S2 Table. Summary of the previous studies on the associations between smoking and colorectal cancer in Korea

| Study | Study design | Study period | Study subjects | | | | | | Category | RR/OR (95% CIs) | Confounding variables considered |
			Type and source	Cancer site	Sex	No.	No. of cases	No. of controls			
Kim et al. (2003) [5]	Case-control	Not specified	Hospital based (Ilsan Paik Hospital, Goyang, Korea); 125 cases and 247 controls	Colon	Both sexes			44 106	Never smoker Ever smoker	1.00 1.53 (0.94-2.52)	Matched by age (±5 years) and sex; pair-matched into a 2 to 1 ratio; adjusted for age, sex, drinking habits, smoking and diet habits to control the effect of potential confounding environmental factors.
								81 141			
Ahn EJ et al. (2006) [6]	Case-control	2003 to 2005	Hospital based (Ewha Womans University Hospital, Seoul, Korea); 113 cases and 110 controls	Colorectum	Both sexes		39	38	Never smoker	1.00	Not specified
							20	13	Former smoker	1.50 (0.70-3.40)	
							21	24	Current smoker	0.90 (0.40-1.80)	
Kim HJ et al. (2006) [7]	Prospective cohort	1993 to 1998; aged 65 years or more; linking data from the Korean Medical Insurance Corporation (KMIC) until December 31, 2002	Population-based dynamic cohort (Korea Elderly Phamacepidemilogic Cohort [KEPEC]); 6,694 men and 9,409 women	Colorectum	Both sexes	9,788	57		Never smoker	1.00	Adjusted for age at baseline (5 years interval), gender, precancerous lesion of colorectal cancer, medication history of NSAIDs and antibiotics, alcohol drinking status and BMI
						1,083	14		Former smoker	2.03 (1.02-4.03)	
						3,225	26		Current smoker	1.36 (0.80-2.32)	
Kim HJ et al. (2006) [7]	Prospective cohort	1993 to 1998; aged 65 years or more; linking data from the KMIC until December 31, 2002	Population-based dynamic cohort (KEPEC); 6,694 men and 9,409 women	Colorectum	Both sexes	9,788	57		Never smoker	1.00	Adjusted for age at baseline (5 years interval), sex, precancerous lesion of colorectal cancer, medication history of NSAIDs and antibiotics, alcohol drinking status and BMI
						4,308	40		Ever smoker	1.51 (0.93-2.46)	
Lim HJ et al. (2008) [8]	Prospective cohort	1993 to 1998; aged 65 years or more; linking data from the KMIC until December 31, 2002	Population-based dynamic cohort (KEPEC); 4,834 men and 9,470 women	Colorectum	Both sexes	7,570	58		Never smoker	1.00	Crude RR
						3,100	30		Former smoker	1.34 (0.86-2.09)	
						3,445	23		Current smoker	0.82 (0.50-1.33)	
Kim J et al. (2009) [9]	Case-control	2001 to 2004	Hospital-based (two university hospitals in	Colorectum	Both sexes		86	84	Never smoker	1.00	Crude OR; Matched by age
							100	80	Former smoker	1.22 (0.75-1.98)	

