

Supplementary Materials: Global Proteome Changes in Liver Tissue 6 Weeks After FOLFOX Treatment of Colorectal Cancer Liver Metastases

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Table S1. Clinical data.

Clinical Characteristics	Expressed By	All Patients (n = 15)	FOLFOX Treatment (n = 8)	No Chemotherapy (n = 7)	p-Value
Gender (male)	n (%)	11 (73%)	5 (63%)	6 (86%)	0.57
Age (years)	median, IQR	59 (58–69)	63 (58–70)	58 (53–70)	0.40
BMI	median, IQR	25.6 (24.1–30.0)	25.0 (23.7–27.6)	29.8 (24.2–31.0)	0.19
Number of FOLFOX cures	median, IQR	-	5 (4–7)	-	
Delay after FOLFOX cessation (weeks)	median, IQR	-	6 (5–8)	-	
Major liver resection	n (%)	12 (80%)	7 (88%)	5 (71%)	0.57
Bleeding preoperatively (mL)	median, IQR	600 (300–1700)	450 (300–600)	1100 (400–2200)	0.12
Transfusion units peroperatively	median, IQR	0 (0–0)	0 (0–0)	0 (0–0)	1.00
Transfusion units postoperatively	median, IQR	0 (0–0)	0 (0–0)	0 (0–0)	0.69
Hospital stay (days)	median, IQR	10 (8–15)	10 (8–14)	10 (7–16)	0.78
Clavien complication grade 3 or more	n (%)	5 (33%)	2 (25%)	3 (43%)	0.61

Table S2. Classifying proteins according Recursive Feature Elimination-Support Vector Machine model resulting in list of 184 proteins with classifying error rate 20%.

Gene Names Alt. Protein ID	Protein Names	Ranks	Fold Change	Peptides	Unique Peptides
MCM2	DNA replication licensing factor MCM2	0	3.40	12	12
CAMK2G; CAMK2A; CAMK2B	Calcium/calmodulin-dependent protein kinase type II subunit gamma; Calcium/calmodulin-dependent protein kinase type II subunit alpha	1	-2.96	8	2
VCAN	Versican core protein	2	-2.86	10	10
FBXO3	F-box only protein 3	3	3.58	8	8
MYH15	Myosin-15	4	-2.28	3	2
UGT2B17; F8WCE9	UDP-glucuronosyltransferase 2B17; UDP-glucuronosyltransferase 2B15	5	5.40	25	1
OXNAD1	Oxidoreductase NAD-binding domain-containing protein 1	6	-3.20	5	5
CXorf27	Huntingtin-interacting protein M	7	3.94	1	1
MAP1B	Microtubule-associated protein 1B; MAP1 light chain LC1	8	10.21	24	23
C4B	Complement component 4B	9	-2.74	67	0
TMPRSS6	Transmembrane protease serine 6	10	6.60	4	4
TLCD1	TLC domain-containing protein 1	11	-5.37	2	2
MB	Myoglobin	12	2.30	4	4
UBE3B	Ubiquitin-protein ligase E3B	13	-6.17	7	7
MYBPC2	Myosin-binding protein C, fast-type	14	-4.29	4	3
GSTT2; GSTT2B; Em:AP000351.3	Glutathione S-transferase theta-2; Glutathione S-transferase theta-2B	15	-4.27	7	6
OLFML1	Olfactomedin-like protein 1	16	2.89	13	13
CPA3	Mast cell carboxypeptidase A	17	-3.67	4	4

Table S2. cont.

