Supplementary Materials

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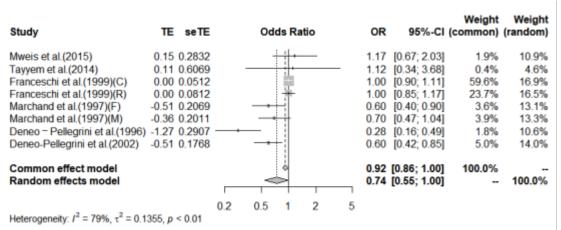
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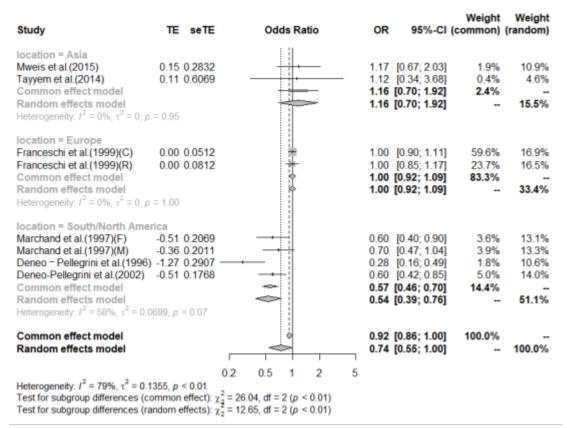
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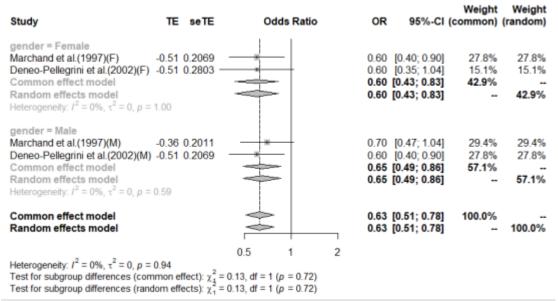
Supplementary Figure 1. Subgroup analysis of the risk of colorectal cancer in the highest versus lowest category of Apple intake by location. C = Colon cancer, R = Rectal cancer.



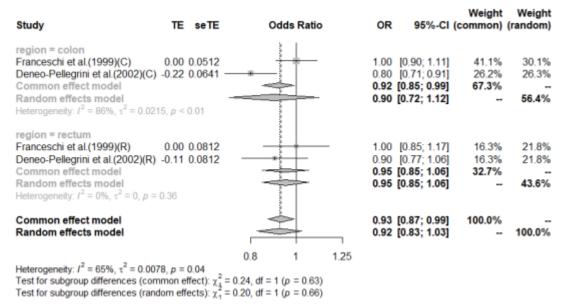
Supplementary Figure 2. Meta-analysis of the risk of colorectal cancer in the highest versus lowest category of Banana intake. C = Colon cancer, R = Rectal cancer. F = Female, M = Male; C = Colon cancer, R = Rectal cancer.



Supplementary Figure 3. Subgroup analysis of the risk of colorectal cancer in the highest versus lowest category of Banana intake by location. F = Female, M = Male; C = Colon cancer, R = Rectal cancer.



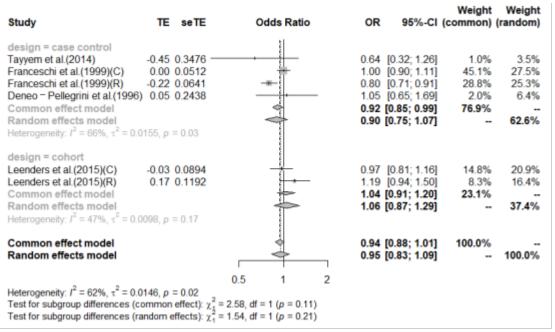
Supplementary Figure 4. Subgroup analysis of the risk of colorectal cancer in the highest versus lowest category of Banana intake by gender. F = Female, M = Male.



