

Table S11. Heat map of statistically significant biochemicals profiled in inguinal adipose tissue. Shaded cells indicate $p \leq 0.05$ (red indicates that the mean values are significantly higher for that comparison; green values significantly lower). Blue-bolded text indicates $0.05 < p < 0.10$.			Fold of Change		
			Welch's Two Sample t-Tests		
PATHWAY SORT	BIOCHEMICAL NAME	SUPER PATHWAY	<u>MR</u> CF	<u>MR + CYS</u> CF	<u>MR</u> MR + CYS
1	glycine	Amino acid	1.01	0.87	1.15
7	serine	Amino acid	2.59	1.28	2.02
16	threonine	Amino acid	2.11	0.93	2.27
21	betaine	Amino acid	0.67	0.99	0.68
22	betaine aldehyde	Amino acid	1.50	1.60	0.94
23	alanine	Amino acid	1.61	1.37	1.17
24	beta-alanine	Amino acid	1.10	0.92	1.2
29	aspartate	Amino acid	1.39	1.16	1.2
33	asparagine	Amino acid	1.34	1.27	1.06
38	glutamate	Amino acid	0.95	1.09	0.88
42	glutamine	Amino acid	1.30	1.26	1.03
46	N-acetyl-aspartyl-glutamate (NAAG)	Amino acid	0.98	0.75	1.3
48	histidine	Amino acid	2.08	1.37	1.52
50	urocanate	Amino acid	1.16	0.87	1.33
53	histamine	Amino acid	1.36	1.59	0.85
66	lysine	Amino acid	1.55	1.17	1.33
78	phenylalanine	Amino acid	1.65	1.27	1.3
90	tyrosine	Amino acid	1.56	1.43	1.1
91	3-(4-hydroxyphenyl)lactate	Amino acid	0.57	0.89	0.65
114	phenylacetylglutamine	Amino acid	0.62	0.91	0.68
121	phenol sulfate	Amino acid	0.41	0.71	0.58
124	kynurenate	Amino acid	1.13	1.31	0.86
125	kynurenine	Amino acid	0.85	1.33	0.64
126	tryptophan	Amino acid	1.46	1.32	1.1
141	C-glycosyltryptophan*	Amino acid	0.56	0.81	0.69
150	3-methyl-2-oxovalerate	Amino acid	0.99	0.93	1.07
157	isoleucine	Amino acid	1.49	1.12	1.32
158	leucine	Amino acid	1.71	1.22	1.41
167	valine	Amino acid	1.48	1.13	1.31
170	4-methyl-2-oxopentanoate	Amino acid	1.25	1.09	1.14
177	isobutyrylcarnitine	Amino acid	0.96	1.12	0.86
179	2-methylbutyrylcarnitine	Amino acid	0.68	1.31	0.52
181	isovalerylcarnitine	Amino acid	1.43	2.10	0.68
188	cysteine	Amino acid	1.33	1.25	1.06
191	cystine	Amino acid	1.95	0.62	3.15
193	methionine sulfoxide	Amino acid	1.62	0.79	2.05
195	hypotaurine	Amino acid	0.50	3.75	0.13
196	taurine	Amino acid	0.81	0.94	0.86
198	S-adenosylhomocysteine (SAH)	Amino acid	2.13	1.47	1.45
199	methionine	Amino acid	1.40	1.13	1.24
201	N-acetylmethionine	Amino acid	0.84	1.75	0.48
212	dimethylarginine (SDMA + ADMA)	Amino acid	1.01	0.96	1.05
213	arginine	Amino acid	1.29	1.10	1.17
216	ornithine	Amino acid	2.30	1.72	1.33
217	urea	Amino acid	1.43	0.81	1.76
218	proline	Amino acid	1.24	1.04	1.19
220	citrulline	Amino acid	1.07	1.03	1.04

224	trans-4-hydroxyproline	Amino acid	0.62	1.00	0.62
232	creatine	Amino acid	0.88	0.79	1.11
233	creatinine	Amino acid	0.62	0.76	0.81
235	2-aminobutyrate	Amino acid	1.54	0.72	2.12
238	5-methylthioadenosine (MTA)	Amino acid	1.72	1.81	0.95