Gene Names Alt. Protein ID	Protein Names	Ranks	Fold Change	Peptides	Unique Peptides
MACF1	Microtubule-actin cross-linking factor 1, isoforms 1/2/3/5	18	-3.52	83	0
MX1	Interferon-induced GTP-binding protein Mx1; Interferon-induced GTP-binding protein Mx1, N-terminally processed	19	1.88	16	14
BCL2	Apoptosis regulator Bcl-2	20	-2.34	3	3
SASH1	SAM and SH3 domain-containing protein 1	21	-3.41	2	2
ERAP2	Endoplasmic reticulum aminopeptidase 2	22	-4.59	20	20
C19orf12	Chromosome 19 open reading frame 12	23	-2.17	4	2
CMA1	Chymase	24	-3.35	4	4
ALOX5AP	Arachidonate 5-lipoxygenase-activating protein	25	-3.34	2	2
TRAPPC5	Trafficking protein particle complex subunit 5	26	-1.57	3	3
CD4	T-cell surface glycoprotein CD4	27	2.26	2	2
SMYD5	SET and MYND domain-containing protein 5	28	4.62	3	3
ICT1	Peptidyl-tRNA hydrolase ICT1, mitochondrial	29	-3.36	4	4
MLIP; C6orf142	Muscular LMNA-interacting protein	30	3.11	4	4
TMCO4	Transmembrane and coiled-coil domain-containing protein 4	31	1.70	2	2
DUOX2	Dual oxidase 2	32	-2.59	2	2
RHPN2	Rhopilin-2	33	-2.40	4	4
TM9SF4	Transmembrane 9 superfamily member 4	34	2.47	6	6
YOD1	Ubiquitin thioesterase OTU1	35	-4.95	3	3
FAN1	Fanconi-associated nuclease 1	36	-3.09	3	3
KIAA1586	Uncharacterized protein KIAA1586	37	-2.30	1	1
HLA-DQA1	Major histocompatibility complex, class II, DQ alpha 1	38	6.23	4	2
NAT2	Arylamine N-acetyltransferase 2	39	-2.67	6	6
GYS1	Glycogen [starch] synthase, muscle	40	-2.30	12	9
XRN1	5-3 exoribonuclease 1	41	-2.72	7	7
ALG13	UDP-N-acetylglucosamine transferase subunit ALG13 homolog	42	-2.66	2	2
SEPP1	Selenoprotein P	43	-2.34	2	2
HYI	Putative hydroxypyruvate isomerase	44	2.32	6	5
PLEKHA4	Pleckstrin homology domain-containing family A member 4	45	2.15	10	10
RAB5A; RAB5B	Ras-related protein Rab-5A	46	-2.30	6	3
KRT80	Keratin, type II cytoskeletal 80	47	-3.67	5	4
MYOM2	Myomesin-2	48	1.55	13	13
PODN	Podocan	49	2.75	5	5
BCHE	Cholinesterase	50	-2.07	3	3
FSIP2	Fibrous sheath-interacting protein 2	51	3.61	7	7
PRG2	Bone marrow proteoglycan; Eosinophil granule major basic protein	52	3.42	6	6
CLDN5	Claudin-5	53	-2.04	1	1
CIT	Citron Rho-interacting kinase	54	-2.95	7	7
UTP20	Small subunit processome component 20 homolog	55	-2.42	6	6
MCM4	DNA replication licensing factor MCM4	56	2.71	7	7
PLSCR3	Phospholipid scramblase 3	57	-2.23	2	2
Q7Z7K6-3; Q7Z7K6-2	Centromere protein V	58	2.84	8	3
TMEM2	Transmembrane protein 2	59	2.02	4	4
PMM2	Phosphomannomutase 2	60	-2.23	5	1
ARSE	Arylsulfatase E	61	2.41	9	8
NT5DC2	5-nucleotidase domain-containing protein 2	62	-3.04	4	4
NLRP13	NACHT, LRR and PYD domains-containing protein 13	63	-4.24	3	3
GSTT1	Glutathione S-transferase theta-1	64	2.50	15	11
PRPSAP1	Phosphoribosyl pyrophosphate synthase-associated protein 1	65	2.19	14	1
ENAH	Protein enabled homolog	66	-1.67	7	7
DNAH3	Dynein heavy chain 3, axonemal	67	2.32	5	5

Table S2. cont.