Author	Study type	Period	Setting	Site	Sex	N	Cases	Smoking status	OR (95% CI)	Notes
			Seoul, Korea)				176	106 Current smoker	1.62 (1.00-2.63)	
Kim J et al. (2009) [9]	Case-control	2001 to 2004	Hospital-based (two university hospitals in Seoul, Korea)	Colorectum	Both sexes		216	229 Never smoker	1.00	Crude OR; Matched by age
							12	6 Former smoker	2.12 (0.44-10.32)	
							7	4 Current smoker	1.86 (0.38-9.03)	
Shin A et al. (2011) [10]	Prospective cohort	1996 to 1997; 7 years of follow-up	Population-based cohort; Korea Medical Insurance Corporation; 869,725 men and 395,501 women	Proximal colon	Men	245,877	170	Never smoker	1.00	Adjusted for age
						129,825	94	Former smoker	1.00 (0.80-1.30)	
						493,794	272	Current smoker	1.00 (0.80-1.20)	
Shin A et al. (2011) [10]	Prospective cohort	1996 to 1997; 7 years of follow-up	Population-based cohort; Korea Medical Insurance Corporation; 869,725 men and 395,501women	Distal colon	Men	245,877	232	Never smoker	1.00	Adjusted for age
						129,825	184	Former smoker	1.40 (1.20-1.70)	
						493,794	335	Current smoker	0.90 (0.80-1.10)	
Shin A et al. (2011) [10]	Prospective cohort	1996 to 1997; 7 years of follow-up	Population-based cohort; Korea Medical Insurance Corporation; 869,725 men and 395,501women	Rectum	Men	245,877	475	Never smoker	1.00	Adjusted for age
						129,825	288	Former smoker	1.10 (1.00-1.30)	
						493,794	772	Current smoker	1.00 (0.90-1.10)	
Shin A et al. (2011) [10]	Prospective cohort	1996 to 1997; 7 years of follow-up	Population-based cohort; Korea Medical Insurance Corporation; 869,725 men and 395,501women	Proximal colon	Women	372,784	217	Never smoker	1.00	Adjusted for age
						5,061	6	Former smoker	1.10 (0.50-2.60)	
						17,575	13	Current smoker	0.70 (0.40-1.20)	
Shin A et al. (2011) [10]	Prospective cohort	1996 to 1997; 7 years of follow-up	Population-based cohort; Korea Medical Insurance Corporation; 869,725 men and 395,501women	Distal colon	Women	372,784	206	Never smoker	1.00	Adjusted for age
						5,061	3	Former smoker	0.70 (0.20-2.40)	
						17,575	16	Current smoker	1.10 (0.70-1.90)	
Shin A et al.	Prospective	1996 to 1997; 7 years	Population-based	Rectum	Women	372,784	502	Never smoker	1.00	Adjusted for age

Study	Study type	Period	Setting	Site	Sex			Smoking status	OR (95% CI)	Notes
(2011) [10]	cohort	of follow-up	cohort; Korea Medical Insurance Corporation; 869,725 men and 395,501women			5,061	10	Former smoker	0.90 (0.50-1.70)	
						17,575	39	Current smoker	1.00 (0.70-1.40)	
Kim J et al. (2012) [11]	Case-control	1998 to 2004	Hospital-based (two university hospitals in Seoul, Korea); 787 cases and 656 controls	Colorectum	Both sexes	424	418	Never smoker	1.00	Crude OR
						108	76	Former smoker	1.40 (0.96-2.05)	
						251	162	Current smoker	1.53 (1.05-2.23)	
Jo J et al. (2012) [12]	Case-control	2004 to 2007	16 health promotion centers in the KCPS; 200,595 individuals; 20-77 years of age	Colorectum	Men	35	146	Never smoker	1.00	Crude OR
						58	149	Former smoker	1.59 (0.89-2.85)	
						40	259	Current smoker	0.64 (0.36-1.14)	
Jo J et al. (2012) [13]	Case-control	2004 to 3007	16 health promotion centers in the KCPS; 200,595 individuals; 20-77 years of age	Colorectum	Women	52	393	Never smoker	1.00	Crude OR
						1	13	Former smoker	0.69 (0.05-9.90)	
						1	16	Current smoker	0.56 (0.04-8.07)	
Cho S et al. (2015) [13]	Prospective cohort	1993 to 2005; linking death certificated database of the Statistics Korea until December 31, 2011 (median follow-up of 11.2 years).; linking death certificated database of the Statistics Korea until December 31, 2011 (median follow-up of 11.2 years)	Population-based (Korean multi-center cancer cohort)	Colorectum	Men	1,486	21	Never smoker	1.00	Adjusted for body mass index (kg/m^2; < 18.5, 18.5-22, 23-24, $\geq$ 25), moderate physical activity (hr/wk; never, 0.5-6, $\geq$ 7), and alcohol consumption history (never drinker, former drinker, current drinker)
						1,714	34	Former smoker	1.33 (0.76-2.32)	
						4280	57	Current smoker	0.97 (0.58-1.62)	
Cho S et al. (2015) [13]	Prospective cohort	1993 to 2005; linking death certificated database of the Statistics Korea until December 31, 2011	Population-based (Korean multi-center cancer cohort)	Colorectum	Women	10,018	102	Never smoker	1.00	Adjusted for body mass index (kg/m^2; < 18.5, 18.5-22, 23-24, $\geq$ 25), moderate physical activity (hr/wk; never, 0.5-6, $\geq$ 7), and alcohol
						208	3	Former smoker	1.14 (0.35-3.67)	
						761	3	Current smoker	0.30 (0.10-0.97)	

