

Table S1. Sensitivity analysis of the empirical dietary inflammatory pattern scores and risk of colorectal cancer according to tumor *F nucleatum* status in the pooled cohorts of the Nurses' Health Study (women, 1984-2012) and the Health Professionals Follow-up Study (men, 1986-2012) by using inverse probability weighting

	Tumor <i>F nucleatum</i> status		Tertiles of the empirical dietary inflammatory pattern (EDIP) scores			P_{trend}^*	$P_{\text{heterogeneity}}^\dagger$
			T1 (lowest)	T2	T3 (highest)		
Colorectal cancer							
	Negative	Age-adjusted HR (95% CI)	1 (reference)	0.94 (0.79–1.12)	0.93 (0.78–1.11)	0.41	0.05
		Multivariable HR (95% CI)‡	1 (reference)	0.97 (0.81–1.16)	0.95 (0.79–1.14)	0.57	
	Positive	Age-adjusted HR (95% CI)	1 (reference)	1.08 (0.65–1.77)	1.52 (0.94–2.45)	0.07	0.06
		Multivariable HR (95% CI)‡	1 (reference)	1.10 (0.67–1.81)	1.55 (0.96–2.49)	0.06	
Proximal colon cancer							
	Negative	Age-adjusted HR (95% CI)	1 (reference)	0.93 (0.72–1.20)	0.90 (0.70–1.16)	0.49	0.002
		Multivariable HR (95% CI)‡	1 (reference)	0.93 (0.72–1.20)	0.89 (0.68–1.17)	0.49	
	Positive	Age-adjusted HR (95% CI)	1 (reference)	1.85 (0.92–3.71)	2.58 (1.33–5.02)	0.002	0.003
		Multivariable HR (95% CI)‡	1 (reference)	1.84 (0.92–3.68)	2.55 (1.31–4.98)	0.003	

CI, confidence interval; *F nucleatum*, *Fusobacterium nucleatum*; HR, hazard ratio; T1, tertile 1; T2, tertile 2; T3, tertile 3.

Cox proportional cause-specific hazards regression weighted by the inverse probability of availability of tumor *F nucleatum* status for competing risks data was used to compute HRs and 95% CIs.

All analyses were stratified by age (in month), year of questionnaire return and sex.

* Linear trend test using the median value of each category.

† The Wald test was used for the heterogeneity of the association between the empirical dietary inflammatory pattern scores and colorectal cancer risk according to tumor *F nucleatum* status (negative vs positive).

‡ Multivariable HR was adjusted for pack-years smoked (0 vs 1-19 vs 20-39 vs ≥ 40 pack-years), family history of colorectal cancer (yes vs no), endoscopy status (yes vs no), physical activity level [quintiles of mean metabolic equivalent task score (METs) - hours per week], total calorie intake (quintiles of kcal/day), total alcohol intake (0 vs 1-5 vs 6-15 vs > 15 g/day), current multivitamin use (yes vs no), and regular aspirin use (yes vs no).

Table S2. The empirical dietary inflammatory pattern scores and risk of colorectal cancer according to tumor *F nucleatum* status in the Nurses' Health Study (women, 1984-2012) and the Health Professionals Follow-up Study (men, 1986-2012) separately

	Tumor <i>F nucleatum</i> status	Tertiles of the empirical dietary inflammatory pattern (EDIP) scores			P_{trend}^*	$P_{\text{heterogeneity}}^\dagger$		
		T1 (lowest)	T2	T3 (highest)				
Women (NHS)		Person-years	677,257	645,317	637,874			
Colorectal cancer	Negative	N of cases (n=508)	177	187	144			
		Age-adjusted HR (95% CI)	1 (reference)	1.08 (0.88–1.32)	0.89 (0.72–1.11)	0.36		
		Multivariable HR (95% CI)‡	1 (reference)	1.08 (0.87–1.33)	0.87 (0.70–1.10)	0.29		
		N of cases (n=442)	161	162	119			
		Age-adjusted HR (95% CI)	1 (reference)	1.03 (0.83–1.28)	0.81 (0.64–1.03)	0.10		
		Multivariable HR (95% CI)‡	1 (reference)	1.03 (0.82–1.29)	0.79 (0.62–1.02)	0.08		
	Positive	N of cases (n=66)	16	25	25			
		Age-adjusted HR (95% CI)	1 (reference)	1.55 (0.83–2.91)	1.72 (0.92–3.23)	0.09		
		Multivariable HR (95% CI)‡	1 (reference)	1.55 (0.83–2.92)	1.69 (0.89–3.18)	0.10		
		Proximal colon cancer	Negative	N of cases (n=222)	89	78	55	
				Age-adjusted HR (95% CI)	1 (reference)	0.90 (0.66–1.22)	0.69 (0.49–0.97)	0.04
				Multivariable HR (95% CI)‡	1 (reference)	0.89 (0.65–1.21)	0.68 (0.48–0.97)	0.04
Positive	N of cases (n=46)		8	18	20			
	Age-adjusted HR (95% CI)		1 (reference)	2.26 (0.98–5.21)	2.68 (1.18–6.10)	0.02		
	Multivariable HR (95% CI)‡		1 (reference)	2.20 (0.95–5.10)	2.65 (1.16–6.07)	0.02		
Men (HPFS)		Person-years	362,752	345,852	329,534			
Colorectal cancer	Negative	N of cases (n=443)	132	142	169			
		Age-adjusted HR (95% CI)	1 (reference)	1.05 (0.82–1.33)	1.33 (1.05–1.67)	0.02		
		Multivariable HR (95% CI)‡	1 (reference)	1.15 (0.90–1.47)	1.48 (1.16–1.90)	0.003		
		N of cases (n=394)	116	129	149			
		Age-adjusted HR (95% CI)	1 (reference)	1.08 (0.84–1.39)	1.32 (1.03–1.68)	0.04		
		Multivariable HR (95% CI)‡	1 (reference)	1.18 (0.91–1.53)	1.47 (1.13–1.91)	0.01		
	Positive	N of cases (n=49)	16	13	20			
		Age-adjusted HR (95% CI)	1 (reference)	0.81 (0.39–1.70)	1.41 (0.73–2.74)	0.27		
		Multivariable HR (95% CI)‡	1 (reference)	0.90 (0.43–1.90)	1.58 (0.81–3.08)	0.16		
		Proximal colon cancer	Negative	N of cases (n=174)	47	60	67	
				Age-adjusted HR (95% CI)	1 (reference)	1.19 (0.81–1.76)	1.40 (0.96–2.04)	0.10
				Multivariable HR (95% CI)‡	1 (reference)	1.28 (0.86–1.91)	1.50 (1.00–2.25)	0.06
Positive	N of cases (n=21)		5	6	10			
	Age-adjusted HR (95% CI)		1 (reference)	1.33 (0.40–4.44)	2.47 (0.84–7.29)	0.08		
	Multivariable HR (95% CI)‡		1 (reference)	1.48 (0.44–4.94)	2.67 (0.90–7.95)	0.06		