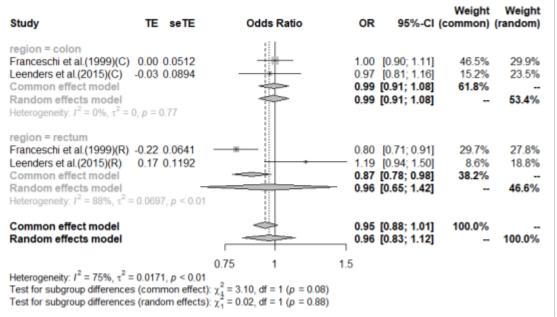
Supplementary Figure 5. Subgroup analysis of the risk of colorectal cancer in the highest versus lowest category of Banana intake by region of cancer. C = Colon cancer, R = Rectal cancer.

Study	TE	seTE	0	Odds Ra	tio	OR	95%-CI	Weight (common)	
Tayyem et al.(2014)	-0.45	0.3476		6		0.64	[0.32; 1.26]	1.0%	3.5%
Franceschi et al.(1999)(C)	0.00	0.0512		-		1.00	[0.90; 1.11]	45.1%	27.5%
Franceschi et al.(1999)(R)	-0.22	0.0641				0.80	[0.71; 0.91]	28.8%	25.3%
Deneo - Pellegrini et al.(1996)	0.05	0.2438	-	- 6 +		1.05	[0.65; 1.69]	2.0%	6.4%
Leenders et al.(2015)(C)	-0.03	0.0894		-11-		0.97	[0.81; 1.16]	14.8%	20.9%
Leenders et al.(2015)(R)	0.17	0.1192		-	_	1.19	[0.94; 1.50]	8.3%	16.4%
Common effect model Random effects model			_	-			[0.88; 1.01] [0.83; 1.09]		100.0%
Heterogeneity: $I^2 = 62\%$, $\tau^2 = 0.0$	146, p	= 0.02	0.5	1	2				

Supplementary Figure 6. Meta-analysis of the risk of colorectal cancer in the highest versus lowest category of Peach intake. C = Colon cancer, R = Rectal cancer.



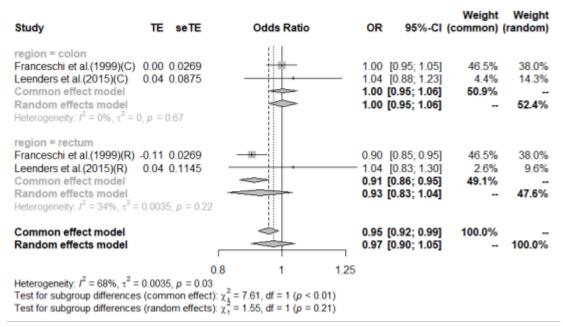
Supplementary Figure 7. Subgroup analysis of the risk of colorectal cancer in the highest versus lowest category of Peach intake by study type. C = Colon cancer, R = Rectal cancer.



Supplementary Figure 8. Subgroup analysis of the risk of colorectal cancer in the highest versus lowest category of Peach intake by region of cancer. C = Colon cancer, R = Rectal cancer.

Study	TE	seTE	Oc	ids Rati	0	OR	95%-CI	Weight (common)	Weight (random)
Tayyem et al.(2014)	-0.29	0.5365		- -		0.75	[0.26; 2.15]	0.1%	0.5%
Franceschi et al.(1999)(C)	0.00	0.0269		+-		1.00	[0.95; 1.05]	46.5%	37.9%
Franceschi et al.(1999)(R)	-0.11	0.0269		+		0.90	[0.85; 0.95]	46.5%	37.9%
Leenders et al.(2015)(C)	0.04	0.0875		- - -		1.04	[0.88; 1.23]	4.4%	14.1%
Leenders et al.(2015)(R)	0.04	0.1145		+		1.04	[0.83; 1.30]	2.6%	9.5%
Common effect model				á		0.95	[0.92; 0.99]	100.0%	
Random effects model				4	\neg	0.97	[0.90; 1.05]	-	100.0%
			0.5	1	2				
Heterogeneity: $I^2 = 58\%$, $\tau^2 =$	0.003	4, $p = 0.05$							

Supplementary Figure 9. Meta-analysis of the risk of colorectal cancer in the highest versus lowest category of Strawberry intake. C = Colon cancer, R = Rectal cancer.