Gene Names Alt. Protein ID	Protein Names	Ranks	Fold Change	Peptides	Unique Peptides
ALS2CL	ALS2 C-terminal-like protein	68	1.94	3	3
HLA-F	HLA class I histocompatibility antigen, alpha chain F	69	1.68	6	5
INTS4	Integrator complex subunit 4	70	-2.40	5	5
IGHD	Ig delta chain C region	71	3.88	7	7
UAP1L1	UDP-N-acetylhexosamine pyrophosphorylase-like protein 1	72	1.66	7	7
TKT	Transketolase	73	-2.73	29	1
PLIN1	Perilipin-1	74	2.06	14	14
STX7	Syntaxin-7	75	1.80	5	5
GSTM1	Glutathione S-transferase Mu 1	76	3.52	21	7
EXOC3	Exocyst complex component 3	77	-2.15	4	4
ARHGEF18	Rho guanine nucleotide exchange factor 18	78	-2.07	4	4
FOLH1; FOLH1B	Glutamate carboxypeptidase 2; Putative N-acetylated-alpha-linked acidic dipeptidase	79	-2.01	8	8
NCF1B; NCF1; NCF1C	Putative neutrophil cytosol factor 1B; Neutrophil cytosol factor 1; Putative neutrophil cytosol factor 1C	80	-3.39	8	8
LGALS3	Galectin-3	81	-1.99	6	6
MCM7	DNA replication licensing factor MCM7	82	2.20	11	11
SET	Protein SET	83	-2.26	7	1
NDUFS8	NADH dehydrogenase (ubiquinone) Fe-S protein 8, 23kDa (NADH-coenzyme Q reductase)	84	2.27	5	1
TBC1D23	TBC1 domain family member 23	85	2.37	4	4
MYL10	Myosin regulatory light chain 10	86	2.08	1	1
DHFR; DHFRL1	Dihydrofolate reductase; Dihydrofolate reductase, mitochondrial	87	2.31	2	2
RPL26L1	60S ribosomal protein L26-like 1	88	1.99	9	2
ITIH5	Inter-alpha-trypsin inhibitor heavy chain H5	89	-2.95	3	3
TFPI	Tissue factor pathway inhibitor	90	-2.21	3	3
HADHB	Hydroxyacyl-CoA dehydrogenase/3-ketoacyl-CoA thiolase/enoyl-CoA hydratase (trifunctional protein), beta subunit	91	-1.69	3	1
KIAA1967	KIAA1967-potential transmembrane protein	92	1.82	5	1
TMEM176B	Transmembrane protein 176B	93	1.95	2	2
COL3A1	Collagen alpha-1(III) chain	94	-1.87	6	6
APOL3	Apolipoprotein L3	95	1.96	5	5
ANXA6	Annexin A6; Annexin	96	2.20	55	1
MAG1	Membrane-associated guanylate kinase, WW and PDZ domain-containing protein 1	97	-1.98	3	3
TRIOBP	TRIO and F-actin-binding protein	98	-1.74	7	2
NCAM1	Neural cell adhesion molecule 1	99	-2.12	8	8
ANGPTL6	Angiopoietin-related protein 6	100	2.02	9	9
RIN1	Ras and Rab interactor 1	101	-2.82	2	2
CUL4B	Cullin-4B	102	2.13	15	9
ERBB2	Receptor tyrosine-protein kinase erbB-2	103	1.83	7	7
SPTAN1	Spectrin, alpha, non-erythrocytic 1	104	2.59	143	1
ATP2A3	Sarcoplasmic/endoplasmic reticulum calcium ATPase 3	105	-2.27	17	8
MRPS7	28S ribosomal protein S7, mitochondrial	106	-2.48	9	9
THOC1	THO complex subunit 1	107	-2.00	6	6
ZNF326	Zinc finger protein 326	108	1.84	7	7
JMJD7	JmjC domain-containing protein 7	109	1.61	3	3
ESAM	Endothelial cell-selective adhesion molecule	110	-1.57	4	4
UBE2H	Ubiquitin-conjugating enzyme E2 H	111	-1.51	3	3
EMG1	Ribosomal RNA small subunit methyltransferase NEP1	112	2.63	4	4
VRK2	Serine/threonine-protein kinase VRK2	113	2.22	4	4
C1GALT1C1	C1GALT1-specific chaperone 1	114	-2.18	2	2
P06314; P01625; P83593	Ig kappa chain V-IV region B17; Ig kappa chain V-IV region Len	115	-2.24	3	1
ARHGEF11	Rho guanine nucleotide exchange factor 11	116	2.67	3	3
SUSD2	Sushi domain-containing protein 2	117	1.56	4	4

Table S2. cont.

