

**Supplementary Table S2: Odds Ratio (OR) and 95% confidence interval (CI) of colorectal cancer by red blood cell fatty acid composition, total follow-up, adjusted for plasma 25-hydroxy-vitamin D concentration**

Fatty acids		Quintiles					Continuous variable, per 1 mol% increment	
		Q1	Q2	Q3	Q4	Q5	OR (95% CI)	p trend\$
<b>Saturated fatty acids (SFA)</b>								
C14:0	Range	0.07 - 0.32	0.32 - 0.38	0.38 - 0.43	0.43 - 0.50	0.50 - 1.65		
	Cases/Controls (n)	154 / 153	156 / 153	139 / 155	153 / 154	167 / 154		
	OR, adjusted	1.00 (ref.)	0.98 (0.69; 1.39)	0.84 (0.58; 1.22)	0.90 (0.62; 1.31)	0.96 (0.67; 1.38)	1.06 (0.43; 2.58)	0.902
C16:0	Range	17.81 - 20.52	20.52 - 20.99	20.99 - 21.39	21.39 - 21.86	21.86 - 30.40		
	Cases/Controls (n)	133 / 152	163 / 154	145 / 155	154 / 154	174 / 154		
	OR, adjusted	1.00 (ref.)	1.16 (0.83; 1.62)	1.05 (0.75; 1.48)	1.09 (0.77; 1.56)	1.17 (0.80; 1.72)	1.08 (0.94; 1.25)	0.267
C18:0	Range	11.29 - 13.54	13.54 - 13.88	13.88 - 14.18	14.18 - 14.58	14.58 - 17.90		
	Cases/Controls (n)	153 / 152	133 / 155	161 / 154	151 / 153	171 / 155		
	OR, adjusted	1.00 (ref.)	0.90 (0.64; 1.26)	1.08 (0.77; 1.51)	1.07 (0.76; 1.50)	1.25 (0.87; 1.80)	1.17 (0.99; 1.39)	0.065
Saturated FA, total <sup>a</sup>	Range	35.86 - 40.28	40.30 - 41.04	41.05 - 41.78	41.78 - 42.64	42.64 - 55.18		
	Cases/Controls (n)	124 / 153	156 / 153	144 / 154	175 / 154	170 / 155		
	OR, adjusted	1.00 (ref.)	1.55 (1.05; 2.30)	1.54 (1.01; 2.34)	1.88 (1.21; 2.93)	1.84 (1.14; 2.97)	1.12 (1.01; 1.24)	0.033
<b>Odd-chain fatty acids (OCFA)</b>								
C15:0	Range	0.03 - 0.26	0.26 - 0.33	0.33 - 0.39	0.39 - 0.49	0.49 - 1.20		
	Cases/Controls (n)	164 / 153	175 / 153	133 / 155	144 / 153	153 / 155		
	OR, adjusted	1.00 (ref.)	1.07 (0.75; 1.52)	0.74 (0.49; 1.11)	0.74 (0.47; 1.15)	0.81 (0.49; 1.34)	0.60 (0.18; 1.98)	0.404
C17:0	Range	0.11 - 0.30	0.30 - 0.34	0.34 - 0.37	0.37 - 0.41	0.41 - 0.60		
	Cases/Controls (n)	182 / 152	152 / 154	177 / 154	143 / 155	115 / 154		