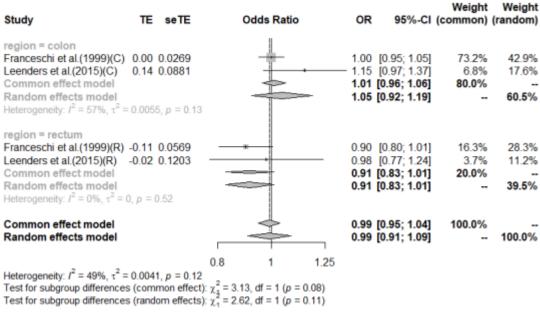
Supplementary Figure 10. Subgroup analysis of the risk of colorectal cancer in the highest versus lowest category of Strawberry intake by region of cancer. C = Colon cancer, R = Rectal cancer.

Study	TE	seTE	Odds Ratio	OR	95%-CI	Weight (common)	-
design = case control Tayyem et al.(2014) Franceschi et al.(1999)(C Franceschi et al.(1999)(R Common effect model Random effects model Heterogeneity: $I^2 = 75\%$, τ^2) 0.00) -0.11	0.0269	- The state of the	1.00 0.90 0.95	[0.26; 2.15] [0.95; 1.05] [0.85; 0.95] [0.91; 0.98] [0.86; 1.05]	46.5% 46.5% 93.1%	37.9%
design = cohort Leenders et al.(2015)(C) Leenders et al.(2015)(R) Common effect model Random effects model Heterogeneity: /² = 0%, τ² =	0.04	0.0875 0.1145		1.04 1.04	[0.88; 1.23] [0.83; 1.30] [0.91; 1.19] [0.91; 1.19]	2.6% 6.9%	
Common effect model Random effects model					[0.92; 0.99] [0.90; 1.05]		100.0%
Heterogeneity: $I^2 = 58\%$, τ^2 Test for subgroup difference Test for subgroup difference	= 0.003 es (com es (rand	4, p = 0.09 mon effects	0.5 1 2 (t): $\chi_{\frac{1}{2}}^2 = 1.64$, df = 1 (ρ = 0.20) (p): $\chi_{\frac{1}{2}}^2 = 1.18$, df = 1 (ρ = 0.28)				

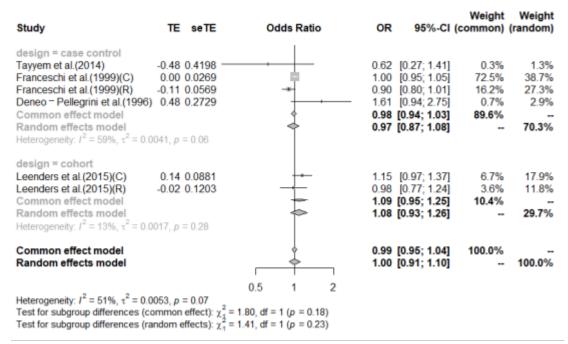
Supplementary Figure 11. Subgroup analysis of the risk of colorectal cancer in the highest versus lowest category of Strawberry intake by study type. C = Colon cancer, R = Rectal cancer.