Gene Names Alt. Protein ID	Protein Names	Ranks	Fold Change	Peptides	Unique Peptides
C19orf52	Uncharacterized protein C19orf52	118	4.90	3	3
GGA2	ADP-ribosylation factor-binding protein GGA2	119	-2.10	6	4
NUDT12	Peroxisomal NADH pyrophosphatase NUDT12	120	2.38	8	8
SRD5A2	3-oxo-5-alpha-steroid 4-dehydrogenase 2	121	-1.77	6	6
TGM1	Protein-glutamine gamma-glutamyltransferase K	122	-1.78	5	5
ELOVL1	Elongation of very long chain fatty acids protein 1	123	-2.46	2	2
GALNT1	Polypeptide N-acetylgalactosaminyltransferase 1; soluble form	124	-1.68	4	4
HLA-DRB1	HLA class II histocompatibility antigen, DRB1-10 beta chain	125	-2.03	4	1
GOLPH3	Golgi phosphoprotein 3	126	-2.22	6	6
P23083	Ig heavy chain V-I region V35	127	-2.03	2	2
TMF1	TATA element modulatory factor	128	-2.45	3	3
NAA38	N-alpha-acetyltransferase 38, NatC auxiliary subunit	129	-2.18	3	3
NXN	Nucleoredoxin	130	-1.71	3	3
CA14	Carbonic anhydrase 14	131	2.06	4	4
ERF	ETS domain-containing transcription factor ERF	132	-2.25	3	3
SLC39A7	Zinc transporter SLC39A7	133	2.56	2	2
PRPF38A	Pre-mRNA-splicing factor 38A	134	2.25	4	4
EXOSC5	Exosome complex component RRP46	135	1.72	2	2
GCKR	Glucokinase regulatory protein	136	-2.27	18	18
STMN2; STMN1	Stathmin; Stathmin-2	137	3.02	1	1
CTIF	CBP80/20-dependent translation initiation factor	138	-1.59	3	3
PCDHB12	Protocadherin beta-12	139	-2.26	1	1
EPG5	Ectopic P granules protein 5 homolog	140	1.69	5	5
DOCK5	Dedicator of cytokinesis protein 5	141	-1.89	7	7
SRBD1	S1 RNA-binding domain-containing protein 1	142	-2.01	6	6
DDX3Y	ATP-dependent RNA helicase DDX3Y	143	-2.11	16	1
CYP2D6	Cytochrome P450 2D6	144	2.71	24	24
FRG1	Protein FRG1	145	-2.17	3	3
PWP2	Periodic tryptophan protein 2 homolog	146	-1.61	7	7
RPS6KA1	Ribosomal protein S6 kinase alpha-1; Ribosomal protein S6 kinase	147	-2.61	11	5
LGALS8	Galectin-8	148	1.62	5	5
MBL2	Mannose-binding protein C	149	-2.14	7	7
ACOT9	Acyl-coenzyme A thioesterase 9, mitochondrial	150	-2.11	13	13
TTC17	Tetratricopeptide repeat protein 17	151	-1.81	4	4
C20orf7	Probable methyltransferase C20orf7, mitochondrial	152	-2.34	4	4
P04211	Ig lambda chain V region 4A	153	-1.97	1	1
LMOD1	Leiomodrin-1	154	-2.45	6	6
MT-ND6	NADH-ubiquinone oxidoreductase chain 6	155	1.76	1	1
LAMA4	Laminin subunit alpha-4	156	-2.04	16	16
HLA-DRB1	HLA class II histocompatibility antigen, DRB1-4 beta chain	157	2.19	9	1
FBXO2	F-box only protein 2	158	2.23	4	4
RPS4Y1	40S ribosomal protein S4, Y isoform 1	159	-1.60	16	4
ISG15	Ubiquitin-like protein ISG15	160	1.82	5	5
POP7	Ribonuclease P protein subunit p20	161	1.82	1	1
ANKS1A	Ankyrin repeat and SAM domain-containing protein 1A	162	-2.57	3	3
MCM3AP	80 kDa MCM3-associated protein	163	3.40	3	3
KCMF1	E3 ubiquitin-protein ligase KCMF1	164	2.25	1	1
MECP2	Methyl-CpG-binding protein 2	165	-1.91	7	7
TRMT11	tRNA (guanine(10)-N2)-methyltransferase homolog	166	-1.69	4	4
MAPKAPK3	MAP kinase-activated protein kinase 3	167	-1.49	5	4
PTPRM	Receptor-type tyrosine-protein phosphatase mu	168	-1.87	4	2
MCM6	DNA replication licensing factor MCM6	169	1.80	6	6
DDX28	Probable ATP-dependent RNA helicase DDX28	170	-1.42	3	3
VNN1	Pantetheinase	171	1.86	6	6

Table S2. *cont.*

Gene Names Alt. Protein ID	Protein Names	Ranks	Fold Change	Peptides	Unique Peptides
ACTB	Actin, beta	172	-2.07	14	2
MADD	MAP kinase-activating death domain protein	173	-2.17	4	4
HNRPLL	Heterogeneous nuclear ribonucleoprotein L-like	174	-1.95	5	5
ANGPTL3	Angiopoietin-related protein 3	175	2.14	5	5
SCRN1	Secernin-1	176	2.01	4	4
TOR2A	Torsin-2A	177	1.63	6	5
MCM5	DNA replication licensing factor MCM5	178	1.94	9	9
ALDH3B1	Aldehyde dehydrogenase family 3 member B1	179	-1.93	5	4
HCK	Tyrosine-protein kinase HCK	180	-1.74	10	5
KHNYN	Protein KHNYN	181	-2.02	2	2
F10	Coagulation factor X; Factor X light chain; Factor X heavy chain; Activated factor Xa heavy chain	182	1.79	6	6
TRAPPC10	Trafficking protein particle complex subunit 10	183	-1.49	5	5