

**Supplemental Table 1.** Biochemical parameters in patients with and without cancer recurrence<sup>1</sup>

	With recurrence (n = 66)		Without recurrence (n = 506)		p-value <sup>2</sup>
	BMI < 23 (n = 33)	BMI ≥ 23 (n = 33)	BMI < 23 (n = 252)	BMI ≥ 23 (n = 254)	
TP (g/L)	74.31 ± 0.36	72.83 ± 0.61	73.32 ± 0.52	72.91 ± 0.48	0.327
ALB (g/L)	44.52 ± 0.25	42.81 ± 0.68	43.83 ± 0.35	43.74 ± 0.50	0.451
ALP (μkat/L)	7.04 ± 1.86	6.88 ± 7.26	7.20 ± 3.76	7.94 ± 2.70	0.086
AST (μkat/L)	2.31 ± 0.76	6.11 ± 1.18	2.29 ± 0.90	2.63 ± 1.38	0.134
ALT (μkat/L)	2.13 ± 0.94	3.09 ± 5.04	2.11 ± 1.27	2.33 ± 1.42	0.855
WBC (10 <sup>9</sup> /L)	5.40 ± 1.56	7.46 ± 4.51	5.69 ± 1.89	5.96 ± 2.11	0.518
Hemoglobin (g/L)	122.71 ± 13.62	121.92 ± 16.43	124.94 ± 12.52	128.15 ± 64.71	0.740
Hematocrit (%)	36.77 ± 3.91	36.76 ± 4.61	37.48 ± 3.43	37.36 ± 4.61	0.818
TG (mmol/L)	1.37 ± 0.64	1.80 ± 0.10	1.48 ± 0.91	1.76 ± 0.90	0.120
HDL-C (mmol/L)	5.25 ± 1.42	4.50 ± 1.07	5.54 ± 1.28	5.10 ± 1.17	0.333
LDL-C (mmol/L)	9.16 ± 2.37	12.28 ± 4.76	10.35 ± 2.80	11.14 ± 3.35	0.611
Cholesterol (mmol/L)	19.13 ± 3.33	18.50 ± 6.51	18.87 ± 4.33	19.28 ± 3.95	0.783
CA15-3 (U/mL)	10.03 ± 4.82	18.71 ± 43.07	9.68 ± 5.28	10.01 ± 6.77	0.622

TP, total protein; ALB, albumin; ALP, alkaline phosphatase; AST, aspartate aminotransferase; ALT, alanine aminotransferase; TG, triglycerides; HDL-C, high-density lipoprotein cholesterol; LDL-C, low-density lipoprotein cholesterol; WBC, white blood cell; CA15-3, cancer antigen 15-3; <sup>1</sup>values are mean ± SD; <sup>2</sup>p-values are determined by ranked-ANOVA after adjusting for age, waist circumference, alcohol drinking, tumor size, lymph node metastasis, histologic grade, and energy intake. BMI, body mass index.

**Supplemental Table 2.** Association between dietary intake of flavonoids and the risk of cancer recurrence in all breast cancer patients

