

## Supplementary tables

**Table S1.** Effect of 5-FU on CRC cell lines (average % reduction in cell viability ( $\pm$ SD)). These are the data plotted in manuscript Figure 1.

Cell line	Days	0.5 $\mu$ M	1 $\mu$ M	2 $\mu$ M	4 $\mu$ M	8 $\mu$ M	16 $\mu$ M	32 $\mu$ M	64 $\mu$ M
DLD-1	1	6.24 ( $\pm$ 2.74)	6.96 ( $\pm$ 2.28)	15.14 ( $\pm$ 6.42)	16.08 ( $\pm$ 1.29)	20.62 ( $\pm$ 4.40)	24.20 ( $\pm$ 1.35)	27.32 ( $\pm$ 0.78)	29.14 ( $\pm$ 3.11)
	2	4.87 ( $\pm$ 1.62)	13.02 ( $\pm$ 1.70)	23.46 ( $\pm$ 2.42)	35.96 ( $\pm$ 2.42)	45.85 ( $\pm$ 2.45)	53.13 ( $\pm$ 2.43)	57.06 ( $\pm$ 2.68)	59.39 ( $\pm$ 3.30)
	3	5.27 ( $\pm$ 1.91)	15.21 ( $\pm$ 3.83)	27.94 ( $\pm$ 3.44)	43.21 ( $\pm$ 4.26)	55.38 ( $\pm$ 3.09)	65.28 ( $\pm$ 2.39)	69.82 ( $\pm$ 2.96)	70.69 ( $\pm$ 2.22)
LS411N	1	4.59 ( $\pm$ 5.17)	-1.33 ( $\pm$ 8.06)	3.01 ( $\pm$ 9.38)	5.44 ( $\pm$ 6.36)	4.08 ( $\pm$ 10.50)	12.43 ( $\pm$ 8.69)	10.91 ( $\pm$ 7.40)	16.52 ( $\pm$ 8.12)
	2	2.52 ( $\pm$ 0.35)	5.07 ( $\pm$ 4.48)	14.61 ( $\pm$ 3.72)	24.39 ( $\pm$ 2.80)	35.09 ( $\pm$ 3.69)	45.17 ( $\pm$ 4.48)	49.57 ( $\pm$ 3.87)	51.71 ( $\pm$ 5.49)
	3	4.84 ( $\pm$ 1.57)	17.70 ( $\pm$ 2.22)	29.65 ( $\pm$ 2.73)	45.61 ( $\pm$ 2.49)	57.20 ( $\pm$ 1.79)	66.52 ( $\pm$ 1.85)	69.65 ( $\pm$ 0.76)	71.96 ( $\pm$ 1.08)
HCT-8	1	1.83 ( $\pm$ 2.42)	4.68 ( $\pm$ 2.62)	7.54 ( $\pm$ 3.14)	13.59 ( $\pm$ 3.22)	19.91 ( $\pm$ 2.16)	26.60 ( $\pm$ 2.90)	28.11 ( $\pm$ 2.36)	30.32 ( $\pm$ 2.84)
	2	5.77 ( $\pm$ 2.17)	10.67 ( $\pm$ 2.18)	20.36 ( $\pm$ 0.67)	32.30 ( $\pm$ 2.29)	45.24 ( $\pm$ 3.37)	54.31 ( $\pm$ 2.42)	60.87 ( $\pm$ 2.87)	64.85 ( $\pm$ 2.21)
	3	3.13 ( $\pm$ 1.05)	9.02 ( $\pm$ 3.31)	22.89 ( $\pm$ 3.02)	42.05 ( $\pm$ 3.14)	58.45 ( $\pm$ 1.93)	66.55 ( $\pm$ 1.29)	71.44 ( $\pm$ 1.37)	74.11 ( $\pm$ 1.62)
LS513	1	2.63 ( $\pm$ 2.48)	7.22 ( $\pm$ 1.55)	11.46 ( $\pm$ 0.67)	19.68 ( $\pm$ 1.42)	23.76 ( $\pm$ 0.80)	28.82 ( $\pm$ 1.00)	31.25 ( $\pm$ 1.83)	32.00 ( $\pm$ 1.63)
	2	23.80 ( $\pm$ 2.46)	36.75 ( $\pm$ 2.86)	44.93 ( $\pm$ 2.93)	50.19 ( $\pm$ 2.89)	53.68 ( $\pm$ 2.22)	56.15 ( $\pm$ 2.32)	58.28 ( $\pm$ 1.99)	60.61 ( $\pm$ 2.64)
	3	45.84 ( $\pm$ 2.66)	62.25 ( $\pm$ 1.56)	67.65 ( $\pm$ 2.38)	65.49 ( $\pm$ 2.50)	68.06 ( $\pm$ 2.02)	70.08 ( $\pm$ 1.91)	71.68 ( $\pm$ 1.62)	73.37 ( $\pm$ 1.77)
		0.0156 $\mu$ M	0.0313 $\mu$ M	0.0625 $\mu$ M	0.125 $\mu$ M	0.25 $\mu$ M	0.5 $\mu$ M	1 $\mu$ M	2 $\mu$ M
LS513	3	-1.70 ( $\pm$ 0.69)	0.21 ( $\pm$ 0.89)	4.43 ( $\pm$ 1.27)	15.81 ( $\pm$ 1.92)	32.13 ( $\pm$ 3.31)	49.05 ( $\pm$ 2.02)	63.28 ( $\pm$ 1.85)	69.85 ( $\pm$ 1.45)