OCFA, total <sup>e</sup>	OR, adjusted	1.00 (ref.)	0.85 (0.61; 1.18)	1.02 (0.73; 1.42)	0.78 (0.55; 1.12)	0.63 (0.43; 0.90)	0.39 (0.21; 0.70)§	0.002§
	Range	0.24 - 0.58	0.58 - 0.68	0.68 - 0.76	0.76 - 0.88	0.88 - 1.47		
	Cases/Controls (n)	162 / 152	187 / 155	138 / 153	148 / 154	134 / 155		
	OR, adjusted	1.00 (ref.)	1.21 (0.86; 1.69)	0.88 (0.60; 1.28)	0.84 (0.56; 1.26)	0.69 (0.44; 1.09)	0.37 (0.16; 0.90)	0.028
<b>Monounsaturated fatty acids (MUFA)</b>								
C16:1n7c	Range	0.05 - 0.35	0.35 - 0.45	0.45 - 0.52	0.52 - 0.61	0.61 - 2.15		
	Cases/Controls (n)	132 / 152	169 / 155	150 / 154	132 / 153	186 / 155		
	OR, adjusted	1.00 (ref.)	1.24 (0.88; 1.76)	1.03 (0.72; 1.48)	0.96 (0.66; 1.39)	1.17 (0.79; 1.73)	1.24 (0.68; 2.28)	0.483
C18:1n9c	Range	9.24 - 11.60	11.61 - 12.26	12.26 - 12.84	12.85 - 13.57	13.58 - 18.35		
	Cases/Controls (n)	128 / 153	170 / 154	158 / 153	151 / 154	162 / 155		
	OR, adjusted	1.00 (ref.)	1.29 (0.92; 1.80)	1.24 (0.89; 1.74)	1.12 (0.79; 1.59)	1.15 (0.79; 1.65)	1.04 (0.94; 1.14)	0.473
C18:1n7t+n9t <sup>+</sup>	Range	0.00 - 0.41	0.41 - 0.49	0.49 - 0.57	0.57 - 0.72	0.72 - 2.46		
	Cases/Controls (n)	183 / 152	152 / 154	138 / 155	163 / 153	133 / 155		
	OR, adjusted	1.00 (ref.)	0.86 (0.62; 1.20)	0.77 (0.55; 1.07)	0.85 (0.59; 1.24)	0.67 (0.44; 1.04)	0.59 (0.31; 1.14)	0.116
MUFA, total <sup>b</sup>	Range	13.59 - 16.88	16.88 - 17.70	17.71 - 18.41	18.41 - 19.25	19.25 - 25.41		
	Cases/Controls (n)	133 / 152	156 / 155	151 / 153	157 / 154	172 / 155		
	OR, adjusted	1.00 (ref.)	1.21 (0.86; 1.70)	1.11 (0.78; 1.58)	1.15 (0.79; 1.66)	1.20 (0.82; 1.78)	1.04 (0.96; 1.12)	0.375
<b>n-6 Polyunsaturated fatty acids (n-6 PUFA)</b>								
C18:2n6c	Range	6.56 - 9.49	9.49 - 10.28	10.28 - 10.92	10.93 - 11.91	11.91 - 18.25		
	Cases/Controls (n)	134 / 153.	141 / 153	156 / 155	174 / 153	164 / 155		
	OR, adjusted	1.00 (ref.)	0.80 (0.58; 1.11)	0.82 (0.59; 1.14)	0.95 (0.68; 1.33)	0.78 (0.54; 1.12)	0.97 (0.90; 1.05)	0.468
C20:3n6	Range	0.80 - 1.33	1.33 - 1.48	1.49 - 1.64	1.64 - 1.85	1.85 - 3.41		
	Cases/Controls (n)	158 / 152	155 / 154	153 / 155	147 / 154	156 / 154		
	OR, adjusted	1.00 (ref.)	1.00 (0.72; 1.39)	0.91 (0.65; 1.28)	0.89 (0.64; 1.25)	0.90 (0.64; 1.28)	0.87 (0.63; 1.20)	0.387
C20:4n6	Range	3.87 - 11.78	11.78 - 12.61	12.61 - 13.42	13.42 - 14.34	14.34 - 17.45		

