

Supplementary Table 4. Association between sugar energy rate and cancer types.

Sex	Cancer site		Sugar energy rate <sup>1)</sup> < 10%	Sugar energy rate <sup>1)</sup> 10–20%	Sugar energy rate <sup>1)</sup> > 20%	Sugar energy rate <sup>1)</sup> < 10%	Sugar energy rate <sup>1)</sup> ≥10%
			OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Total	All cancer						
		Model 1	1	1.28 (1.06–1.54)*	1.38 (1.09–1.76)*	1	1.30 (1.09–1.55)*
		Model 2	1	1.21 (1.00–1.48)	1.32 (1.02–1.69)*	1	1.24 (1.03–1.49)*
		Model 3	1	1.20 (0.99–1.46)	1.31 (1.02–1.68)*	1	1.22 (1.02–1.47)*
		Model 4	1	1.11 (0.91–1.35)	1.16 (0.90–1.50)	1	1.12 (0.93–1.35)
		Model 5	1	1.05 (0.86–1.29)	1.03 (0.78–1.35)	1	1.05 (0.86–1.27)
	Gastric cancer						
		Model 1	1	1.54 (0.96–2.45)	1.23 (0.57–2.65)	1	1.46 (0.93–2.31)
		Model 2	1	1.68 (1.05–2.70)*	1.57 (0.73–3.38)	1	1.66 (1.05–

							2.62)*
		Model 3	1	1.67 (1.04– 2.70)*	1.65 (0.76– 3.57)	1	1.67 (1.05– 2.65)*
		Model 4	1	1.53 (0.94– 2.50)	1.46 (0.68– 3.12)	1	1.52 (0.95– 2.43)
		Model 5	1	1.53 (0.92– 2.57)	1.37 (0.63– 2.96)	1	1.51 (0.92– 2.48)
	Liver cancer						
		Model 1	1	1.88 (0.75– 4.70)	– <sup>2)</sup>	1	1.42 (0.57– 3.56)
		Model 2	1	2.16 (0.85– 5.48)	– <sup>2)</sup>	1	1.74 (0.68– 4.46)
		Model 3	1	2.12 (0.82– 5.49)	– <sup>2)</sup>	1	1.71 (0.65– 4.51)
		Model 4	1	1.89 (0.73– 4.90)	– <sup>2)</sup>	1	1.52 (0.58– 3.99)
		Model 5	1	1.84 (0.63– 5.35)	– <sup>2)</sup>	1	1.53 (0.51– 4.57)
	Colon cancer						
		Model 1	1	0.82 (0.51– 1.31)	0.59 (0.28– 1.24)	1	0.76 (0.49– 1.19)
		Model 2	1	0.86 (0.54– 1.37)	0.69 (0.32– 1.48)	1	0.82 (0.53– 1.27)

		Model 3	1	0.85 (0.53– 1.35)	0.70 (0.32– 1.51)	1	0.82 (0.53– 1.26)
		Model 4	1	0.79 (0.50– 1.26)	0.63 (0.28– 1.39)	1	0.76 (0.49– 1.18)
		Model 5	1	0.75 (0.45– 1.26)	0.60 (0.24– 1.50)	1	0.73 (0.44– 1.21)
	Breast cancer <sup>3)</sup>						
		Model 1	1	0.97 (0.57– 1.67)	1.63 (0.89– 2.98)	1	1.15 (0.69– 1.91)
		Model 2	1	0.99 (0.57– 1.70)	1.61 (0.87– 2.97)	1	1.16 (0.69– 1.93)
		Model 3	1	0.97 (0.57– 1.65)	1.59 (0.87– 2.91)	1	1.14 (0.69– 1.88)
		Model 4	1	0.87 (0.51– 1.50)	1.32 (0.72– 2.44)	1	1.00 (0.61– 1.65)
		Model 5	1	0.82 (0.48– 1.41)	1.06 (0.53– 2.11)	1	0.88 (0.52– 1.47)
	Lung cancer						
		Model 1	1	1.37 (0.64– 2.91)	0.93 (0.27– 3.21)	1	1.26 (0.61– 2.60)
		Model 2	1	1.46 (0.67– 3.17)	1.14 (0.35– 3.76)	1	1.39 (0.67– 2.91)

		Model 3	1	1.46 (0.67– 3.16)	1.13 (0.35– 3.60)	1	1.39 (0.67– 2.89)
		Model 4	1	1.33 (0.60– 2.91)	0.98 (0.30– 3.22)	1	1.25 (0.59– 2.65)
		Model 5	1	1.34 (0.59– 3.06)	0.95 (0.26– 3.51)	1	1.27 (0.56– 2.87)
	Thyroid cancer						
		Model 1	1	1.13 (0.75– 1.70)	1.31 (0.78– 2.20)	1	1.17 (0.80– 1.72)
		Model 2	1	0.92 (0.61– 1.39)	0.96 (0.57– 1.61)	1	0.93 (0.63– 1.37)
		Model 3	1	0.93 (0.61– 1.42)	0.97 (0.58– 1.62)	1	0.94 (0.64– 1.39)
		Model 4	1	0.84 (0.55– 1.27)	0.84 (0.49– 1.42)	1	0.84 (0.57– 1.24)
		Model 5	1	0.82 (0.55– 1.24)	0.82 (0.48– 1.42)	1	0.82 (0.55– 1.22)
	Other cancers						
		Model 1	1	1.25 (0.89– 1.78)	1.20 (0.72– 2.01)	1	1.24 (0.89– 1.74)
		Model 2	1	1.38 (0.97– 1.96)	1.54 (0.91– 2.61)	1	1.41 (1.00– 1.99)*
		Model	1	1.36 (0.95–	1.54 (0.91–	1	1.40

		3		1.94)	2.60)		(0.99– 1.97)
		Model 4	1	1.26 (0.88– 1.81)	1.39 (0.81– 2.38)	1	1.29 (0.91– 1.83)
		Model 5	1	1.15 (0.80– 1.65)	1.07 (0.59– 1.93)	1	1.13 (0.79– 1.64)

Values were calculated by logistic regression analysis.

OR, odds ratio; CI, confidence interval.

Model 1: Unadjusted.

Model 2: Adjusted for age (continuous) and sex (categorical: male, female).

Model 3: Adjusted for model 2 plus height (continuous, cm) and BMI (continuous, kg/m<sup>2</sup>).

Model 4: Adjusted for model 3 plus education level (categorical: ≤ elementary school degree, middle school degree, high school degree, ≥ college degree), smoking status (categorical: yes, no), physical activities (categorical: yes, no) and drinking status (categorical: yes, no).

Model 5: Adjusted for model 4 plus energy intake (continuous variable: kcal/d), SFA intake (continuous, g/d), sodium intake (continuous, g/d), dietary fiber intake (continuous, g/d) and carbohydrate intake (continuous, g/d).

Model 2 for male and female table was adjusted except for sex.

Model 5 for sugar energy rate was adjusted except for energy intake.

<sup>1</sup>)Sugar energy rate formula: (Total sugar intake (g) × 4) / Energy intake (g) × 100.

<sup>2</sup>)Small frequency issue: The frequency of this level is too small to confirm the results.

<sup>3</sup>)Values corresponding to female participants.

\**P* < 0.05.