**Table S2.** Effect of OmeGo on CRC cell lines (average % reduction in cell viability ( $\pm$ SD)). These are the data plotted in manuscript Figure 2.

Cell line	Days	62.5 $\mu$ M	125 $\mu$ M	250 $\mu$ M	500 $\mu$ M	750 $\mu$ M	1000 $\mu$ M	1250 $\mu$ M	1500 $\mu$ M
DLD-1	1	3.66 ( $\pm$ 6.06)	7.49 ( $\pm$ 3.59)	20.10 ( $\pm$ 5.73)	49.34 ( $\pm$ 3.19)	61.05 ( $\pm$ 1.52)	65.02 ( $\pm$ 1.50)	65.06 ( $\pm$ 3.89)	64.16 ( $\pm$ 1.41)
	2	-2.00 ( $\pm$ 5.20)	4.70 ( $\pm$ 6.33)	25.59 ( $\pm$ 8.32)	65.31 ( $\pm$ 4.01)	80.96 ( $\pm$ 3.72)	86.81 ( $\pm$ 0.97)	86.38 ( $\pm$ 1.41)	87.23 ( $\pm$ 1.44)
	3	-2.75 ( $\pm$ 2.70)	-1.17 ( $\pm$ 2.57)	13.85 ( $\pm$ 7.05)	61.05 ( $\pm$ 11.15)	86.63 ( $\pm$ 7.59)	92.34 ( $\pm$ 5.72)	94.55 ( $\pm$ 3.79)	93.88 ( $\pm$ 3.35)
LS411N	1	8.37 ( $\pm$ 4.52)	8.64 ( $\pm$ 3.67)	16.34 ( $\pm$ 2.96)	21.50 ( $\pm$ 3.10)	24.06 ( $\pm$ 1.45)	24.91 ( $\pm$ 2.36)	25.60 ( $\pm$ 3.38)	22.87 ( $\pm$ 3.19)
	2	4.82 ( $\pm$ 3.99)	6.85 ( $\pm$ 3.79)	9.59 ( $\pm$ 4.96)	16.82 ( $\pm$ 5.91)	20.89 ( $\pm$ 5.90)	23.44 ( $\pm$ 7.14)	26.25 ( $\pm$ 7.38)	26.18 ( $\pm$ 8.95)
	3	1.88 ( $\pm$ 1.96)	5.09 ( $\pm$ 1.96)	7.74 ( $\pm$ 1.91)	12.11 ( $\pm$ 2.23)	15.90 ( $\pm$ 3.15)	19.01 ( $\pm$ 2.71)	20.71 ( $\pm$ 4.87)	20.47 ( $\pm$ 3.48)

