

Supplementary Table 1. Frequency of dietary consumption among the study participants.

Variable	Cohort 1, Patients with CRC, n = 52 (40.9%)	Cohort 2, Healthy relatives of patients), n = 38 (29.9%)	Cohort 3, Independent healthy group, n = 37 (29.1%)	P-value											
				Cohort 1 vs Cohort 2	Cohort 1 vs Cohort 3	Cohort 2 vs Cohort 3									
Animal-based protein															
Red meat ¹ ▪ Never ▪ Rarely ▪ Sometimes ▪ Usually ▪ Always	1.0 (1.9) 9.0 (17.3) 9.0 (17.3) 17.0 (32.7) 16.0 (30.7)	1.0 (2.6) 5.0 (13.1) 9.0 (23.6) 11.0 (28.9) 12.0 (31.5)	2.0 (5.4) 6.0 (16.2) 8.0 (21.6) 12.0 (32.4) 9.0 (24.3)	0.9325	0.8647	0.9336									
Poultry meat ² ▪ Never ▪ Rarely ▪ Sometimes ▪ Usually ▪ Always	2.0 (3.8) 5.0 (9.6) 3.0 (5.7) 11.0 (21.1) 31.0 (59.6)	2.0 (5.2) 0.0 (0.0) 2.0 (5.2) 6.0 (15.8) 28.0 (73.7)	0.0 (0.0) 1.0 (2.7) 2.0 (5.4) 14.0 (37.8) 20.0 (54.0)				0.3089	0.3030	0.0659						
Fish ³ ▪ Never ▪ Rarely ▪ Sometimes ▪ Usually ▪ Always	10.0 (19.2) 13.0 (25.0) 15.0 (28.8) 7.0 (13.5) 7.0 (13.5)	5.0 (13.1) 13.0 (34.12) 12.0 (31.76) 5.0 (13.2) 3.0 (7.9)	3.0 (8.1) 18.0 (48.6) 8.0 (21.6) 6.0 (16.2) 2.0 (5.4)							0.7955	0.1342	0.6996			
Plant-based diet															
Fruit ⁴ ▪ Never ▪ Rarely ▪ Sometimes ▪ Usually ▪ Always	1.0 (1.9) 4.0 (7.6) 11.0 (21.2) 11.0 (21.2) 25.0 (48.0)	2.0 (5.3) 4.0 (10.5) 11.0 (28.09) 9.0 (23.6) 12.0 (31.6)	1.0 (2.7) 8.0 (21.6) 10.0 (27.0) 5.0 (13.5) 13.0 (35.1)										0.5485	0.2503	0.6098
Vegetables ⁵ ▪ Never ▪ Rarely ▪ Sometimes ▪ Usually ▪ Always	0.0 (0.0) 4.0 (7.8) 7.0 (13.5) 9.0 (17.3) 32.0 (61.45)	1.0 (2.6) 3.0 (7.9) 9.0 (23.7) 5.0 (13.5) 20.0 (52.6)	1.0 (2.7) 1.0 (2.7) 5.0 (13.8) 8.0 (22.2) 21.0 (58.3)	0.5456	0.6986	0.6189									
Sweeteners															
Artificial sweeteners ⁶ ▪ Never ▪ Rarely ▪ Sometimes ▪ Usually ▪ Always	14.0 (26.9) 5.0 (9.6) 7.0 (13.5) 4.0 (7.7) 22.0 (42.3)	7.0 (18.4) 1.0 (2.6) 3.0 (7.9) 5.0 (13.2) 22.0 (57.9)	9.0 (24.3) 3.0 (8.1) 5.0 (13.5) 7.0 (18.9) 13.0 (35.1)				0.3602	0.6347	0.3777						
Natural sugar ⁷ ▪ Never ▪ Rarely ▪ Sometimes ▪ Usually ▪ Always	7.0 (13.4) 7.0 (13.4) 12.0 (23.0) 8.0 (15.4) 18.0 (34.6)	4.0 (10.5) 8.0 (21.0) 5.0 (13.2) 7.0 (18.4) 14.0 (36.8)	5.0 (13.5) 8.0 (21.6) 9.0 (24.3) 6.0 (16.2) 9.0 (24.3)							0.7191	0.8121	0.6661			
Stimulants															
Caffeine ⁸ ▪ Never ▪ Rarely ▪ Sometimes	5.0 (9.6) 2.0 (3.8) 3.0 (5.7)	0.0 (0.0) 2.0 (5.7) 0.0 (0.0)	0.0 (0.0) 0.0 (0.0) 1.0 (2.7)	0.1831	0.1691	0.3677									