242	spermidine	Amino acid	1.20	1.54	0.78
246	4-guanidinobutanoate	Amino acid	1.20	1.00	1.2
251	glutathione, reduced (GSH)	Amino acid	6.14	7.05	0.87
253	5-oxoproline	Amino acid	2.35	1.29	1.81
254	glutathione, oxidized (GSSG)	Amino acid	1.06	1.48	0.72
255	cysteine-glutathione disulfide	Amino acid	1.02	1.15	0.89
256	ophthalmate	Amino acid	5.34	0.94	5.66
261	glycylvaline	Peptide	1.81	2.13	0.85
266	glycylleucine	Peptide	2.29	2.69	0.85
298	pro-hydroxy-pro	Peptide	0.63	0.77	0.82
316	carnosine	Peptide	1.00	1.00	1
318	anserine	Peptide	0.25	0.73	0.34
323	gamma-glutamylleucine	Peptide	2.10	1.10	1.9
328	gamma-glutamylglutamate	Peptide	1.33	1.69	0.79
329	gamma-glutamylglutamine	Peptide	1.29	1.27	1.02
370	N-acetylglucosamine 6-phosphate	Carbohydrate	0.89	0.99	0.9
374	N-acetylneuraminate	Carbohydrate	1.34	1.43	0.94
404	mannose-6-phosphate	Carbohydrate	1.16	1.20	0.97
430	1,5-anhydroglucitol (1,5-AG)	Carbohydrate	1.62	0.66	2.44
432	glycerate	Carbohydrate	1.69	1.50	1.13
434	glucose-6-phosphate (G6P)	Carbohydrate	1.02	1.06	0.97
436	glucose	Carbohydrate	0.72	0.66	1.1
439	fructose-6-phosphate	Carbohydrate	1.16	1.14	1.02
444	3-phosphoglycerate	Carbohydrate	1.35	1.24	1.08
447	1,3-dihydroxyacetone	Carbohydrate	2.17	1.75	1.24
449	phosphoenolpyruvate (PEP)	Carbohydrate	2.80	2.02	1.38
451	lactate	Carbohydrate	0.88	0.96	0.91
459	6-phosphogluconate	Carbohydrate	1.42	1.29	1.1
491	citrate	Energy	0.58	0.46	1.27
501	succinate	Energy	0.72	1.41	0.52
504	fumarate	Energy	1.29	1.24	1.04
507	malate	Energy	1.13	0.94	1.2
511	phosphate	Energy	1.49	1.40	1.06
512	pyrophosphate (PPi)	Energy	0.81	1.28	0.63
512.5	linoleate (18:2n6)	Lipid	1.57	1.05	1.51
516	linolenate [alpha or gamma; (18:3n3 or 6)]	Lipid	1.47	1.05	1.4
517	dihomo-linolenate (20:3n3 or n6)	Lipid	1.99	1.05	1.89
519	docosapentaenoate (n3 DPA; 22:5n3)	Lipid	2.62	1.33	1.98
520	docosapentaenoate (n6 DPA; 22:5n6)	Lipid	3.60	0.52	6.88
521	docosahexaenoate (DHA; 22:6n3)	Lipid	2.94	0.77	3.8
525	caproate (6:0)	Lipid	0.75	1.38	0.54
527	caprylate (8:0)	Lipid	1.02	2.13	0.48
528	pelargonate (9:0)	Lipid	1.00	1.09	0.92
529	caprate (10:0)	Lipid	1.04	2.28	0.46
532	laurate (12:0)	Lipid	0.81	1.06	0.77
535	myristate (14:0)	Lipid	1.08	0.92	1.18
536	myristoleate (14:1n5)	Lipid	1.12	1.10	1.02
537	pentadecanoate (15:0)	Lipid	0.83	0.92	0.91
538	palmitate (16:0)	Lipid	1.38	0.90	1.53
539	palmitoleate (16:1n7)	Lipid	2.37	0.91	2.59

542	10-heptadecenoate (17:1n7)	Lipid	1.06	0.85	1.25
545	oleate (18:1n9)	Lipid	2.60	0.99	2.64
547	cis-vaccenate (18:1n7)	Lipid	0.63	0.67	0.94
554	10-nonadecenoate (19:1n9)	Lipid	1.89	0.77	2.46
559	eicosenoate (20:1n9 or 11)	Lipid	2.31	0.95	2.43
561	dihomo-linoleate (20:2n6)	Lipid	1.99	0.89	2.23
565	arachidonate (20:4n6)	Lipid	1.40	0.85	1.65
569	docosadienoate (22:2n6)	Lipid	2.18	1.26	1.73