<b>HCT-8</b>	1	1.67 (±3.03)	1.15 (±1.23)	0.62 (±3.56)	6.12 (±3.15)	11.21 (±4.55)	11.78 (±4.74)	12.86 (±4.40)	14.02 (±3.83)
	2	-3.39 (±2.02)	-5.21 (±3.59)	-2.28 (±6.18)	5.23 (±8.26)	13.52 (±8.35)	21.35 (±7.55)	23.67 (±8.69)	24.34 (±7.66)
	3	-1.02 (±0.67)	-1.25 (±0.54)	0.08 (±1.51)	2.32 (±1.44)	6.58 (±1.41)	11.18 (±4.41)	12.73 (±3.27)	13.42 (±2.22)
<b>LS513</b>	1	9.33 (±1.74)	10.10 (±1.56)	13.86 (±1.18)	21.41 (±1.09)	25.82 (±2.02)	29.79 (±2.68)	34.13 (±1.02)	35.67 (±1.25)
	2	1.95 (±3.20)	2.72 (±3.21)	9.32 (±7.53)	24.96 (±8.82)	40.58 (±8.53)	51.32 (±7.54)	56.55 (±5.97)	61.44 (±5.41)
	3	-2.17 (±0.72)	-2.04 (±2.72)	4.79 (±4.04)	25.99 (±5.55)	42.60 (±6.44)	53.55 (±6.42)	62.66 (±5.56)	68.97 (±2.95)

**Table S3.** Effect of combinatory treatment with OmeGo and 5-FU (3 days) on CRC cell lines (average % reduction in cell viability (±SD)). Numbers are based on raw data - blanc. These are the data plotted in manuscript Figure 3.

Cell line	Treatment	5-FU only	OmeGo 300	OmeGo 500	OmeGo 700
<b>DLD-1</b>	OmeGo only		12.40 (±5.59)	33.22 (±9.39)	49.97 (±12.03)
	5-FU 1.2 µM	20.52 (±3.56)	35.77 (±7.24)	52.48 (±8.55)	66.95 (±6.21)
	5-FU 2.4 µM	34.26 (±4.20)	49.82 (±6.05)	62.03 (±6.96)	71.02 (±6.36)
	5-FU 4.8 µM	48.02 (±4.40)	60.84 (±4.15)	70.80 (±5.82)	79.12 (±3.86)
<b>LS411N</b>	OmeGo only		11.02 (±4.84)	14.55 (±6.19)	17.25 (±6.34)
	5-FU 1.2 µM	23.07 (±1.59)	37.56 (±2.99)	39.01 (±3.07)	39.90 (±3.92)
	5-FU 2.4 µM	35.61 (±1.55)	48.42 (±2.46)	51.13 (±3.09)	52.40 (±2.83)
	5-FU 4.8 µM	50.72 (±1.20)	60.63 (±2.20)	62.67 (±2.59)	63.36 (±2.78)
<b>HCT-8</b>	OmeGo only		-2.25 (±1.53)	0.64 (±2.62)	0.69 (±1.79)
	5-FU 1.2 µM	14.52 (±3.52)	10.42 (±2.60)	15.30 (±3.47)	16.43 (±4.48)
	5-FU 2.4 µM	31.34 (±4.44)	27.89 (±4.75)	31.16 (±6.73)	35.54 (±7.51)
	5-FU 4.8 µM	48.87 (±3.77)	46.78 (±6.55)	49.84 (±6.09)	49.45 (±6.90)
<b>LS513</b>	OmeGo only		12.66 (±7.60)	28.88 (±16.29)	40.47 (±18.63)
	5-FU 0.125 µM	7.09 (±1.29)	21.01 (±6.95)	38.82 (±11.78)	48.10 (±13.91)
	5-FU 0.250 µM	22.24 (±1.74)	35.77 (±3.06)	45.73 (±4.30)	57.87 (±9.62)
	5-FU 0.500 µM	40.12 (±1.86)	49.65 (±4.49)	56.32 (±3.66)	63.75 (±5.76)

**Table S4.** Estimated effect of combinatory treatments of 5-FU and OmeGo in indicated concentrations. Values estimated by fitting the data to a linear model.

Cell line	Treatment	OmeGo 300	OmeGo 500	OmeGo 700
DLD-1	5-FU 1.2 $\mu$ M	36.49	47.97	59.44
	5-FU 2.4 $\mu$ M	45.92	56.54	67.15
	5-FU 4.8 $\mu$ M	64.79	73.67	82.56
LS411N	5-FU 1.2 $\mu$ M	29.31	32.49	35.67
	5-FU 2.4 $\mu$ M	39.63	43.53	47.43
	5-FU 4.8 $\mu$ M	60.27	65.61	70.95
HCT-8	5-FU 1.2 $\mu$ M	14.80	14.92	15.05
	5-FU 2.4 $\mu$ M	26.83	27.13	27.42
	5-FU 4.8 $\mu$ M	50.90	51.54	52.17
LS513	5-FU 0.125 $\mu$ M	25.47	36.53	47.58
	5-FU 0.250 $\mu$ M	34.24	43.77	53.30
	5-FU 0.500 $\mu$ M	51.78	58.26	64.74

**Table S5.** Concentration of DHA and EPA ( $\mu$ M) corresponding to OmeGo doses ( $\mu$ g/ml) used for combinatory treatment with 5-FU.