▪ Usually	2.0 (3.8)	2.0 (5.7)	1.0 (2.7)			
▪ Always	40.0 (76.9)	34.0 (88.6)	35.0 (94.6)			
Supplements						
Nutritional supplements ⁹						
▪ Never	26.0 (50.0)	19.0 (50.0)	18.0 (48.6)	0.8602	0.9296	0.6114
▪ Rarely	7.0 (13.5)	6.0 (15.8)	3.0 (8.1)			
▪ Sometimes	3.0 (5.7)	4.0 (10.5)	2.0 (5.4)			
▪ Usually	4.0 (7.7)	3.0 (7.9)	4.0 (10.8)			
▪ Always	12.0 (23.0)	6.0 (15.8)	10.0 (27.0)			
Sugar alcohol						
Polyols ¹⁰						
▪ Never	21.0 (40.4)	3.0 (7.9)	2.0 (5.4)	<0.0001	<0.0001	0.9893
▪ Rarely	14.0 (26.9)	3.0 (7.9)	3.0 (8.1)			
▪ Sometimes	8.0 (15.4)	6.0 (15.8)	7.0 (18.9)			
▪ Usually	4.0 (7.7)	11.0 (28.9)	12.0 (32.4)			
▪ Always	5.0 (9.6)	15.0 (39.5)	13.0 (35.1)			
Fermented diet						
Fermented diet ¹¹						
▪ Never	8.0 (15.4)	4.0 (10.5)	5.0 (13.5)	0.6354	0.6519	0.9882
▪ Rarely	5.0 (9.6)	4.0 (10.5)	5.0 (13.5)			
▪ Sometimes	11.0 (21.2)	7.0 (18.4)	7.0 (18.9)			
▪ Usually	7.0 (13.5)	10.0 (26.3)	9.0 (24.3)			
▪ Always	21.0 (40.4)	13.0 (34.2)	11.0 (29.7)			

Note. Cohort 1 (patients with colorectal cancer, CRC), Cohort 2 (healthy relatives of patients with CRC), and Cohort 3 (independent healthy individuals). The frequency of dietary consumption was categorized as follows: Never = no intake; Rarely = approximately once every 3–4 weeks; Sometimes = approximately once every 2 weeks; Usually = about once per week; Always = at least once per day. Categorical outcomes were analyzed using either the chi-square test (two-sided) or Fisher's exact test. Dietary categories were defined as follows: **Animal-based protein:** ¹red meat (beef, lamb, goat, venison, camel); ²poultry (chicken, duck, pigeon); ³fish/seafood (hamour, sardines, shrimp, canned tuna). **Plant-based diet:** ⁴fruits (dates, bananas, apples, grapes, citrus fruits, pomegranates); ⁵vegetables (cucumbers, tomatoes, eggplants, okra, leafy greens, carrots). **Sweeteners:** ⁶artificial sweeteners (saccharin, aspartame); ⁷natural sugars (honey, sucrose, glucose). **Stimulants:** ⁸caffeine sources (Arabic coffee, black tea, green tea, Turkish coffee, cola, energy drinks). **Supplements:** ⁹nutritional supplements (multivitamins, whey protein, calcium tablets, iron supplements). **Sugar alcohols:** ¹⁰polyols (hard candies, chewing gum, ice cream, chocolate, protein bars, sugar-free cakes, cookies, and frozen desserts). **Fermented diet:** ¹¹yogurt, pickles, kefir, fermented vegetables.

Supplementary Table 2. Sequencing depth statistics for individual samples.

SampleID	Condition	Total_Reads
P01	Cohort 1_Patients with CRC	66674.96998
P02	Cohort 1_Patients with CRC	38772.15126
P03	Cohort 1_Patients with CRC	31628.53179
P04	Cohort 1_Patients with CRC	38862.39517
P05	Cohort 1_Patients with CRC	125377.3537
P06	Cohort 1_Patients with CRC	101466.4057
P07	Cohort 1_Patients with CRC	43075.29799
P08	Cohort 1_Patients with CRC	49253.14435
P09	Cohort 1_Patients with CRC	50138.14856
P10	Cohort 1_Patients with CRC	132692.609
P11	Cohort 1_Patients with CRC	238197.765
P12	Cohort 1_Patients with CRC	70210.24875
P13	Cohort 1_Patients with CRC	115404.9985
P14	Cohort 1_Patients with CRC	65387.58707
P15	Cohort 1_Patients with CRC	145133.0239
P16	Cohort 1_Patients with CRC	271416.7433
P17	Cohort 1_Patients with CRC	6838.526653
P18	Cohort 1_Patients with CRC	128641.7838
P19	Cohort 1_Patients with CRC	22308.96347
P20	Cohort 1_Patients with CRC	40052.88589
P21	Cohort 1_Patients with CRC	41860.68625
P22	Cohort 1_Patients with CRC	65727.69793
P23	Cohort 1_Patients with CRC	215398.2572
P24	Cohort 1_Patients with CRC	27382.42368
P25	Cohort 1_Patients with CRC	12452.57577
P26	Cohort 1_Patients with CRC	8113.922362
P27	Cohort 1_Patients with CRC	21684.78198
P28	Cohort 1_Patients with CRC	97969.02351
P29	Cohort 1_Patients with CRC	30519.80589
P30	Cohort 1_Patients with CRC	68936.3057
P31	Cohort 1_Patients with CRC	248702.5443
P32	Cohort 1_Patients with CRC	116520.9309
P33	Cohort 1_Patients with CRC	62949.13768
P34	Cohort 1_Patients with CRC	45317.08464
P35	Cohort 1_Patients with CRC	6649.875855
P36	Cohort 1_Patients with CRC	21028.28598
P37	Cohort 1_Patients with CRC	8999.726338
P38	Cohort 1_Patients with CRC	56380.31