Study	TE	seTE	Odds Ratio	OR	95%-CI	Weight (common)	Weight (random)
Tayyem et al.(2014)	-0.48	0.4198		0.62	[0.27; 1.41]	0.3%	1.3%
Franceschi et al.(1999)(C)	0.00	0.0269	i i	1.00	[0.95; 1.05]	72.5%	38.7%
Franceschi et al.(1999)(R)	-0.11	0.0569		0.90	[0.80; 1.01]	16.2%	27.3%
Deneo - Pellegrini et al.(1996)	0.48	0.2729	+	1.61	[0.94; 2.75]	0.7%	2.9%
Leenders et al.(2015)(C)	0.14	0.0881	-	1.15	[0.97; 1.37]	6.7%	17.9%
Leenders et al.(2015)(R)	-0.02	0.1203		0.98	[0.77; 1.24]	3.6%	11.8%
Common effect model			<u> </u>		[0.95; 1.04]	100.0%	400.004
Random effects model				1.00	[0.91; 1.10]	-	100.0%
			0.5 1 2				
Heterogeneity: $I^2 = 51\%$, $\tau^2 = 0.0$	0053, p :	= 0.07					

Supplementary Figure 12. Meta-analysis of the risk of colorectal cancer in the highest versus lowest category of Grape intake. C = Colon cancer, R = Rectal cancer.

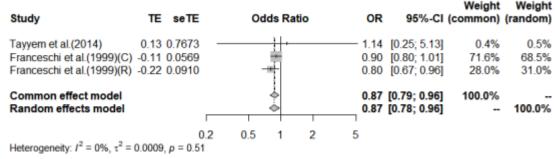


Supplementary Figure 13. Subgroup analysis of the risk of colorectal cancer in the highest versus lowest category of Grape intake by region of cancer. C = Colon cancer, R = Rectal cancer.

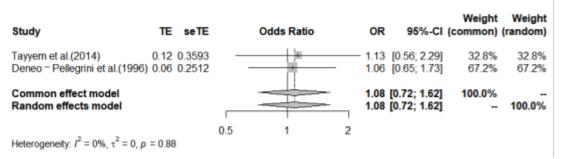


Supplementary Figure 14. Subgroup analysis of the risk of colorectal cancer in the highest versus lowest category of Grape intake by study type. C = Colon cancer, R = Rectal cancer.

Study	TE seTE	Odds Ratio	OR	95%-CI	Weight (common)	Weight (random)
Tayyem et al.(2014) Vogtmann et al.(2013)	-0.62 0.3703 — -0.26 0.1320	-		[0.26; 1.12] [0.59; 1.00]	11.3% 88.7%	11.3% 88.7%
Common effect model Random effects model				[0.58; 0.94] [0.58; 0.94]	100.0%	100.0%
Heterogeneity: $I^2 = 0\%$, τ^2	= 0, p = 0.37	0.5 1 2				



Supplementary Figure 16. Meta-analysis of the risk of colorectal cancer in the highest versus lowest category of Kiwi intake. C = Colon cancer, R = Rectal cancer.



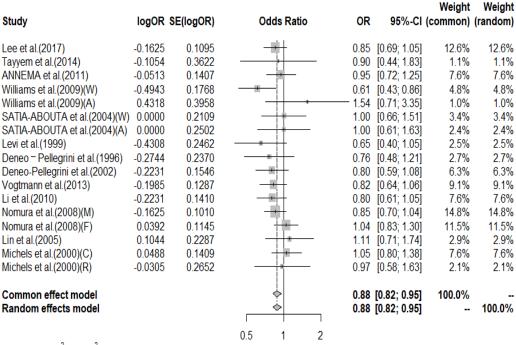
Supplementary Figure 17. Meta-analysis of the risk of colorectal cancer in the highest versus lowest category of Pear intake.

Study	ΤE	seTE		Odds Ratio	•	OR	95%-CI	Weight (common)	
Tayyem et al.(2014) -(Franceschi et al.(1999)(C) (Franceschi et al.(1999)(R) -(0.00				_	1.00	[0.38; 1.77] [0.95; 1.05] [0.80; 1.01]		1.6% 60.6% 37.8%
Common effect model Random effects model				*			[0.93; 1.03] [0.87; 1.06]		100.0%
Heterogeneity: $I^2 = 34\%$, $\tau^2 = 0$	0.003	5, ρ = 0.22	0.5	1	2				

Supplementary Figure 18. Meta-analysis of the risk of colorectal cancer in the highest versus lowest category of Melon intake. C = Colon cancer, R = Rectal cancer.