Fatty acid	OmeGo $\mu$ g/ml		
	300	500	700
EPA ( $\mu$ M)	28.6	47.6	66.6
DHA ( $\mu$ M)	37.2	62.0	86.8
Sum n-3 ( $\mu$ M)	65.8	109.6	153.4

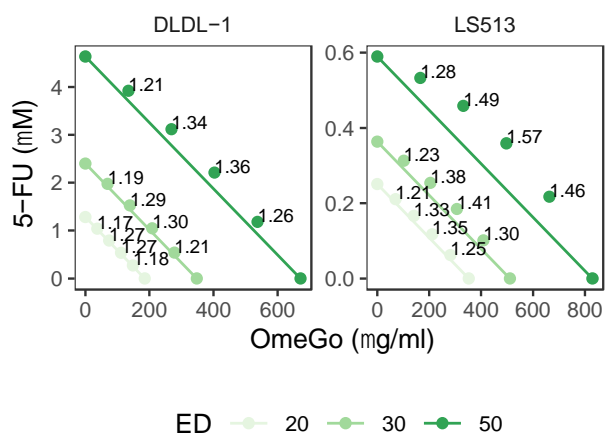
**Table S6.** Effect of combinatory treatment with DHA+EPA and 5-FU (3 days) on CRC cell lines (average % reduction in cell viability ( $\pm$ SD)). Numbers are based on raw data - blanc. These are the data plotted in manuscript Figure 4.

Cell line	Treatment	5-FU only	DHA+EPA 300	DHA+EPA 500	DHA+EPA 700
DLD-1	DHA+EPA only		-4.60 ( $\pm$ 2.53)	58.59 ( $\pm$ 25.61)	98.38 ( $\pm$ 1.28)
	5-FU 1.2 $\mu$ M	20.39 ( $\pm$ 3.63)	11.17 ( $\pm$ 5.17)	64.27 ( $\pm$ 22.67)	97.82 ( $\pm$ 2.49)
	5-FU 2.4 $\mu$ M	35.90 ( $\pm$ 4.59)	27.75 ( $\pm$ 4.74)	69.89 ( $\pm$ 20.69)	98.20 ( $\pm$ 1.33)
	5-FU 4.8 $\mu$ M	49.89 ( $\pm$ 4.52)	45.04 ( $\pm$ 5.64)	73.96 ( $\pm$ 15.89)	98.56 ( $\pm$ 0.98)
LS411N	DHA+EPA only		7.66 ( $\pm$ 6.59)	40.35 ( $\pm$ 8.70)	88.32 ( $\pm$ 8.85)
	5-FU 1.2 $\mu$ M	22.15 ( $\pm$ 2.62)	31.71 ( $\pm$ 3.95)	48.92 ( $\pm$ 5.75)	86.73 ( $\pm$ 10.49)
	5-FU 2.4 $\mu$ M	34.82 ( $\pm$ 3.24)	40.35 ( $\pm$ 1.89)	52.38 ( $\pm$ 3.94)	84.60 ( $\pm$ 9.59)
	5-FU 4.8 $\mu$ M	49.44 ( $\pm$ 2.26)	52.11 ( $\pm$ 3.24)	59.12 ( $\pm$ 4.54)	88.47 ( $\pm$ 7.53)
HCT-8	DHA+EPA only		-11.62 ( $\pm$ 5.22)	-8.26 ( $\pm$ 3.74)	76.41 ( $\pm$ 23.71)
	5-FU 1.2 $\mu$ M	14.72 ( $\pm$ 3.03)	-4.02 ( $\pm$ 2.57)	-0.34 ( $\pm$ 3.88)	74.75 ( $\pm$ 26.71)
	5-FU 2.4 $\mu$ M	30.03 ( $\pm$ 4.25)	8.64 ( $\pm$ 3.32)	16.03 ( $\pm$ 9.66)	78.59 ( $\pm$ 23.42)
	5-FU 4.8 $\mu$ M	49.22 ( $\pm$ 3.08)	29.48 ( $\pm$ 5.72)	30.12 ( $\pm$ 9.22)	83.47 ( $\pm$ 19.11)
LS513	DHA+EPA only		-28.76 ( $\pm$ 2.11)	17.15 ( $\pm$ 17.35)	89.91 ( $\pm$ 7.81)
	5-FU 0.125 $\mu$ M	8.93 ( $\pm$ 2.22)	-9.42 ( $\pm$ 2.14)	32.37 ( $\pm$ 14.36)	91.62 ( $\pm$ 5.90)
	5-FU 0.250 $\mu$ M	25.23 ( $\pm$ 2.32)	14.87 ( $\pm$ 3.23)	46.34 ( $\pm$ 11.34)	92.09 ( $\pm$ 7.01)
	5-FU 0.500 $\mu$ M	41.64 ( $\pm$ 3.80)	37.57 ( $\pm$ 7.29)	56.12 ( $\pm$ 8.05)	93.22 ( $\pm$ 4.54)