P39	Cohort 1_Patients with CRC	55243.26754
P40	Cohort 1_Patients with CRC	46140.55807
P41	Cohort 1_Patients with CRC	137267.5999
P42	Cohort 1_Patients with CRC	23214.33381
P43	Cohort 1_Patients with CRC	29045.14955
P44	Cohort 1_Patients with CRC	216474.1457
P45	Cohort 1_Patients with CRC	46281.40699
P46	Cohort 1_Patients with CRC	44378.4338
P47	Cohort 1_Patients with CRC	62985.99589
P48	Cohort 1_Patients with CRC	39981.50554
P49	Cohort 1_Patients with CRC	138110.0543
P50	Cohort 1_Patients with CRC	137333.1039
P51	Cohort 1_Patients with CRC	72398.06097
P52	Cohort 1_Patients with CRC	70130.23611
C01	Cohort 2_Healthy relatives of patients	79642.07467
C02	Cohort 2_Healthy relatives of patients	19311.28416
C03	Cohort 2_Healthy relatives of patients	325384.7512
C04	Cohort 2_Healthy relatives of patients	66403.25552
C05	Cohort 2_Healthy relatives of patients	403148.6724
C06	Cohort 2_Healthy relatives of patients	51719.73454
C07	Cohort 2_Healthy relatives of patients	106134.0742
C08	Cohort 2_Healthy relatives of patients	33326.8719
C09	Cohort 2_Healthy relatives of patients	33360.53971
C10	Cohort 2_Healthy relatives of patients	113440.5909
C11	Cohort 2_Healthy relatives of patients	76839.02613
C12	Cohort 2_Healthy relatives of patients	112045.1066
C13	Cohort 2_Healthy relatives of patients	115431.8972
C14	Cohort 2_Healthy relatives of patients	55064.21321
C15	Cohort 2_Healthy relatives of patients	59842.96193
C16	Cohort 2_Healthy relatives of patients	12794.82204
C17	Cohort 2_Healthy relatives of patients	20551.46152
C18	Cohort 2_Healthy relatives of patients	5802.003444
C19	Cohort 2_Healthy relatives of patients	162970.8135
C20	Cohort 2_Healthy relatives of patients	127985.9274
C21	Cohort 2_Healthy relatives of patients	46871.78261
C22	Cohort 2_Healthy relatives of patients	69878.11126
C23	Cohort 2_Healthy relatives of patients	21392.65046
C24	Cohort 2_Healthy relatives of patients	35683.59743
C25	Cohort 2_Healthy relatives of patients	102348.2817
C26	Cohort 2_Healthy relatives of patients	9011.09906
C27	Cohort 2_Healthy relatives of patients	29897.16388

C28	Cohort 2_Healthy relatives of patients	9833.861706
C29	Cohort 2_Healthy relatives of patients	18050.27501
C30	Cohort 2_Healthy relatives of patients	40220.77667
C31	Cohort 2_Healthy relatives of patients	14936.24599
C32	Cohort 2_Healthy relatives of patients	53491.10894
C33	Cohort 2_Healthy relatives of patients	66801.1089
C34	Cohort 2_Healthy relatives of patients	95029.73001
C35	Cohort 2_Healthy relatives of patients	71032.66432
C36	Cohort 2_Healthy relatives of patients	29925.69915
C37	Cohort 2_Healthy relatives of patients	202842.397
C38	Cohort 2_Healthy relatives of patients	191381.1971
H01	Cohort 3_Independent healthy group	109525.8391
H02	Cohort 3_Independent healthy group	51083.44875
H03	Cohort 3_Independent healthy group	247936.0229
H04	Cohort 3_Independent healthy group	128387.5086
H05	Cohort 3_Independent healthy group	129238.1627
H06	Cohort 3_Independent healthy group	48892.45131
H07	Cohort 3_Independent healthy group	185529.1859
H08	Cohort 3_Independent healthy group	100097.386
H09	Cohort 3_Independent healthy group	98354.03377
H10	Cohort 3_Independent healthy group	212017.3887
H11	Cohort 3_Independent healthy group	41764.6335
H12	Cohort 3_Independent healthy group	63144.67745
H13	Cohort 3_Independent healthy group	100114.6477
H14	Cohort 3_Independent healthy group	162625.8903
H15	Cohort 3_Independent healthy group	248181.5763
H16	Cohort 3_Independent healthy group	141308.5496
H17	Cohort 3_Independent healthy group	74847.71349
H18	Cohort 3_Independent healthy group	159669.4784
H19	Cohort 3_Independent healthy group	189847.7483
H20	Cohort 3_Independent healthy group	105523.4353
H21	Cohort 3_Independent healthy group	215099.4125
H22	Cohort 3_Independent healthy group	84074.52159
H23	Cohort 3_Independent healthy group	236633.9629
H24	Cohort 3_Independent healthy group	140948.3761
H25	Cohort 3_Independent healthy group	63244.51997
H26	Cohort 3_Independent healthy group	76426.56632
H27	Cohort 3_Independent healthy group	98901.32867
H28	Cohort 3_Independent healthy group	137975.9887
H29	Cohort 3_Independent healthy group	156170.6798
H30	Cohort 3_Independent healthy group	148457.9961

H31	Cohort 3_Independent healthy group	20293.99457
H32	Cohort 3_Independent healthy group	421672.2083
H33	Cohort 3_Independent healthy group	154920.4053
H34	Cohort 3_Independent healthy group	133423.4152
H35	Cohort 3_Independent healthy group	136696.6101
H36	Cohort 3_Independent healthy group	119077.7198
H37	Cohort 3_Independent healthy group	172675.8816

Supplementary Table 3. Sequencing depth statistics for each cohort.

Cohort	N_Samples	Median_Total_ Reads	Min_Total_ Reads	Max_Total_ Reads	Range_Total_ Reads
Cohort 1_Patients with CRC	52	55811.78877	6649.875855	271416.7433	264766.8675
Cohort 2_Healthy relatives of patients	38	57453.58757	5802.003444	403148.6724	397346.669
Cohort 3_Independent healthy group	37	133423.4152	20293.99457	421672.2083	401378.2137

Supplemntaty Table 4. Statistical power estimates for pairwise beta-diversity comparisons based on PERMANOVA effect sizes.