Study	TE	seTE	o	dds Ratio		OR	95%-CI	Weight (common)	
Tayyem 2014 Deneo - Pellegrini 1996		0.3035 0.3181	-	-		0.51 1.36	[0.28; 0.92] [0.73; 2.54]	52.4% 47.6%	50.5% 49.5%
Common effect model Random effects model				=	=		[0.53; 1.25] [0.32; 2.17]		100.0%
Heterogeneity: $I^2 = 80\%$, τ^2	= 0.38	344, p = 0	0.5	1	2				

Supplementary Figure 19. Meta-analysis of the risk of colorectal cancer in the highest versus lowest category of Fig intake.



Heterogeneity: $I^2 = 0\%$, $\tau^2 = 0$, p = 0.50

Supplementary Figure 20. Sensitivity analysis plot of studies evaluating the association between Citrus intake and risk of colorectal cancer. F = Female, M = Male; W = Whites, A = African-Americans; C = Colon cancer, R = Rectal cancer.

Study	logOR	SE(logOR)	Odds Ratio	OR	95%-CI	Weight (common)	Weight (random)
Tayyem et al.(2014)	-0.3147	0.5057	+	0.73	[0.27; 1.97]	3.4%	6.7%
ANNEMA et al.(2011)	-0.3011	0.1453		0.74	[0.56; 0.98]	40.8%	29.5%
Deneo - Pellegrini et al.(1996)	-0.9163	0.2476		0.40	[0.25; 0.65]	14.1%	18.6%
Theodoratou et al.(2007)	-0.0408	0.2254		0.96	[0.62; 1.49]	17.0%	20.6%
Lin et al.(2006)	-0.2877	0.1865		0.75	[0.52; 1.08]	24.8%	24.6%
Common effect model			*	0.71	[0.59; 0.85]	100.0%	
Random effects model				0.70	[0.53; 0.92]		100.0%
Heterogeneity: $I^2 = 45\%$, $\tau^2 = 0.0$	479. p = 0	.12	0.5 1 2				

Supplementary Figure 21. Sensitivity analysis plot of studies evaluating the association between Apple intake and risk of colorectal cancer.

96 Supplementary Table 1. The history of the database search strategy

97 Databases searched: Web of Science, PubMed, EMBASE, and Cochrane Library

Search Strategy in PubMed

98

Search	Query	Results
number 7	#5 NOT #6	926
,	"review"[Publication Type] OR "conference abstract"[Publication Type] OR	920
6	"letter"[Publication Type] OR "editorial"[Publication Type] OR	5,077,024
0	"comment"[Publication Type]	3,077,024
5	(#1 OR #2) AND (#3 OR #4)	1,171
	Fruit[MeSH Terms]	120,022
4		120,022
2	"Berries"[Title/Abstract] OR "Berry"[Title/Abstract] OR "fructus"[Title/Abstract]	(1 (10
3	OR "Fruits" [Title / Abstract] OR "Legume Pod*" [Title / Abstract] OR "Plant	61,610
0	Aril*"[Title/Abstract] OR "Plant Capsule*"[Title/Abstract]	227.007
2	colorectal neoplasms[MeSH Terms]	227,806
	"cancer of colon rectum"[Title/Abstract] OR "cancer of rectum	
	colon"[Title/Abstract] OR "cancer of the colon rectum"[Title/Abstract] OR	
	"cancer of the colon the rectum"[Title/Abstract] OR "cancer of the rectum	
	colon"[Title/Abstract] OR "cancer of the rectum the colon"[Title/Abstract] OR	
	"colo rectal cancer"[Title/Abstract] OR "colo rectal	
	carcinogenesis"[Title/Abstract] OR "colo rectal malignancies"[Title/Abstract] OR	
	"colo rectal malignancy"[Title/Abstract] OR "Colorectal Cancer*"[Title/Abstract]	
1	OR "colorectal cancerogenesis"[Title/Abstract] OR "colorectal	141,444
	carcinogenesis"[Title/Abstract] OR "Colorectal Carcinoma*"[Title/Abstract] OR	
	"colorectal malignancies"[Title/Abstract] OR "colorectal	
	malignancy"[Title/Abstract] OR "Colorectal Neoplasm*"[Title/Abstract] OR	
	"Colorectal Tumor*"[Title/Abstract] OR "malignancies of the colon	
	rectum"[Title/Abstract] OR "malignancy of colon rectum"[Title/Abstract] OR	
	"malignancy of the colon rectum"[Title/Abstract] OR "recto colonic	
	cancer"[Title/Abstract] OR "rectocolonic cancer"[Title/Abstract]	