	Cases/Controls (n)	131 / 153	159 / 153	183 / 155	158 / 154	138 / 154		
	OR, adjusted	1.00 (ref.)	1.22 (0.86; 1.72)	1.40 (0.97; 2.02)	1.27 (0.85; 1.88)	1.04 (0.68; 1.59)	1.24 (0.39; 3.92)§	0.717§
C22:4n6	Range	0.68 - 1.98	1.98 - 2.34	2.34 - 2.68	2.68 - 3.15	3.15 - 8.54		
	Cases/Controls (n)	139 / 152	154 / 154	166 / 154	169 / 154	141 / 155		
	OR, adjusted	1.00 (ref.)	1.10 (0.78; 1.55)	1.22 (0.85; 1.75)	1.21 (0.84; 1.76)	1.01 (0.67; 1.51)	1.05 (0.86; 1.28)	0.663
	Range	14.94 - 25.98	25.98 - 27.49	27.50 - 28.91	28.91 - 30.40	30.41 - 37.73		
n-6 PUFA, total <sup>c</sup>	Cases/Controls (n)	139 / 153	167 / 153	188 / 155	137 / 154	138 / 154		
	OR, adjusted	1.00 (ref.)	1.19 (0.85; 1.67)	1.35 (0.96; 1.91)	1.01 (0.68; 1.49)	0.99 (0.64; 1.52)	0.75 (0.17; 3.43)§	0.715§
<b>n-3 Polyunsaturated fatty acids (n-3 PUFA)</b>								
C18:3n3	Range	0.00 - 0.08	0.08 - 0.12	0.12 - 0.15	0.15 - 0.20	0.20 - 1.38		
	Cases/Controls (n)	146/153	148 / 154	154 / 153	169 / 155	152 / 154		
	OR, adjusted	1.00 (ref.)	0.95 (0.66; 1.35)	1.07 (0.74; 1.57)	1.14 (0.77; 1.69)	1.07 (0.70; 1.64)	1.21 (0.30; 4.93)	0.788
C20:5n3	Range	0.10 - 0.68	0.68 - 0.93	0.93 - 1.18	1.18 - 1.51	1.52 - 4.95		
	Cases/Controls (n)	158 / 153	181 / 154	148 / 153	132 / 154	150 / 155		
	OR, adjusted	1.00 (ref.)	1.06 (0.75; 1.51)	0.77 (0.52; 1.14)	0.72 (0.48; 1.09)	0.80 (0.52; 1.22)	0.79 (0.63; 1.00)	0.054
C22:5n3	Range	0.64 - 2.13	2.14 - 2.40	2.40 - 2.59	2.59 - 2.78	2.78 - 5.71		
	Cases/Controls (n)	167 / 153	149 / 154	137 / 154	143 / 153	173 / 155		
	OR, adjusted	1.00 (ref.)	0.78 (0.53; 1.16)	0.78 (0.52; 1.17)	0.78 (0.51; 1.19)	0.93 (0.60; 1.43)	0.86 (0.62; 1.18)	0.347
C22:6n3	Range	1.34 - 4.84	4.85 - 5.61	5.61 - 6.23	6.23 - 6.96	6.97 - 10.11		
	Cases/Controls (n)	157 / 152	175 / 154	157 / 154	139 / 155	141 / 154		
	OR, adjusted	1.00 (ref.)	1.03 (0.74; 1.43)	0.89 (0.63; 1.25)	0.81 (0.56; 1.15)	0.81 (0.55; 1.19)	0.72 (0.41; 1.26)§	0.249§
	Range	2.33 - 8.19	8.19 - 9.16	9.18 - 9.97	9.98 - 11.04	11.05 - 18.65		
n-3 PUFA, total <sup>d</sup>	Cases/Controls (n)	158 / 153	184 / 154	138 / 153	134 / 155	155 / 154		
	OR, adjusted	1.00 (ref.)	1.14 (0.83; 1.57)	0.82 (0.58; 1.15)	0.76 (0.53; 1.11)	0.90 (0.62; 1.31)	0.95 (0.88; 1.01)	0.120

<sup>a</sup> sum of C14:0, C16:0, C18:0, C20:0; <sup>b</sup> sum of C16:1n7c, C18:1n9c, C18:1n7c, C20:1n9c; <sup>c</sup> sum of C18:2n6c, C18:3n6, C20:2n6, C20:3n6, C20:4n6, C22:4n6; <sup>d</sup> sum of C18:3n3, C20:5n3, C22:5n3, C22:6n3; <sup>e</sup> sum of C15:0, C17:0; <sup>§</sup> log-transformed; <sup>+</sup> Sum of vaccenic acid and elaidic acid; <sup>\$</sup> Wald test statistics; OR, adjusted ‡ conditional logistic regression adjusted for BMI, smoking status, education, physical activity, alcohol intake, vitamin D, history of diabetes, and season of blood collection