Comparison	N_Group1	N_Group2	R ²	P-value	BH-adjusted P-value	Empirical_Detection_Rate
Cohort 1 vs Cohort 2	52	38	0.01990	0.009	0.027	0.944
Cohort 1 vs Cohort 3	52	37	0.01714	0.025	0.049	0.566
Cohort 2 vs Cohort 3	38	37	0.01425	0.297	0.3	0

Supplementary Table 5. Hub taxa identified from microbial co-occurrence networks across cohorts. Taxa are ranked by node degree within each cohort.

Condition	Species	Phylum	Degree
Cohort 1_Patients with CRC	<i>s__Lacrimispora saccharolytica</i>	p__Firmicutes	32
Cohort 1_Patients with CRC	<i>s__Faecalimonas umbilicata</i>	p__Firmicutes	30
Cohort 1_Patients with CRC	<i>s__Lachnospiraceae bacterium Choco86</i>	p__Firmicutes	30
Cohort 1_Patients with CRC	<i>s__Faecalibacterium prausnitzii</i>	p__Firmicutes	28
Cohort 1_Patients with CRC	<i>s__Blautia faecis</i>	p__Firmicutes	26
Cohort 1_Patients with CRC	<i>s__Butyricicoccus faecihominis</i>	p__Firmicutes	26
Cohort 1_Patients with CRC	<i>s__Blautia producta</i>	p__Firmicutes	23
Cohort 1_Patients with CRC	<i>s__Blautia glucerasea</i>	p__Firmicutes	23
Cohort 1_Patients with CRC	<i>s__Blautia luti</i>	p__Firmicutes	23
Cohort 1_Patients with CRC	<i>s__Blautia sp. SC05B48</i>	p__Firmicutes	20
Cohort 1_Patients with CRC	<i>s__[Ruminococcus] gnavus</i>	p__Firmicutes	20
Cohort 1_Patients with CRC	<i>s__Blautia wexlerae</i>	p__Firmicutes	19
Cohort 1_Patients with CRC	<i>s__Oscillibacter sp. PEA192</i>	p__Firmicutes	19
Cohort 1_Patients with CRC	<i>s__Coprococcus catus</i>	p__Firmicutes	19
Cohort 1_Patients with CRC	<i>s__Dorea longicatena</i>	p__Firmicutes	19
Cohort 1_Patients with CRC	<i>s__Hungatella hathewayi</i>	p__Firmicutes	18
Cohort 1_Patients with CRC	<i>s__Lachnospiraceae bacterium GAM79</i>	p__Firmicutes	18
Cohort 1_Patients with CRC	<i>s__Fusicatenibacter saccharivorans</i>	p__Firmicutes	18
Cohort 1_Patients with CRC	<i>s__Prevotella stercorea</i>	p__Bacteroidetes	18
Cohort 1_Patients with CRC	<i>s__Anaerobutyricum hallii</i>	p__Firmicutes	18
Cohort 1_Patients with CRC	<i>s__Lacrimispora algidixylanolytica</i>	p__Firmicutes	17
Cohort 1_Patients with CRC	<i>s__Coprococcus comes</i>	p__Firmicutes	17
Cohort 1_Patients with CRC	<i>s__Roseburia faecis</i>	p__Firmicutes	17
Cohort 1_Patients with CRC	<i>s__Lachnospira eligens</i>	p__Firmicutes	17
Cohort 1_Patients with CRC	<i>s__Ruthenibacterium lactatiformans</i>	p__Firmicutes	17
Cohort 1_Patients with CRC	<i>s__Dysosmobacter welbionis</i>	p__Firmicutes	16
Cohort 1_Patients with CRC	<i>s__Christensenella sp. Marseille-P3954</i>	p__Firmicutes	16
Cohort 1_Patients with CRC	<i>s__Neglecta timonensis</i>	p__Firmicutes	16
Cohort 1_Patients with CRC	<i>s__Oscillibacter valericigenes</i>	p__Firmicutes	15
Cohort 1_Patients with CRC	<i>s__Gemmiger formicilis</i>	p__Firmicutes	15
Cohort 1_Patients with CRC	<i>s__Roseburia intestinalis</i>	p__Firmicutes	14
Cohort 1_Patients with CRC	<i>s__[Eubacterium] rectale</i>	p__Firmicutes	14
Cohort 1_Patients with CRC	<i>s__Clostridium merdae</i>	p__Firmicutes	14
Cohort 1_Patients with CRC	<i>s__Blautia obeum</i>	p__Firmicutes	13
Cohort 1_Patients with CRC	<i>s__Lachnoclostridium sp. YL32</i>	p__Firmicutes	12
Cohort 1_Patients with CRC	<i>s__Roseburia inulinivorans</i>	p__Firmicutes	11
Cohort 1_Patients with CRC	<i>s__Blautia coccoides</i>	p__Firmicutes	11
Cohort 1_Patients with CRC	<i>s__Flavonifractor plautii</i>	p__Firmicutes	11
Cohort 1_Patients with CRC	<i>s__Intestinibacter bartlettii</i>	p__Firmicutes	11
Cohort 1_Patients with CRC	<i>s__Bacteroides uniformis</i>	p__Bacteroidetes	11
Cohort 1_Patients with CRC	<i>s__Anaerostipes hadrus</i>	p__Firmicutes	10
Cohort 1_Patients with CRC	<i>s__Lactobacillus rogosae</i>	p__Firmicutes	10
Cohort 1_Patients with CRC	<i>s__Anaerotignum faecicola</i>	p__Firmicutes	10
Cohort 1_Patients with CRC	<i>s__Odoribacter splanchnicus</i>	p__Bacteroidetes	10
Cohort 1_Patients with CRC	<i>s__Roseburia hominis</i>	p__Firmicutes	9
Cohort 1_Patients with CRC	<i>s__Bacteroides thetaiotaomicron</i>	p__Bacteroidetes	9