571	adrenate (22:4n6)	Lipid	2.41	0.99	2.43
597	3-hydroxydecanoate	Lipid	3.34	3.21	1.04
608	13-HODE + 9-HODE	Lipid	1.85	1.64	1.13
616	azelate (nonanedioate)	Lipid	1.26	0.85	1.49
618	tetradecanedioate	Lipid	0.95	0.87	1.09
619	hexadecanedioate	Lipid	0.99	0.98	1.01
632.7	17-methylstearate	Lipid	2.01	1.04	1.92
667.4	6-keto prostaglandin F1alpha	Lipid	0.36	0.34	1.05
683	propionylcarnitine	Lipid	0.48	0.79	0.6
685	butyrylcarnitine	Lipid	0.37	1.00	0.37
691	deoxycarnitine	Lipid	1.35	1.54	0.88
692	carnitine	Lipid	0.98	1.06	0.93
694	acetylcarnitine	Lipid	0.60	0.83	0.72
709	cholate	Lipid	0.66	0.82	0.8
745	choline phosphate	Lipid	0.96	1.18	0.82
746	ethanolamine	Lipid	2.18	1.41	1.55
747	phosphoethanolamine	Lipid	0.96	0.99	0.97
750	glycerol	Lipid	1.48	1.09	1.36
752	glycerol 3-phosphate (G3P)	Lipid	1.82	2.12	0.86
753	glycerophosphorylcholine (GPC)	Lipid	1.79	1.78	1.01
760	myo-inositol	Lipid	5.73	6.25	0.92
763	inositol 1-phosphate (I1P)	Lipid	2.00	2.00	1
763.5	myo-inositol 1,4-bisphosphate	Lipid	1.15	1.06	1.08
767	scyllo-inositol	Lipid	7.84	5.23	1.5
775	1-palmitoylglycerophosphoethanolamine	Lipid	2.42	1.16	2.08
780	1-stearoylglycerophosphoethanolamine	Lipid	2.00	1.09	1.82
781	1-oleoylglycerophosphoethanolamine	Lipid	1.80	1.28	1.41
782	2-oleoylglycerophosphoethanolamine*	Lipid	1.53	1.39	1.1
785	1-arachidonoylglycerophosphoethanolamine*	Lipid	1.26	1.12	1.12
786	2-arachidonoylglycerophosphoethanolamine*	Lipid	1.57	1.28	1.22
794	1-palmitoylglycerophosphocholine	Lipid	0.59	0.89	0.66
799	1-stearoylglycerophosphocholine	Lipid	0.75	0.62	1.21
801	1-oleoylglycerophosphocholine	Lipid	0.61	0.92	0.67
816	1-palmitoylglycerophosphoinositol*	Lipid	4.77	1.85	2.58
818	1-stearoylglycerophosphoinositol	Lipid	3.03	1.44	2.1
821	1-arachidonoylglycerophosphoinositol*	Lipid	3.65	1.77	2.06
825.5	1-palmitoylplasmenylethanolamine*	Lipid	1.55	1.06	1.45
864	palmitoyl sphingomyelin	Lipid	1.58	1.38	1.15
865	stearoyl sphingomyelin	Lipid	1.93	1.16	1.66
881	cholesterol	Lipid	1.25	0.92	1.36
916	beta-sitosterol	Lipid	1.24	1.75	0.71
918	campesterol	Lipid	1.49	1.54	0.97
947	xanthine	Nucleotide	3.60	2.20	1.64
948	xanthosine	Nucleotide	1.22	1.74	0.7
950	hypoxanthine	Nucleotide	1.89	1.04	1.81
951	inosine	Nucleotide	3.37	3.22	1.04
958	N1-methyladenosine	Nucleotide	0.95	0.92	1.03

962	adenosine 2'-monophosphate (2'-AMP)	Nucleotide	2.12	1.41	1.5
963	adenosine 3'-monophosphate (3'-AMP)	Nucleotide	1.85	1.08	1.72
994	urate	Nucleotide	1.70	1.71	1
995	allantoin	Nucleotide	1.06	0.81	1.31
997	cytidine	Nucleotide	1.45	1.26	1.15
999	5-methylcytidine	Nucleotide	0.80	0.77	1.03
1001	cytidine 5'-monophosphate (5'-CMP)	Nucleotide	1.65	1.80	0.91
1006	2'-deoxycytidine	Nucleotide	0.61	0.74	0.82
1022	uracil	Nucleotide	1.36	1.27	1.06
1024	uridine	Nucleotide	1.28	2.24	0.57