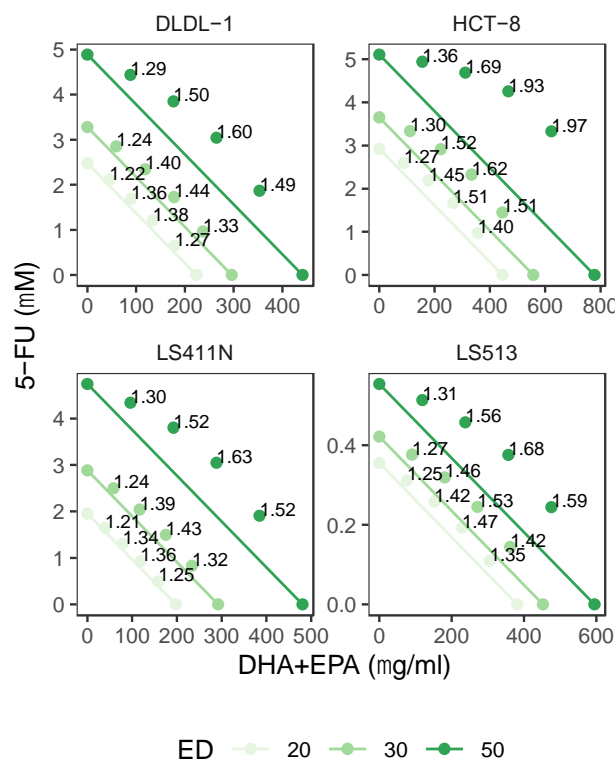
**Table S7.** Estimated effect of combinatory treatments of 5-FU and DHA+EPA in indicated concentrations (for DHA+EPA the OmeGo correlated concentrations were used). Values estimated by fitting the data to a linear model.

Cell line	Treatment	DHA+EPA 300	DHA+EPA 500	DHA+EPA 700
DLD-1	5-FU 1.2 $\mu$ M	39.40	62.95	86.50
	5-FU 2.4 $\mu$ M	48.29	67.81	87.33
	5-FU 4.8 $\mu$ M	66.08	77.53	88.98
LS411N	5-FU 1.2 $\mu$ M	38.66	56.50	74.34
	5-FU 2.4 $\mu$ M	46.51	60.99	75.47
	5-FU 4.8 $\mu$ M	62.20	69.96	77.72
HCT-8	5-FU 1.2 $\mu$ M	17.83	32.22	46.61
	5-FU 2.4 $\mu$ M	28.84	39.55	50.27
	5-FU 4.8 $\mu$ M	50.85	54.22	57.59

<b>LS513</b>	5-FU 0.125 $\mu$ M	20.90	44.68	68.45
	5-FU 0.250 $\mu$ M	33.26	51.70	72.15
	5-FU 0.500 $\mu$ M	57.97	68.76	79.55



**Figure S1.** Combination results from 5-FU and OmeGo treatment of DLD-1 and LS513 cells. For each cell line, the corresponding drug combination linear model was used to create OmeGo and 5-FU combination values for selected effective doses. Values are computed Chou-Talalay combination indices for selected drug combination values.



**Figure S2.** Combination results from 5-FU and DHA+EPA treatment of DLD-1, LS411N, HCT-8, and LS513 cells. See Figure S1 for details.