Cohort 1_Patients with CRC	<i>s__Eisenbergiella massiliensis</i>	p__Firmicutes	9
Cohort 1_Patients with CRC	<i>s__Pseudoflavonifractor phocaeensis</i>	p__Firmicutes	9
Cohort 1_Patients with CRC	<i>s__Anaeromassilibacillus senegalensis</i>	p__Firmicutes	9
Cohort 1_Patients with CRC	<i>s__Enterocloster bolteae</i>	p__Firmicutes	8
Cohort 1_Patients with CRC	<i>s__Bacteroides stercoris</i>	p__Bacteroidetes	7
Cohort 1_Patients with CRC	<i>s__Eubacterium ventriosum</i>	p__Firmicutes	7
Cohort 1_Patients with CRC	<i>s__Lachnoclostridium pacaense</i>	p__Firmicutes	7
Cohort 1_Patients with CRC	<i>s__Bacteroides ovatus</i>	p__Bacteroidetes	7
Cohort 1_Patients with CRC	<i>s__Prevotellamassilia timonensis</i>	p__Bacteroidetes	6
Cohort 1_Patients with CRC	<i>s__Duncaniella sp. B8</i>	p__Bacteroidetes	6
Cohort 1_Patients with CRC	<i>s__[Clostridium] leptum</i>	p__Firmicutes	6
Cohort 1_Patients with CRC	<i>s__Fusobacterium nucleatum</i>	p__Fusobacteria	5
Cohort 1_Patients with CRC	<i>s__Romboutsia timonensis</i>	p__Firmicutes	5
Cohort 1_Patients with CRC	<i>s__Anaerotignum aminivorans</i>	p__Firmicutes	5
Cohort 1_Patients with CRC	<i>s__Butyricimonas virosa</i>	p__Bacteroidetes	5
Cohort 1_Patients with CRC	<i>s__Parvimonas micra</i>	p__Firmicutes	4
Cohort 1_Patients with CRC	<i>s__Enterocloster aldensis</i>	p__Firmicutes	4
Cohort 1_Patients with CRC	<i>s__Peptostreptococcus stomatis</i>	p__Firmicutes	4
Cohort 1_Patients with CRC	<i>s__Parabacteroides distasonis</i>	p__Bacteroidetes	4
Cohort 1_Patients with CRC	<i>s__Clostridium saudiense</i>	p__Firmicutes	4
Cohort 1_Patients with CRC	<i>s__Streptococcus parasanguinis</i>	p__Firmicutes	4
Cohort 1_Patients with CRC	<i>s__Dialister invisus</i>	p__Firmicutes	4
Cohort 1_Patients with CRC	<i>s__Sutterella wadsworthensis</i>	p__Proteobacteria	4
Cohort 1_Patients with CRC	<i>s__[Clostridium] symbiosum</i>	p__Firmicutes	3
Cohort 1_Patients with CRC	<i>s__Veillonella parvula</i>	p__Firmicutes	3
Cohort 1_Patients with CRC	<i>s__Streptococcus salivarius</i>	p__Firmicutes	3
Cohort 1_Patients with CRC	<i>s__Dialister pneumosintes</i>	p__Firmicutes	3
Cohort 1_Patients with CRC	<i>s__Bacteroides fragilis</i>	p__Bacteroidetes	2
Cohort 1_Patients with CRC	<i>s__Streptococcus anginosus</i>	p__Firmicutes	1
Cohort 2_Healthy relatives of patients	<i>s__Hungatella hathewayi</i>	p__Firmicutes	44
Cohort 2_Healthy relatives of patients	<i>s__Lacrimispora saccharolytica</i>	p__Firmicutes	43
Cohort 2_Healthy relatives of patients	<i>s__Lachnospiraceae bacterium Choco86</i>	p__Firmicutes	41
Cohort 2_Healthy relatives of patients	<i>s__Ihubacter massiliensis</i>	p__Firmicutes	41
Cohort 2_Healthy relatives of patients	<i>s__Faecalimonas umbilicata</i>	p__Firmicutes	39
Cohort 2_Healthy relatives of patients	<i>s__Faecalicatena fissicatena</i>	p__Firmicutes	37
Cohort 2_Healthy relatives of patients	<i>s__Lachnoclostridium sp. YL32</i>	p__Firmicutes	37
Cohort 2_Healthy relatives of patients	<i>s__Christensenella sp. Marseille-P3954</i>	p__Firmicutes	37
Cohort 2_Healthy relatives of patients	<i>s__Faecalicatena orotica</i>	p__Firmicutes	36
Cohort 2_Healthy relatives of patients	<i>s__Blautia producta</i>	p__Firmicutes	36
Cohort 2_Healthy relatives of patients	<i>s__Oscillibacter valericigenes</i>	p__Firmicutes	36
Cohort 2_Healthy relatives of patients	<i>s__Blautia sp. SC05B48</i>	p__Firmicutes	35
Cohort 2_Healthy relatives of patients	<i>s__Butyricoccus faecihominis</i>	p__Firmicutes	35
Cohort 2_Healthy relatives of patients	<i>s__Dorea longicatena</i>	p__Firmicutes	35
Cohort 2_Healthy relatives of patients	<i>s__Dysosmobacter welbionis</i>	p__Firmicutes	34
Cohort 2_Healthy relatives of patients	<i>s__Emergencia timonensis</i>	p__Firmicutes	34
Cohort 2_Healthy relatives of patients	<i>s__Cuneatibacter caecimuris</i>	p__Firmicutes	34
Cohort 2_Healthy relatives of patients	<i>s__Lachnospiraceae bacterium GAM79</i>	p__Firmicutes	33
Cohort 2_Healthy relatives of patients	<i>s__Faecalibacterium prausnitzii</i>	p__Firmicutes	33
Cohort 2_Healthy relatives of patients	<i>s__Coprococcus catus</i>	p__Firmicutes	33
Cohort 2_Healthy relatives of patients	<i>s__Blautia glucerasea</i>	p__Firmicutes	32