Search Strategy in Cochrane

Search date: 18 Aug 2022

Search number	Search	Hits
#1	('cancer of colon rectum' OR 'cancer of rectum colon' OR 'cancer of the colon rectum' OR 'cancer of the colon the rectum' OR 'cancer of the rectum colon' OR 'cancer of the rectum the colon' OR 'colo rectal cancer' OR 'colo rectal carcinogenesis' OR 'colo rectal malignancies' OR 'colorectal malignancy' OR 'Colorectal Cancer* OR 'colorectal cancerogenesis' OR 'colorectal carcinogenesis' OR 'Colorectal Carcinoma* OR 'colorectal malignancies' OR 'colorectal malignancy' OR 'Colorectal Neoplasm* OR 'Colorectal Tumor* OR	18358

99 100

	'malignancies of the colon rectum' OR 'malignancy of colon rectum' OR	
	'malignancy of the colon rectum' OR 'recto colonic cancer' OR 'rectocolonic	
	cancer'):ti,ab,kw	
#2	MeSH descriptor: [Colorectal Neoplasms] explode all trees	9249
#3	('Berries' OR 'Berry' OR 'fructus' OR 'Fruits' OR 'Legume Pod*' OR 'Plant	47.41
#3	Aril*' OR 'Plant Capsule*'):ti,ab,kw	4641
#4	MeSH descriptor: [Fruit] explode all trees	2864
#5	(#1 OR #2) AND (#3 OR #4)	94

Search Strategy in Embase

Search date: 18 Aug 2022

	te: 18 Aug 2022	1					
Search number	Search	Hits					
	#5 AND ('Article'/it OR 'Article in Press'/it OR 'Chapter'/it OR 'Conference						
#6	Paper'/it OR 'Conference Review'/it OR 'Note'/it OR 'Short Survey'/it OR	1,475					
	'Tombstone'/it)						
#5	(#1 OR #2) AND (#3 OR #4)	2,589					
#4	'fruit'/exp	162,555					
	'berries':ti,ab,kw OR 'berry':ti,ab,kw OR 'fructus':ti,ab,kw OR 'fruits':ti,ab,kw						
#3	OR 'legume pod*':ti,ab,kw OR 'plant aril*':ti,ab,kw OR 'plant	73,777					
	capsule*':ti,ab,kw						
#2	'colorectal cancer'/exp	354,416					
	'cancer of colon rectum':ti,ab,kw OR 'cancer of rectum colon':ti,ab,kw OR						
	'cancer of the colon rectum':ti,ab,kw OR 'cancer of the colon the						
	rectum':ti,ab,kw OR 'cancer of the rectum colon':ti,ab,kw OR 'cancer of the						
	rectum the colon':ti,ab,kw OR 'colo rectal cancer':ti,ab,kw OR 'colo rectal						
	carcinogenesis':ti,ab,kw OR 'colo rectal malignancies':ti,ab,kw OR 'colo rectal						
	malignancy':ti,ab,kw OR 'colorectal cancer*':ti,ab,kw OR 'colorectal						
#1	cancerogenesis':ti,ab,kw OR 'colorectal carcinogenesis':ti,ab,kw OR 'colorectal	211,775					
	carcinoma*':ti,ab,kw OR 'colorectal malignancies':ti,ab,kw OR 'colorectal						
	malignancy':ti,ab,kw OR 'colorectal neoplasm*':ti,ab,kw OR 'colorectal						
	tumor*':ti,ab,kw OR 'malignancies of the colon rectum':ti,ab,kw OR						
	'malignancy of colon rectum':ti,ab,kw OR 'malignancy of the colon						
	rectum':ti,ab,kw OR 'recto colonic cancer':ti,ab,kw OR 'rectocolonic						
	cancer':ti,ab,kw						