1025	pseudouridine	Nucleotide	1.01	0.76	1.32
1040	ascorbate (Vitamin C)	Cofactors and vitamins	1.00	1.00	1
1063	nicotinamide	Cofactors and vitamins	1.90	1.70	1.12
1073	nicotinamide riboside*	Cofactors and vitamins	6.17	8.86	0.7
1085	pantothenate	Cofactors and vitamins	1.80	1.33	1.36
1086	phosphopantetheine	Cofactors and vitamins	2.70	2.63	1.03
1097	pyridoxal	Cofactors and vitamins	1.46	1.22	1.2
1099	riboflavin (Vitamin B2)	Cofactors and vitamins	2.23	1.70	1.31
1105	alpha-tocopherol	Cofactors and vitamins	2.04	1.75	1.16
1123	hippurate	Xenobiotics	0.82	0.46	1.79
1157	glycerol 2-phosphate	Xenobiotics	1.40	1.67	0.84
1175	trizma acetate	Xenobiotics	1.06	1.00	1.06
	X - 01497	N/A	9.94	4.95	2.01
	X - 03094	N/A	2.05	1.81	1.13
	X - 04272	N/A	1.03	0.79	1.29
	X - 08791	N/A	0.84	0.83	1.02
	X - 08895	N/A	1.45	1.32	1.1
	X - 10500	N/A	1.34	1.61	0.84
	X - 10876	N/A	1.93	2.08	0.93
	X - 10885	N/A	3.45	2.71	1.27
	X - 11081	N/A	3.68	1.62	2.27
	X - 11327	N/A	1.95	1.22	1.59
	X - 11332	N/A	0.42	0.43	0.98
	X - 11333	N/A	0.62	0.57	1.07
	X - 11334	N/A	1.07	0.73	1.47
	X - 11509	N/A	1.48	0.91	1.64
	X - 11533	N/A	1.18	1.11	1.07
	X - 11542	N/A	0.95	1.02	0.94
	X - 11576	N/A	2.01	1.86	1.08
	X - 11580	N/A	2.68	1.83	1.47
	X - 11593	N/A	0.54	1.38	0.39
	X - 11596	N/A	0.56	0.86	0.65
	X - 11606	N/A	3.09	1.55	1.99
	X - 11612	N/A	1.01	0.87	1.16
	X - 11615	N/A	0.73	1.78	0.41
	X - 11616	N/A	3.12	6.29	0.5
	X - 11618	N/A	4.33	3.00	1.44
	X - 11630	N/A	1.00	1.00	1
	X - 11639	N/A	0.71	1.09	0.65
	X - 11641	N/A	0.91	1.16	0.79
	X - 11875	N/A	1.20	1.18	1.02
	X - 12051	N/A	0.33	0.80	0.42
	X - 12206	N/A	0.46	0.88	0.53
	X - 12660	N/A	0.53	0.95	0.56
	X - 12748	N/A	1.73	2.03	0.85

	X - 12776	N/A	1.12	0.83	1.35
	X - 12792	N/A	1.00	1.00	1
	X - 12854	N/A	0.86	0.96	0.89
	X - 12987	N/A	1.34	0.71	1.87
	X - 12991	N/A	0.78	0.85	0.91
	X - 13005	N/A	1.14	0.88	1.29
	X - 13007	N/A	2.94	1.24	2.38
	X - 13230	N/A	1.38	0.94	1.47
	X - 13557	N/A	1.29	1.01	1.27
	X - 13560	N/A	1.20	1.25	0.96
	X - 13872	N/A	1.54	1.42	1.09
	X - 13891	N/A	1.23	0.92	1.33
	X - 14624	N/A	5.70	0.69	8.23
	X - 14904	N/A	2.58	1.09	2.37
	X - 15156	N/A	3.10	5.64	0.55
	X - 15301	N/A	1.67	1.59	1.05
	X - 15520	N/A	3.44	2.33	1.48
	X - 15546	N/A	1.35	1.68	0.81
	X - 15605	N/A	2.47	2.36	1.05
	X - 15607	N/A	1.34	3.32	0.4
	X - 15616	N/A	1.09	0.96	1.14
	X - 15624	N/A	1.12	1.08	1.04
	X - 15808	N/A	1.12	0.96	1.17
	X - 15933	N/A	1.15	0.84	1.37
	X - 16063	N/A	2.77	1.68	1.65
	X - 16103	N/A	0.95	1.01	0.94
	X - 16209	N/A	1.09	1.04	1.04
	X - 16283	N/A	3.82	1.25	3.05
	X - 16607	N/A	1.79	1.17	1.53
	X - 16617	N/A	1.75	1.45	1.21
	X - 16786	N/A	1.00	1.00	1
	X - 16853	N/A	3.42	1.53	2.23
	X - 16968	N/A	2.46	2.21	1.12
	X - 17010	N/A	1.18	1.26	0.94
	X - 17029	N/A	3.90	1.82	2.14
	X - 17115	N/A	1.35	1.06	1.28