Cohort 2_Healthy relatives of patients	<i>s__Anaeromassilibacillus senegalensis</i>	p__Firmicutes	32
Cohort 2_Healthy relatives of patients	<i>s__Papillibacter cinnamivorans</i>	p__Firmicutes	32
Cohort 2_Healthy relatives of patients	<i>s__Sporobacter termitidis</i>	p__Firmicutes	32
Cohort 2_Healthy relatives of patients	<i>s__Roseburia hominis</i>	p__Firmicutes	29
Cohort 2_Healthy relatives of patients	<i>s__Blautia faecis</i>	p__Firmicutes	27
Cohort 2_Healthy relatives of patients	<i>s__Clostridium merdae</i>	p__Firmicutes	27
Cohort 2_Healthy relatives of patients	<i>s__Oscillibacter sp. PEA192</i>	p__Firmicutes	25
Cohort 2_Healthy relatives of patients	<i>s__Anaerotignum faecicola</i>	p__Firmicutes	25
Cohort 2_Healthy relatives of patients	<i>s__Pseudoflavonifractor phocaeensis</i>	p__Firmicutes	25
Cohort 2_Healthy relatives of patients	<i>s__Caproiciproducens sp. NJN-50</i>	p__Firmicutes	25
Cohort 2_Healthy relatives of patients	<i>s__Blautia luti</i>	p__Firmicutes	24
Cohort 2_Healthy relatives of patients	<i>s__Anaerobutyricum hallii</i>	p__Firmicutes	24
Cohort 2_Healthy relatives of patients	<i>s__[Ruminococcus] gnavus</i>	p__Firmicutes	23
Cohort 2_Healthy relatives of patients	<i>s__Lachnospira eligens</i>	p__Firmicutes	23
Cohort 2_Healthy relatives of patients	<i>s__Anaerostipes hadrus</i>	p__Firmicutes	22
Cohort 2_Healthy relatives of patients	<i>s__Blautia obeum</i>	p__Firmicutes	22
Cohort 2_Healthy relatives of patients	<i>s__Fusicatenibacter saccharivorans</i>	p__Firmicutes	22
Cohort 2_Healthy relatives of patients	<i>s__Gemmiger formicilis</i>	p__Firmicutes	22
Cohort 2_Healthy relatives of patients	<i>s__Anaerotruncus rubiinfantis</i>	p__Firmicutes	22
Cohort 2_Healthy relatives of patients	<i>s__Neglecta timonensis</i>	p__Firmicutes	21
Cohort 2_Healthy relatives of patients	<i>s__Faecalicatena contorta</i>	p__Firmicutes	19
Cohort 2_Healthy relatives of patients	<i>s__Coprococcus comes</i>	p__Firmicutes	19
Cohort 2_Healthy relatives of patients	<i>s__Blautia wexlerae</i>	p__Firmicutes	19
Cohort 2_Healthy relatives of patients	<i>s__Ruthenibacterium lactatiformans</i>	p__Firmicutes	19
Cohort 2_Healthy relatives of patients	<i>s__Roseburia inulinivorans</i>	p__Firmicutes	18
Cohort 2_Healthy relatives of patients	<i>s__Blautia coccoides</i>	p__Firmicutes	18
Cohort 2_Healthy relatives of patients	<i>s__Enterocloster bolteae</i>	p__Firmicutes	17
Cohort 2_Healthy relatives of patients	<i>s__Butyricicoccus pullicaecorum</i>	p__Firmicutes	17
Cohort 2_Healthy relatives of patients	<i>s__[Ruminococcus] faecis</i>	p__Firmicutes	15
Cohort 2_Healthy relatives of patients	<i>s__[Clostridium] leptum</i>	p__Firmicutes	15
Cohort 2_Healthy relatives of patients	<i>s__[Clostridium] symbiosum</i>	p__Firmicutes	14
Cohort 2_Healthy relatives of patients	<i>s__[Eubacterium] rectale</i>	p__Firmicutes	12
Cohort 2_Healthy relatives of patients	<i>s__Eubacterium ramulus</i>	p__Firmicutes	12
Cohort 2_Healthy relatives of patients	<i>s__Eisenbergiella massiliensis</i>	p__Firmicutes	10
Cohort 2_Healthy relatives of patients	<i>s__Parabacteroides distasonis</i>	p__Bacteroidetes	10
Cohort 2_Healthy relatives of patients	<i>s__Flavonifractor plautii</i>	p__Firmicutes	10
Cohort 2_Healthy relatives of patients	<i>s__Prevotellamassilia timonensis</i>	p__Bacteroidetes	9
Cohort 2_Healthy relatives of patients	<i>s__Roseburia intestinalis</i>	p__Firmicutes	8
Cohort 2_Healthy relatives of patients	<i>s__Anaerotignum aminivorans</i>	p__Firmicutes	8
Cohort 2_Healthy relatives of patients	<i>s__Bacteroides thetaiotaomicron</i>	p__Bacteroidetes	7
Cohort 2_Healthy relatives of patients	<i>s__Bacteroides uniformis</i>	p__Bacteroidetes	7
Cohort 2_Healthy relatives of patients	<i>s__Lactobacillus rogosae</i>	p__Firmicutes	5
Cohort 2_Healthy relatives of patients	<i>s__Eubacterium oxidoreducens</i>	p__Firmicutes	5
Cohort 2_Healthy relatives of patients	<i>s__Escherichia coli</i>	p__Proteobacteria	5
Cohort 2_Healthy relatives of patients	<i>s__Blautia stercoris</i>	p__Firmicutes	4
Cohort 2_Healthy relatives of patients	<i>s__Bacteroides ovatus</i>	p__Bacteroidetes	4
Cohort 2_Healthy relatives of patients	<i>s__Clostridium saudiense</i>	p__Firmicutes	4
Cohort 2_Healthy relatives of patients	<i>s__Streptococcus salivarius</i>	p__Firmicutes	4
Cohort 2_Healthy relatives of patients	<i>s__Eubacterium ventriosum</i>	p__Firmicutes	2
Cohort 2_Healthy relatives of patients	<i>s__Veillonella parvula</i>	p__Firmicutes	2