Study	Design	Period	Setting	Site	Sex			Smoking status	OR (95% CI)	Adjustments
		(median follow-up of 11.2 years)								consumption history (never drinker, former drinker, current drinker)
Koo JE et al. (2017) [14]	Retrospective cross-sectional	2010	Asan Medical Center Health Screening and Promotion Center	Colorectum	Both sexes	984	588	Never smoker	1.00	Adjusted for age, sex, cigarette smoking status, alcohol consumption, and metabolic syndrome
						512		Former smoker	1.77 (1.38-2.26)	
						549		Current smoker	2.54 (2.01-3.21)	
Song N et al. (2017) [15]	Case-control	2007 to 2014	National Cancer Center (NCC)	Colorectum	Men	116	191	Never smoker	1.00	Adjusted for age, family history of colorectal cancer, BMI, and education level
						364	769	Ever smoker	0.75 (0.56-1.00)	
Song N et al. (2017) [15]	Case-control	2007 to 2014	NCC	Colorectum	Women	200	426	Never smoker	1.00	Adjusted for age, family history of colorectal cancer, BMI, and education level
						23	20	Ever smoker	2.23 (1.15-4.34)	
Kim H et al. (2019) [16]	Case-control	2007 to 2014	NCC	Colorectum	Both sexes	1,019	514	Ever smoker	1.00	Adjusted for prior BMI, physical activity, smoking, alcohol drinking and dietary inflammatory index
						801	408	Never smoker	1.07 (0.86-1.33)	
Lee S et al. (2019) [17]	Case-control	2010 to 2013	NCC	Colorectum	Men	393	145	Never smoker	1.00	Adjusted for age (continuous), education level (middle school or less, high school, college or more), family history of CRC (yes/no), history of diabetes (yes/no), BMI (<18.5, 18.5-24.9, 25), regular physical activity (yes/no), alcohol intake (continuous), total energy intake (continuous), calcium intake (continuous), folate intake (continuous), red and processed meat intake (continuous).
						953	303	Former smoker	0.89 (0.68-1.16)	
						532	178	Current smoker	0.88 (0.65-1.18)	
Lee S et al. (2019) [17]	Case-control	2010 to 2013	NCC	Colorectum	Women	857	265	Never smoker	1.00	Adjusted for age (continuous), education level (middle school or less, high school, college or more), family history of CRC (yes/no), history of diabetes (yes/no), BMI (<18.5, 18.5-24.9, 25), regular physical activity (yes/no),
						21	15	Former smoker	2.04 (0.93-4.44)	
						18	19	Current smoker	2.20 (0.98-4.94)	

	alcohol intake (continuous), total energy intake (continuous), calcium intake (continuous), folate intake (continuous), red and processed meat intake (continuous).

BMI, body mass index; CI, confidence interval; CRC, colorectal cancer; NSAID, nonsteroidal anti-inflammatory drug; OR, odds ratio; RR, relative risk.