

**Supplemental information**

**Functional liver genomics identifies hepatokines  
promoting wasting in cancer cachexia**

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**Table S1: Characterization of gastrointestinal cancer patients (Patient cohort 1). Related to Figure 7.**

Characterization of a human cohort of healthy individuals, patients with weight-stable cancer and cancer cachexia. Data are mean  $\pm$  SEM. Statistical analyses were performed using a one-way ANOVA in combination with Tukey's multiple comparisons test or a non-parametric Kruskal-Wallis test in combination with Dunn's multiple comparisons test. P-values of the one-way ANOVA or non-parametric tests are displayed in the column "p-value". Statistical significance of multiple comparisons between groups is indicated by "\*" for "#". \*p<0.05 Weight-stable cancer vs Cancer cachexia, \*\*p<0.01 Weight-stable cancer vs Cancer cachexia, \*\*\*\*p<0.001 Weight-stable cancer vs Cancer cachexia, #p<0.05 Healthy control vs Cancer cachexia, #p<0.05 Healthy control vs Cancer cachexia, ### p<0.001 Healthy control vs Cancer cachexia, ##### p<0.0001 Healthy control vs Cancer cachexia. BMI: body mass index; CRP: C-reactive protein; HDL: high-density lipoprotein; LDL: low-density lipoprotein.

	Healthy controls	Weight-stable cancer	Cancer cachexia	p-value
<b>Clinical information</b>				
Male (n)	6	11	13	
Female (n)	0	9	8	
Age	49.83 $\pm$ 7.98	59.25 $\pm$ 2.66	61.76 $\pm$ 3.45	0.229
BMI (kg/m <sup>2</sup> )	27.30 $\pm$ 1.15	25.13 $\pm$ 0.61	21.61 $\pm$ 0.77 <sup>*,###</sup>	<b>0.0002</b>
Body weight change (%)	0	-1.52 $\pm$ 0.62	-13.95 $\pm$ 1.65 <sup>****,####</sup>	<b>&lt;0.0001</b>
<b>Tumor site (n)</b>				
Colon and rectum		17	15	
Stomach		3	6	
<b>Tumor stage (n)</b>				
I		5	2	
IIA/B/C		8	4	
III		1	4	
IIIB/C		1	4	
IV		2	3	
non classified		3	4	
<b>Serum parameters</b>				
Hemoglobin (g/dL)	14.80 $\pm$ 0.44	13.13 $\pm$ 0.36	11.29 $\pm$ 0.51 <sup>*,#</sup>	<b>0.0027</b>
CRP (mg/L)	3.48 $\pm$ 0.75	5.20 $\pm$ 0.98	9.12 $\pm$ 0.89 <sup>*</sup>	<b>0.0129</b>
Albumin (g/dL)	3.98 $\pm$ 0.23	3.60 $\pm$ 0.11	3.37 $\pm$ 0.08 <sup>#</sup>	<b>0.0241</b>
Glucose (mg/dL)	91.17 $\pm$ 18.64	60.05 $\pm$ 6.61	46.00 $\pm$ 5.80 <sup>#</sup>	<b>0.0161</b>
Cholesterol (mg/dL)	172.85 $\pm$ 13.81	196.21 $\pm$ 16.25	194.60 $\pm$ 11.45	0.6939
HDL (mg/dL)	34.50 $\pm$ 2.40	44.11 $\pm$ 4.13	42.86 $\pm$ 3.07	0.4116
LDL (mg/dL)	101.67 $\pm$ 10.92	112.32 $\pm$ 11.45	106.52 $\pm$ 8.31	0.888
Triglycerides (mg/dL)	179.00 $\pm$ 21.64	179.79 $\pm$ 18.96	173.52 $\pm$ 21.42	0.9747

**Table S2: Characterization of pancreatic cancer patients (Patient cohort 2). Related to Figure 7.**

Characterization of a human cohort of patients with weight-stable cancer and cancer cachexia. Data are mean  $\pm$  SEM. Statistical analyses were using a two-tailed student t-test or a non-parametric Mann Whitey test. P-values are displayed in the column "p-value". BMI: body mass index; CRP: C-reactive protein.

	Weight-stable cancer	Cancer cachexia	p-value
<b>Clinical information</b>			
Male (n)	9	20	
Female (n)	15	24	
Age	68.42 $\pm$ 2.607	69.07 $\pm$ 1.524	0.8180
BMI (kg/m <sup>2</sup> )	25.31 $\pm$ 0.6919	20.44 $\pm$ 0.7060****	<b>&lt;0.0001</b>
Body weight change (%)	-0.9700 $\pm$ 0.3277	-12.69 $\pm$ 1.094****	<b>&lt;0.0001</b>
Tumor entity	Pancreatic cancer	Pancreatic cancer	
<b>UICC Tumor stage (n)</b>			
I	1	0	
II	9	22	
III	6	7	
IV	8	15	
<b>Serum parameters</b>			
CRP (mg/L)	18.10 $\pm$ 7.800	31.78 $\pm$ 8.312	0.0889
Albumin (g/dL)	4.135 $\pm$ 0.07843	3.868 $\pm$ 0.08529*	<b>0.0420</b>

**Table S3: Characterization of lung cancer patients (Patient cohort 3). Related to Figure 7.**

Characterization of a human cohort of patients with weight-stable cancer and cancer cachexia. Data are mean  $\pm$  SEM. Statistical analyses were using a two-tailed student t-test or a non-parametric Mann Whitey test in combination. P-values are displayed in the column "p-value". BMI: body mass index.

	Weight-stable cancer	Cancer cachexia	p-value
<b>Clinical information</b>			
Male (n)	27	14	
Female (n)	22	9	
Age	67.43 $\pm$ 1.284	70.70 $\pm$ 2.343	0.2149
BMI (kg/m <sup>2</sup> )	27.12 $\pm$ 0.6278	25.43 $\pm$ 1.106	0.1612
Body weight change (%)	2.312 $\pm$ 0.7995	-11.58 $\pm$ 1.183****	<b>&lt;0.0001</b>
Tumor entity			
Lung squamous cell carcinoma	9	8	
Lung adenocarcinoma	30	14	
Other	10	1	
Tumor stage at diagnosis (n)			
I	12	6	
II	14	4	
III	23	13	