Cohort 2_Healthy relatives of patients	<i>s__Barnesiella intestinihominis</i>	p__Bacteroidetes	2
Cohort 2_Healthy relatives of patients	<i>s__Romboutsia timonensis</i>	p__Firmicutes	2
Cohort 2_Healthy relatives of patients	<i>s__Intestinibacter bartlettii</i>	p__Firmicutes	2
Cohort 2_Healthy relatives of patients	<i>s__Dialister invisus</i>	p__Firmicutes	2
Cohort 2_Healthy relatives of patients	<i>s__Bacteroides fragilis</i>	p__Bacteroidetes	1
Cohort 2_Healthy relatives of patients	<i>s__Roseburia faecis</i>	p__Firmicutes	1
Cohort 2_Healthy relatives of patients	<i>s__Prevotella stercorea</i>	p__Bacteroidetes	1
Cohort 3_Independent healthy group	<i>s__Dysosmobacter welbionis</i>	p__Firmicutes	30
Cohort 3_Independent healthy group	<i>s__Clostridium merdae</i>	p__Firmicutes	27
Cohort 3_Independent healthy group	<i>s__Neglecta timonensis</i>	p__Firmicutes	27
Cohort 3_Independent healthy group	<i>s__Coprococcus catus</i>	p__Firmicutes	26
Cohort 3_Independent healthy group	<i>s__Faecalicatena orotica</i>	p__Firmicutes	25
Cohort 3_Independent healthy group	<i>s__Lachnospiraceae bacterium GAM79</i>	p__Firmicutes	25
Cohort 3_Independent healthy group	<i>s__Sporobacter termitidis</i>	p__Firmicutes	25
Cohort 3_Independent healthy group	<i>s__Ihubacter massiliensis</i>	p__Firmicutes	24
Cohort 3_Independent healthy group	<i>s__Christensenella sp. Marseille-P3954</i>	p__Firmicutes	24
Cohort 3_Independent healthy group	<i>s__Blautia sp. SC05B48</i>	p__Firmicutes	23
Cohort 3_Independent healthy group	<i>s__Oscillibacter sp. PEA192</i>	p__Firmicutes	23
Cohort 3_Independent healthy group	<i>s__Oscillibacter valericigenes</i>	p__Firmicutes	23
Cohort 3_Independent healthy group	<i>s__Lacrimispora saccharolytica</i>	p__Firmicutes	22
Cohort 3_Independent healthy group	<i>s__Faecalicatena fissicatena</i>	p__Firmicutes	22
Cohort 3_Independent healthy group	<i>s__Ruthenibacterium lactatiformans</i>	p__Firmicutes	22
Cohort 3_Independent healthy group	<i>s__Pseudoflavonifractor phocaeensis</i>	p__Firmicutes	22
Cohort 3_Independent healthy group	<i>s__Hungatella hathewayi</i>	p__Firmicutes	21
Cohort 3_Independent healthy group	<i>s__Emergencia timonensis</i>	p__Firmicutes	21
Cohort 3_Independent healthy group	<i>s__Papillibacter cinnamivorans</i>	p__Firmicutes	21
Cohort 3_Independent healthy group	<i>s__Robinsoniella peoriensis</i>	p__Firmicutes	20
Cohort 3_Independent healthy group	<i>s__Faecalicatena contorta</i>	p__Firmicutes	20
Cohort 3_Independent healthy group	<i>s__Gemmiger formicilis</i>	p__Firmicutes	20
Cohort 3_Independent healthy group	<i>s__Caproiciproducens sp. NJN-50</i>	p__Firmicutes	20
Cohort 3_Independent healthy group	<i>s__Faecalibacterium prausnitzii</i>	p__Firmicutes	19
Cohort 3_Independent healthy group	<i>s__Blautia faecis</i>	p__Firmicutes	19
Cohort 3_Independent healthy group	<i>s__Anaerotruncus rubiinfantis</i>	p__Firmicutes	19
Cohort 3_Independent healthy group	<i>s__Lachnospiraceae bacterium Choco86</i>	p__Firmicutes	18
Cohort 3_Independent healthy group	<i>s__Cuneatibacter caecimuris</i>	p__Firmicutes	18
Cohort 3_Independent healthy group	<i>s__Dorea longicatena</i>	p__Firmicutes	18
Cohort 3_Independent healthy group	<i>s__Blautia luti</i>	p__Firmicutes	17
Cohort 3_Independent healthy group	<i>s__Anaeromassilibacillus senegalensis</i>	p__Firmicutes	16
Cohort 3_Independent healthy group	<i>s__Roseburia hominis</i>	p__Firmicutes	15
Cohort 3_Independent healthy group	<i>s__Blautia obeum</i>	p__Firmicutes	15
Cohort 3_Independent healthy group	<i>s__Fusicatenibacter saccharivorans</i>	p__Firmicutes	15
Cohort 3_Independent healthy group	<i>s__Anaerostipes hadrus</i>	p__Firmicutes	14
Cohort 3_Independent healthy group	<i>s__Bacteroides ovatus</i>	p__Bacteroidetes	14
Cohort 3_Independent healthy group	<i>s__Butyricicoccus pullicaecorum</i>	p__Firmicutes	14
Cohort 3_Independent healthy group	<i>s__Blautia wexlerae</i>	p__Firmicutes	13
Cohort 3_Independent healthy group	<i>s__Eisenbergiella massiliensis</i>	p__Firmicutes	12
Cohort 3_Independent healthy group	<i>s__Bacteroides uniformis</i>	p__Bacteroidetes	12
Cohort 3_Independent healthy group	<i>s__Anaerobutyricum hallii</i>	p__Firmicutes	12
Cohort 3_Independent healthy group	<i>s__Coprococcus comes</i>	p__Firmicutes	11
Cohort 3_Independent healthy group	<i>s__Eubacterium oxidoreducens</i>	p__Firmicutes	11