	Tertiles of flavonoid intake			<i>p</i> for trend <sup>1</sup>	Continuous
	T1	T2	T3		
<b>Flavonoids</b>					
Cut off (range), 10 mg/d	2.36 ( $\leq$ 3.30)	4.57 (3.30 < to $\leq$ 6.25)	9.59 (> 6.25)		
No. of with/without recurrence	29/161	18/173	19/172		
Crude HR (95% CI)	1.0	0.634 (0.35–1.14)	0.622 (0.34–1.11)	0.154	0.990 (0.98–1.04)
Adjusted HR (95% CI) <sup>2</sup>	1.0	0.547 (0.29–1.02)	0.727 (0.40–1.31)	0.421	0.992 (0.98–1.05)
<b>Flavonols</b>					
Cut off (range), 10 mg/d	1.00 ( $\leq$ 1.55)	2.45 (1.55 < to $\leq$ 3.62)	7.13 (> 3.62)		
No. of with/without recurrence	28/162	20/171	18/173		
Crude HR (95% CI)	1.0	0.663 (0.37–1.17)	0.603 (0.33–1.09)	0.151	0.989 (0.97–1.01)
Adjusted HR (95% CI) <sup>2</sup>	1.0	0.586 (0.32–1.05)	0.621 (0.33–1.15)	0.242	0.992 (0.98–1.02)
<b>Quercetin</b>					
Cut off (range), 10 mg/d	0.41 ( $\leq$ 0.74)	1.12 (0.74 < to $\leq$ 2.48)	5.55 (> 2.48)		
No. of with/without recurrence	25/165	25/166	16/175		
Crude HR (95% CI)	1.0	1.079 (0.62–1.87)	0.647 (0.34–1.21)	0.110	0.989 (0.97–1.03)
Adjusted HR (95% CI) <sup>2</sup>	1.0	1.057 (0.60–1.85)	0.693 (0.35–1.33)	0.207	0.992 (0.98–1.02)
<b>Kaempferol</b>					
Cut off (range), 10 mg/d	0.22 ( $\leq$ 0.34)	0.52 (0.34 < to $\leq$ 0.82)	1.25 (> 0.82)		
No. of with/without recurrence	28/162	20/171	18/173		
Crude HR (95% CI)	1.0	0.731 (0.41–1.29)	0.623 (0.34–1.12)	0.143	0.961 (0.91–1.02)
Adjusted HR (95% CI) <sup>2</sup>	1.0	0.815 (0.45–1.47)	0.694 (0.37–1.27)	0.263	0.967 (0.92–1.06)
<b>Isorhamnetin</b>					
Cut off (range), 10 mg/d	0.08 ( $\leq$ 0.15)	0.23 (0.15 < to $\leq$ 0.33)	0.54 (> 0.33)		
No. of with/without recurrence	29/161	21/170	16/175		
Crude HR (95% CI)	1.0	0.709 (0.40–1.24)	0.581 (0.30–1.07)	0.093	0.946 (0.86–1.03)
Adjusted HR (95% CI) <sup>2</sup>	1.0	0.710 (0.39–1.26)	0.567 (0.30–1.07)	0.093	0.950 (0.87–1.03)
<b>Flavones</b>					
Cut off (range), 10 mg/d	0.74 ( $\leq$ 1.24)	1.64 (1.24 < to $\leq$ 2.13)	3.18 (> 2.13)		
No. of with/without recurrence	29/160	17/175	20/171		
Crude HR (95% CI)	1.0	0.582 (0.32–1.05)	0.645 (0.36–1.14)	0.170	0.983 (0.96–1.02)
Adjusted HR (95% CI) <sup>2</sup>	1.0	0.623 (0.33–1.14)	0.738 (0.41–1.31)	0.367	0.987 (0.96–1.05)
<b>Apigenin</b>					
Cut off (range), 10 mg/d	0.26 ( $\leq$ 0.51)	0.66 (0.51 < to $\leq$ 0.91)	1.39 (> 0.91)		
No. of with/without recurrence	27/163	18/174	21/169		
Crude HR (95% CI)	1.0	0.694 (0.38–1.26)	0.779 (0.44–1.37)	0.466	0.949 (0.89–1.03)
Adjusted HR (95% CI) <sup>2</sup>	1.0	0.815 (0.44–1.50)	0.874 (0.48–1.56)	0.701	0.948 (0.89–1.02)
<b>Luteolin</b>					
Cut off (range), 10 mg/d	0.22 ( $\leq$ 0.60)	0.93 (0.60 < to $\leq$ 1.34)	1.60 (> 1.34)		
No. of with/without recurrence	27/163	19/154	20/189		
Crude HR (95% CI)	1.0	0.785 (0.43–1.41)	0.607 (0.34–1.08)	0.090	0.987 (0.95–1.01)
Adjusted HR (95% CI) <sup>2</sup>	1.0	0.650 (0.35–1.19)	0.647 (0.35–1.16)	0.139	0.994 (0.96–1.02)

<sup>1</sup>Estimates of *p* for trend values for linear trends are based on linear scores derived from the medians of tertiles of flavonoid intake among all patients; <sup>2</sup>adjusted hazard ratio (HR) and 95% confidence interval (CI) are analyzed via Cox proportional hazards regression analysis after adjusted for age, waist circumference, alcohol drinking, tumor size, lymph node metastasis, histologic grade, and energy intake.

**Supplemental Table 3.** Association between dietary intake of flavonoid-rich foods and the risk of cancer recurrence in all breast cancer patients

	Tertiles of flavonoid-rich food intake			<i>p</i> for trend <sup>1</sup>	Continuous
	T1	T2	T3		
<b>Flavonoid-rich food</b>					
Cut off (range), 10 g/d	3.75 ( $\leq$ 6.61)	9.50 (6.61 < to $\leq$ 12.57)	17.10 ( $>$ 12.57)		
No. of with/without recurrence	29/161	18/173	19/172		
Crude HR (95% CI)	1.0	0.560 (0.31–1.01)	0.627 (0.35–1.11)	0.122	0.996 (0.99–1.05)
Adjusted HR (95% CI) <sup>2</sup>	1.0	0.593 (0.32–1.09)	0.719 (0.39–1.30)	0.292	0.998 (0.99–1.06)
<b>Flavonol-rich food</b>					
Cut off (range), 10 g/d	0.97 ( $\leq$ 3.50)	5.51 (3.50 < to $\leq$ 8.15)	11.50 ( $>$ 8.15)		
No. of with/without recurrence	26/158	21/176	19/172		
Crude HR (95% CI)	1.0	0.595 (0.33–1.05)	0.640 (0.35–1.15)	0.159	0.992 (0.98–1.02)
Adjusted HR (95% CI) <sup>2</sup>	1.0	0.613 (0.34–1.09)	0.668 (0.36–1.22)	0.213	0.994 (0.98–1.03)
<b>Flavone-rich food</b>					
Cut off (range), 10 g/d	0.00 ( $\leq$ 2.30)	3.30 (2.30 < to $\leq$ 4.54)	7.20 ( $>$ 4.54)		
No. of with/without recurrence	28/153	22/178	16/175		
Crude HR (95% CI)	1.0	0.720 (0.41–1.25)	0.555 (0.30–1.02)	0.058	0.998 (0.98–1.02)
Adjusted HR (95% CI) <sup>2</sup>	1.0	0.757 (0.42–1.36)	0.639 (0.33–1.20)	0.163	0.997 (0.98–1.01)

<sup>1</sup>Estimates of *p* for trend values for linear trends are based on linear scores derived from the medians of tertiles of flavonoid-rich food intake among all patients; <sup>2</sup>adjusted hazard ratio (HR) and 95% confidence interval (CI) are analyzed via Cox proportional hazards regression analysis after adjusted for age, waist circumference, alcohol drinking, tumor size, lymph node metastasis, histologic grade, and energy intake.