CI, confidence interval; *F nucleatum*, *Fusobacterium nucleatum*; HPFS, Health Professionals Follow-up Study; HR, hazard ratio; NHS, Nurses' Health Study; T1, tertile 1; T2, tertile 2; T3, tertile 3.

Cox proportional cause-specific hazards regression for competing risks data was used to compute HRs and 95% CIs.

All analyses were stratified by age (in month) and year of questionnaire return.

* Linear trend test using the median value of each category.

† The likelihood ratio test was used for the heterogeneity of the association between the empirical dietary inflammatory pattern scores and colorectal cancer risk according to tumor *F nucleatum* status (negative vs positive).

‡ Multivariable HR was adjusted for pack-years smoked (0 vs 1-19 vs 20-39 vs ≥ 40 pack-years), family history of colorectal cancer (yes vs no), endoscopy status (yes vs no), physical activity level [quintiles of mean metabolic equivalent task score (METS) - hours per week], total calorie intake (quintiles of kcal/day), total alcohol intake (0 vs 1-5 vs 6-15 vs > 15 g/day), current multivitamin use (yes vs no), and regular aspirin use (yes vs no).

Table S3. The empirical dietary inflammatory pattern scores and risk of colorectal cancer according to tumor *F nucleatum* status in different prudent dietary pattern groups in the pooled cohorts of the Nurses' Health Study (women, 1984-2012) and the Health Professionals Follow-up Study (men, 1986-2012)

Tumor <i>F nucleatum</i> status	Prudent dietary pattern scores							
	Low				High			
	Tertiles of the empirical dietary inflammatory pattern (EDIP) scores				Tertiles of the empirical dietary inflammatory pattern (EDIP) scores			
	T1 (lowest)	T2	T3 (highest)	<i>P</i> _{trend} *	T1 (lowest)	T2	T3 (highest)	<i>P</i> _{trend} *
Negative								
N of cases	144	146	140		133	145	128	
Age-adjusted HR (95% CI)	1 (reference)	0.91 (0.72–1.15)	0.94 (0.75–1.20)	0.56	1 (reference)	1.16 (0.91–1.47)	1.10 (0.86–1.41)	0.33
Multivariable HR (95% CI) †	1 (reference)	0.93 (0.73–1.18)	0.96 (0.75–1.24)	0.69	1 (reference)	1.24 (0.97–1.58)	1.18 (0.90–1.53)	0.15
Positive								
N of cases	15	21	30		17	17	15	
Age-adjusted HR (95% CI)	1 (reference)	1.30 (0.67–2.55)	2.02 (1.09–3.78)	0.02	1 (reference)	1.03 (0.52–2.04)	0.96 (0.47–1.93)	0.88
Multivariable HR (95% CI) †	1 (reference)	1.34 (0.68–2.62)	2.01 (1.07–3.79)	0.02	1 (reference)	1.10 (0.56–2.18)	1.02 (0.50–2.07)	0.96
<i>P</i> _{heterogeneity} ‡		0.02				0.66		

CI, confidence interval; *F nucleatum*, *Fusobacterium nucleatum*; HR, hazard ratio; T1, tertile 1; T2, tertile 2; T3, tertile 3.

Cox proportional cause-specific hazards regression for competing risks data was used to compute HRs and 95% CIs.

All analyses were stratified by age (in month), year of questionnaire return and sex.

* Linear trend test using the median value of each category.

† Multivariable HR was adjusted for pack-years smoked (0 vs 1-19 vs 20-39 vs ≥ 40 pack-years), family history of colorectal cancer (yes vs no), endoscopy status (yes vs no), physical activity level [quintiles of mean metabolic equivalent task score (METs) - hours per week], total calorie intake (quintiles of kcal/day), total alcohol intake (0 vs 1-5 vs 6-15 vs > 15 g/day), current multivitamin use (yes vs no) and regular aspirin use (yes vs no).

‡ The likelihood ratio test was used for the heterogeneity of the association between the empirical dietary inflammatory pattern scores and colorectal cancer risk according to tumor *F nucleatum* status (negative vs positive).