



## **Supplemental Material to:**

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**Ketone bodies and two-compartment tumor metabolism:  
Stromal ketone production fuels mitochondrial biogenesis  
in epithelial cancer cells**

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**Supplemental Table 1. Proteomic Analysis of MCF7 Cells After L-lactate Treatment**

	<u>Fold change</u> (Lactate/Control)	<u>Accession Number</u>	<u>Protein Spot Number</u>	<u>Localization</u>
<b>Heat Shock Proteins and Nuclear Chaperonins</b>				
nucleophosmin (nucleolar phosphoprotein B23, numatrin) (NPM1)	1.66	gi 18314408	4	Nucleus
calreticulin (CALR)	1.61	gi 62897681	1	ER
calreticulin (CALR)	1.6	gi 62897681	2	ER
<b>Mitochondrial Metabolism and Fatty Acids Oxidation</b>				
ATP synthase, H+ transporting, mitochondrial F1 complex, delta subunit (ATP5D)	3.07	gi 4502297	17	<b>Mito</b>
complement component 1, q subcomponent binding protein (C1QBP)	1.5	gi 4930073	6	<b>Mito</b>
hydroxysteroid (17-beta) dehydrogenase 10 (HSD17B10)	1.4	gi 4758504	9	<b>Mito</b>
<b>RNA Splicing and Protein Synthesis</b>				
ribosomal protein, large P2 (RPLP2)	1.91	gi 4506671	15	Cytoplasm
U2 small nuclear RNA auxiliary factor 1 (U2AF1)	1.37	gi 5803207	5	Nucleus
<b>Cell Cycle Regulation</b>				
tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, zeta polypeptide (YWHAZ)	2.73	gi 83754467	7	Nucleus
cell division cycle 42 (GTP binding protein, 25kDa) (CDC42)	1.48	gi 5542168	10	Membrane
RAN, member RAS oncogene family (RAN)	1.43	gi 48734884	8	Nucleus
<b>Keratins</b>				
keratin 19 (KRT19)	1.67	gi 7594732	3	Cytoplasm
keratin 10 (KRT10)	1.5	gi 195972866	6	Cytoplasm
<b>Others</b>				
ubiquitin B (UBB)	1.5	gi 119624911	11	Cytoplasm
chromosome 21 open reading frame 33 (C21orf33)	1.43	gi 134142815	8	<b>Mito</b>

**Supplemental Table 2. Proteomic Analysis of MCF7 Cells After 3-Hydroxy-Butyrate Treatment**

	Fold change (Butyrate/Control)	Accession Number	Protein Spot Number	Localization
<b>Heat Shock Proteins</b>				
DnaJ (Hsp40) homolog, subfamily C, member 7 (DNAJC7)	2.41	gi 119581193	23	Cytoplasm
heat shock 60kDa protein 1 (chaperonin) (HSPD1)	1.85	gi 77702086	12	<b>Mito</b>
heat shock 60kDa protein 1 (chaperonin) (HSPD1)	1.47	gi 31542947	13	<b>Mito</b>
heat shock 70kDa protein 9 (mortalin) (HSPA9)	1.28	gi 21040386	5	<b>Mito</b>
heat shock 70kDa protein 5 (glucose-regulated protein, 78kDa) (HSPA5)	1.58	gi 16507237	3	ER
calreticulin (CALR)	1.44	gi 62897681	14	ER
calumenin (CALU)	1.41	gi 2809324	15	ER
protein disulfide isomerase family A, member 3 (PDIA3)	1.29	gi 220702506	16	ER
endoplasmic reticulum protein 29 (ERP29)	1.25	gi 192987144	35	ER
<b>Pentose Phosphate Pathway/ Glutathione Metabolism</b>				
glucose-6-phosphate dehydrogenase (G6PD)	1.77	gi 108773793	24	Cytoplasm
<b>Mitochondrial Metabolism</b>				
pyruvate carboxylase (PC)	1.48	gi 106049292	8	<b>Mito</b>
Aconitase 2, mitochondrial (ACO2)	1.37	gi 20072188	11	<b>Mito</b>
<b>Anti-Apoptotic/ Anti-Stress &amp; DNA Brake Repairs</b>				
voltage-dependent anion channel 2 (VDAC2)	1.66	gi 48146045	29	<b>Mito</b>
PRP19/PSO4 pre-mRNA processing factor 19 homolog (PRPF19)	1.51	gi 7657381	22	Nucleus
Inner membrane protein, mitochondrial (mitofilin) (IMMT)	1.5	gi 516764	6	<b>Mito</b>
<b>RNA processing</b>				
seryl-tRNA synthetase (SARS)	2.29	gi 119576775	21	Cytoplasm
heterogeneous nuclear ribonucleoprotein A2/B1 (HNRNPA2B1)	1.41	gi 4504447	31	Nucleus
<b>Keratins</b>				
keratin 8 (KRT8)	1.71	gi 4504919	17	Cytoplasm
keratin 18 (KRT18)	1.55	gi 30311	18	Cytoplasm
<b>Others</b>				
latexin, (LXN)	1.63	gi 119599089	32	Cytoplasm
proteasome (prosome, macropain) activator subunit 2 (PA28 beta) (PSME2)	1.63	gi 30410792	32	Proteasome