Search Strategy in Web of science

	(TI=((cancer of colon and rectum) OR (cancer of rectum and colon) OR (cancer of the
#1	colon and rectum) OR (cancer of the colon and the rectum) OR (cancer of the rectum and
	colon) OR (cancer of the rectum and the colon) OR (colo rectal cancer) OR (colo rectal

carcinogenesis) OR (colo rectal malignancies) OR (colo rectal malignancy) OR (Colorectal Cancer*) OR (colorectal cancerogenesis) OR (colorectal carcinogenesis) OR (Colorectal Carcinoma*) OR (colorectal malignancies) OR (colorectal malignancy) OR (Colorectal Neoplasm*) OR (Colorectal Tumor*) OR (malignancies of the colon and rectum) OR (malignancy of colon and rectum) OR (malignancy of the colon and rectum) OR (recto colonic cancer) OR (rectocolonic cancer)) OR AB=((cancer of colon and rectum) OR (cancer of rectum and colon) OR (cancer of the colon and rectum) OR (cancer of the colon and the rectum) OR (cancer of the rectum and colon) OR (cancer of the rectum and the colon) OR (colo rectal cancer) OR (colo rectal carcinogenesis) OR (colo rectal malignancies) OR (colo rectal malignancy) OR (Colorectal Cancer*) OR (colorectal cancerogenesis) OR (colorectal carcinogenesis) OR (Colorectal Carcinoma*) OR (colorectal malignancies) OR (colorectal malignancy) OR (Colorectal Neoplasm*) OR (Colorectal Tumor*) OR (malignancies of the colon and rectum) OR (malignancy of colon and rectum) OR (malignancy of the colon and rectum) OR (recto colonic cancer) OR (rectocolonic cancer)) OR AK=((cancer of colon and rectum) OR (cancer of rectum and colon) OR (cancer of the colon and rectum) OR (cancer of the colon and the rectum) OR (cancer of the rectum and colon) OR (cancer of the rectum and the colon) OR (colo rectal cancer) OR (colo rectal carcinogenesis) OR (colo rectal malignancies) OR (colo rectal malignancy) OR (Colorectal Cancer*) OR (colorectal cancerogenesis) OR (colorectal carcinogenesis) OR (Colorectal Carcinoma*) OR (colorectal malignancies) OR (colorectal malignancy) OR (Colorectal Neoplasm*) OR (Colorectal Tumor*) OR (malignancies of the colon and rectum) OR (malignancy of colon and rectum) OR (malignancy of the colon and rectum) OR (recto colonic cancer) OR (rectocolonic cancer))) (TI=((Berries) OR (Berry) OR (fructus) OR (Fruits) OR (Legume Pod*) OR (Plant Aril*) OR (Plant Capsule*)) OR AB=((Berries) OR (Berry) OR (fructus) OR (Fruits) OR (Legume Pod*) OR (Plant Aril*) OR (Plant Capsule*)) OR AK=((Berries) OR (Berry) OR (fructus) OR (Fruits) OR (Legume Pod*) OR (Plant Aril*) OR (Plant Capsule*)))

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#2

#3

#1 AND #2

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