8O2	Cinnamic acid
8.23	[M-H]-	164500	1.95E+05	1.51E+04	181.052	181.0507	C14H22O2	Veratric acid
10.37	[M-H]-	130500	1.23E+05	1.28E+05	167.036	167.0349	C8H8O4	Vanillic acid
11.15	[M-H]-	13660	1.23E+06	1.17E+06	197.047	197.0453	C9H10O5	Ethyl gallate
11.17	[M-H]-	18370	2.04E+04	1.59E+07	197.047	197.0453	C9H10O5	Syringic acid
11.17	[M-H]-	8533	0	0.00E+00	163.077	163.0765	C10H12O2	Eugenol
12	[M-H]-	431300	3.76E+05	4.77E+05	163.041	163.04	C9H8O3	Coumarinic acid
12.34	[M-H]-	718600	8.02E+05	7.85E+05	305.071	305.067	C15H14O7	Epigallocatechin
12.59	[M-H]-	68830	3.80E+05	1.68E+05	193.052	193.0508	C10H10O4	Ferulic acid
14.3	[M-H]-	0	0	6.40E+05	269.047	269.0456	C15H10O5	Apigenin
14.95	[M-H]-	0	2.60E+02	1.98E+06	253.052	253.0509	C15H10O4	Chrysophanol
15.35	[M-H]-	0	0	7.48E+03	301.036	301.0357	C15H10O7	Quercetin
17.8	[M-H]-	0	0	7.85E+03	431.173	431.1715	C23H28O8	Flavaspidic acid PB
18.19	[M-H]-	0	0	6.27E+04	309.172	309.1709	C17H26O5	Dodecyl gallate
19.71	[M-H]-	0	0	2.89E+04	277.182	277.1809	C10H12O2	Paradol
20.17	[M-H]-	0	6.60E+05	6.64E+05	221.156	221.1547	C14H22O2	3,5-Di-tert-butylphenol
20.17	[M-H]-	56110	0	1.86E+06	173.01	173.0093	C14H22O2	Benzenehexol

