

SUPPLEMENTARY DATA

Table S1. Concentration of main free and bound PCs in the experimental cookies prepared using standard or sourdough fermentation. Values are expressed as mean values \pm SD (n=4). Statistical analysis was by two-way ANOVA followed by Tukey's HSD test. Different letters in the same column indicate statistical significance ($p < 0.05$).

	Apigenin-C-hex-C-pen (1 st)	Apigenin-C-hex-C-pen (2 nd)	<i>p</i> -Coumaric acid	Ferulic acid	Diferulic acid	Sinapic acid isomers [#]
Free compounds						
($\mu\text{g/g}$ of cookie)						
DUR _s	16.92 \pm 0.65 ^b	52.37 \pm 1.64 ^b	nd	nd	nd	nd
DUR _L	22.75 \pm 2.89 ^a	68.91 \pm 1.98 ^a	nd	24.16 \pm 2.02 ^a	nd	nd
KHO _s	8.07 \pm 1.69 ^{c,d}	28.15 \pm 8.30 ^c	nd	nd	nd	nd
KHO _L	10.00 \pm 1.41 ^c	33.47 \pm 7.14 ^c	2.68 \pm 0.23	17.80 \pm 3.81 ^b	nd	nd
KAM _s	5.86 \pm 1.71 ^d	17.58 \pm 1.01 ^d	nd	nd	nd	nd
KAM _L	4.58 \pm 0.28 ^d	14.55 \pm 0.41 ^d	nd	nd	nd	nd
Bound compounds						
($\mu\text{g/g}$ of cookie)						
DUR _s	nd	nd	6.90 \pm 0.28 ^c	551.27 \pm 22.78 ^a	577.70 \pm 37.82 ^{a,b}	20.26 \pm 3.26 ^a
DUR _L	nd	nd	7.26 \pm 0.57 ^c	558.88 \pm 13.18 ^a	589.48 \pm 95.17 ^{a,b}	22.32 \pm 1.22 ^a
KHO _s	nd	nd	13.18 \pm 0.97 ^b	491.97 \pm 10.88 ^b	529.13 \pm 6.49 ^{b,c}	9.49 \pm 1.12 ^c
KHO _L	nd	nd	15.12 \pm 0.31 ^a	538.10 \pm 7.38 ^a	655.78 \pm 10.29 ^a	14.82 \pm 1.54 ^b
KAM _s	nd	nd	7.73 \pm 0.81 ^c	326.70 \pm 12.03 ^c	372.27 \pm 6.56 ^d	11.22 \pm 1.08 ^{b,c}
KAM _L	nd	nd	7.10 \pm 0.30 ^c	338.31 \pm 18.94 ^c	432.96 \pm 26.09 ^{c,d}	11.37 \pm 2.46 ^{b,c}

nd: not detected; hex: hexoside; pen: pentoside; [#] sum of sinapic acid and its isomer.

Table S2. Statistical analysis of the concentration of main PCs in the < 3 KDa digested fractions of the experimental cookies. Values are expressed as mean \pm SD (n=3) and are from Tables 2 and 3. Statistical analysis was by two-way ANOVA followed by Tukey's HSD test. Different letters in the same column indicate statistical significance (p<0.05).

Compound	DUR _s ($\mu\text{g/g}$ of cookie)	DUR _t ($\mu\text{g/g}$ of cookie)	KHO _s ($\mu\text{g/g}$ of cookie)	KHO _t ($\mu\text{g/g}$ of cookie)	KAM _s ($\mu\text{g/g}$ of cookie)	KAM _t ($\mu\text{g/g}$ of cookie)
Apigenin-C-hex-C-pen (1 st)	30.43 \pm 2.29 ^a	31.47 \pm 1.32 ^a	17.73 \pm 0.66 ^b	17.21 \pm 0.23 ^b	10.70 \pm 0.36 ^c	10.77 \pm 0.29 ^c
Apigenin-C-hex-C-pen (2 nd)	73.87 \pm 0.50 ^b	81.38 \pm 0.20 ^a	49.84 \pm 0.84 ^c	49.37 \pm 1.15 ^c	26.65 \pm 0.15 ^d	25.86 \pm 0.14 ^d
Apigenin-C-dihex (1 st)	2.02 \pm 0.15 ^a	2.06 \pm 0.17 ^a	1.25 \pm 0.02 ^b	1.05 \pm 0.07 ^b	nd	nd
Apigenin-C-dihex (2 nd)	2.38 \pm 0.02	nd	nd	nd	nd	nd
Apigenin-C-dihex (3 rd)	nd	2.35 \pm 0.24	nd	nd	nd	nd
<i>p</i> -Hydroxybenzoic acid	nd	nd	nd	nd	nd	nd
<i>p</i> -Coumaric acid	0.64 \pm 0.06 ^c	1.07 \pm 0.02 ^b	1.07 \pm 0.15 ^b	2.49 \pm 0.08 ^a	0.41 \pm 0.02 ^c	nd
Caffeic acid	nd	nd	nd	nd	nd	nd
Ferulic acid	4.24 \pm 0.79 ^b	20.21 \pm 1.44 ^a	5.30 \pm 1.21 ^b	21.31 \pm 0.26 ^a	3.40 \pm 0.35 ^b	4.31 \pm 0.17 ^b
Sinapic acid isomers	nd	1.69 \pm 0.12	nd	nd	nd	nd

nd: not detected; hex: hexoside; pen: pentoside; dihex: dihexoside.

Table S3. Summary of ANOVA results on the main PCs in the < 3 KDa digested fractions of the experimental cookies.

Source	<i>df</i>	MS	<i>F</i>	<i>p</i>
Apigenin-C-hexoside-C-pentoside (1st)				
WG cereal	2	635.2	491.1	<0.0001
fermentation	1	0.2450	0.1894	0.6711
WG cereal × fermentation	2	0.9800	0.7577	0.4899
Apigenin-C-hexoside-C-pentoside (2nd)				
WG cereal	2	3967	9834	<0.0001
fermentation	1	19.85	49.20	<0.0001
WG cereal × fermentation	2	32.87	81.48	<0.0001
Apigenin-C-dihexoside (1st)				
WG cereal	2	6.276	418.4	<0.0001
fermentation	1	0.01280	0.8533	0.3738
WG cereal × fermentation	2	0.02480	1.653	0.2322
<i>p</i>-Coumaric acid				
WG cereal	2	3.759	375.9	<0.0001
fermentation	1	1.037	103.7	<0.0001
WG cereal × fermentation	2	1.259	125.9	<0.0001
Ferulic acid				
WG cereal	2	160.3	222.2	<0.0001
fermentation	1	540.2	748.6	<0.0001
WG cereal × fermentation	2	113.6	157.3	<0.0001

df: degrees of freedom; MS = mean squares.