Cohort 3_Independent healthy group	<i>s__Lachnospira eligens</i>	p__Firmicutes	11
Cohort 3_Independent healthy group	<i>s__Blautia producta</i>	p__Firmicutes	10
Cohort 3_Independent healthy group	<i>s__Enterocloster bolteae</i>	p__Firmicutes	10
Cohort 3_Independent healthy group	<i>s__[Eubacterium] rectale</i>	p__Firmicutes	9
Cohort 3_Independent healthy group	<i>s__Eubacterium ventriosum</i>	p__Firmicutes	8
Cohort 3_Independent healthy group	<i>s__Parabacteroides distasonis</i>	p__Bacteroidetes	8
Cohort 3_Independent healthy group	<i>s__Barnesiella intestinihominis</i>	p__Bacteroidetes	8
Cohort 3_Independent healthy group	<i>s__[Clostridium] leptum</i>	p__Firmicutes	8
Cohort 3_Independent healthy group	<i>s__Blautia glucerasea</i>	p__Firmicutes	7
Cohort 3_Independent healthy group	<i>s__Bacteroides thetaiotaomicron</i>	p__Bacteroidetes	7
Cohort 3_Independent healthy group	<i>s__[Ruminococcus] faecis</i>	p__Firmicutes	6
Cohort 3_Independent healthy group	<i>s__Roseburia intestinalis</i>	p__Firmicutes	6
Cohort 3_Independent healthy group	<i>s__Eubacterium ramulus</i>	p__Firmicutes	6
Cohort 3_Independent healthy group	<i>s__Lactobacillus rogosae</i>	p__Firmicutes	5
Cohort 3_Independent healthy group	<i>s__Lachnoclostridium sp. YL32</i>	p__Firmicutes	5
Cohort 3_Independent healthy group	<i>s__Flavonifractor plautii</i>	p__Firmicutes	5
Cohort 3_Independent healthy group	<i>s__Roseburia inulinivorans</i>	p__Firmicutes	4
Cohort 3_Independent healthy group	<i>s__Roseburia faecis</i>	p__Firmicutes	4
Cohort 3_Independent healthy group	<i>s__[Ruminococcus] gnavus</i>	p__Firmicutes	4
Cohort 3_Independent healthy group	<i>s__Anaerotignum faecicola</i>	p__Firmicutes	4
Cohort 3_Independent healthy group	<i>s__Clostridium saudiense</i>	p__Firmicutes	4
Cohort 3_Independent healthy group	<i>s__Faecalimonas umbilicata</i>	p__Firmicutes	3
Cohort 3_Independent healthy group	<i>s__Butyricicoccus faecihominis</i>	p__Firmicutes	3
Cohort 3_Independent healthy group	<i>s__Romboutsia timonensis</i>	p__Firmicutes	3
Cohort 3_Independent healthy group	<i>s__Dialister invisus</i>	p__Firmicutes	3
Cohort 3_Independent healthy group	<i>s__Blautia coccoides</i>	p__Firmicutes	2
Cohort 3_Independent healthy group	<i>s__Intestinibacter bartlettii</i>	p__Firmicutes	2
Cohort 3_Independent healthy group	<i>s__Bacteroides fragilis</i>	p__Bacteroidetes	1
Cohort 3_Independent healthy group	<i>s__Prevotella stercorea</i>	p__Bacteroidetes	1
Cohort 3_Independent healthy group	<i>s__Escherichia coli</i>	p__Proteobacteria	1
Cohort 3_Independent healthy group	<i>s__Butyricimonas virosa</i>	p__Bacteroidetes	1