Acute response to a high-fat-high-refined carbohydrate meal in healthy young men shows novel perturbation of multiple metabolic and defense pathways

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Supplementary Tables.

Supplementary Table 1: MPO products, common fatty acids and amino acids in plasma that changed during the experimental postprandial period after consumption of the HFHCM.

		RT			Control time (min)			Experimental time (min)		
	Mass	**(min)**	**Formula**	**Isomers**	**-120**	**-60**	**0**	**60**	**120**	**360**
L-Homocitrulline	189.1114	14.685	C7H15N3O3	1	1388083	1337833	1298917	1308750	**1600333**	**1708250**
3-(4-Hydroxyphenyl) pyruvate	180.0423	8.034	C9H8O4	11	224542	194367	191450	**340242**	**351467**	**334175**
L-Methionine S-oxide	165.0460	13.003	C5H11NO3S	4	580333	469167	528333	**876667**	**823333**	**781833**
C20:0	312.3031	3.613	C20H40O2	26	1154167	988333	1148667	939167	**697167**	1287083
C14:0	228.2090	3.714	C14H28O2	23	18493333	17970833	22104167	**10755000**	13115000	**61408333**
C12:0	200.1776	3.780	C12H24O2	15	8759167	8488333	10331667	10100833	**25909167**	**180258333**
C10:0	172.1463	3.909	C10H20O2	24	3757500	3697500	4264167	**11308333**	**12740000**	**70150000**
C8:0	144.1150	4.163	C8H16O2	26	2616667	2623333	2691667	**24666667**	**18012500**	**64375000**
C20:1	310.2874	3.611	C20H38O2	29	2196750	1927833	2399167	**1166417**	**797417**	**1252583**
C18:3	278.2248	3.665	C18H30O2	58	12773333	13515000	17387500	**6758333**	**4329167**	**8830833**
C18:2	280.2405	3.654	C18H32O2	111	100600000	103308333	130450000	**53733333**	**34358333**	**65875000**
C18:1	282.2560	3.642	C18H34O2	57	248908333	237683333	297400000	**122666667**	**76616667**	**161566667**
C16:1	254.2248	3.680	C16H30O2	52	32481667	34606667	41790833	**16010000**	**8975833**	**19083333**
C16:0	256.2404	3.664	C16H32O2	27	180983333	175141667	213633333	**101750000**	**75183333**	161583333
C18:0	284.2715	3.630	C18H36O2	26	50675000	46116667	56183333	**32991667**	**25725000**	53533333
L-Alanine	89.0477	14.448	C3H7NO2	9	71900000	73308333	70083333	**84175000**	**89983333**	77458333
L-Proline	115.0634	12.337	C5H9NO2	3	542166667	544500000	536500000	**713833333**	**748166667**	**774500000**
L-Valine	117.0790	12.073	C5H11NO2	17	91966667	89525000	87000000	**116158333**	**114466667**	**124341667**
L-Threonine	119.0583	14.214	C4H9NO3	10	57383333	59766667	58925000	**67175000**	**66075000**	61816667
L-Isoleucine	131.0946	10.753	C6H13NO2	12	7851667	7532500	7685833	**12035000**	**10815000**	**12444167**
L-Leucine	131.0946	10.268	C6H13NO2	12	60633333	61725000	63283333	**93658333**	**86425000**	**102300000**
L-Asparagine	132.0536	15.044	C4H8N2O3	6	9615000	10875833	10777500	12412500	12722500	12117500
L-Aspartate	133.0375	14.802	C4H7NO4	4	4695833	6041667	4947500	5485833	6224583	5245833
L-Glutamine	146.0692	14.725	C5H10N2O3	6	699083333	746250000	749083333	736250000	747833333	773416667

L-Lysine	146.1056	22.466	C6H14N2O2	8	37066667	37050000	37500000	**50000000**	**47225000**	44841667
L-Glutamate	147.0531	14.486	C5H9NO4	13	48000000	43191667	44333333	57841667	50500000	58766667
L-Methionine	149.0511	11.095	C5H11NO2S	5	14025000	14662500	14643333	**19895000**	**19791667**	**18316667**
L-Histidine	155.0695	14.189	C6H9N3O2	5	172516667	177591667	174633333	199883333	180925000	180408333
L-Phenylalanine	165.0789	9.633	C9H11NO2	7	38625000	39341667	39258333	**46750000**	**46741667**	**44950000**
L-Arginine	174.1117	23.888	C6H14N4O2	2	35041667	33891667	35575000	41191667	38566667	34900000
L-Tyrosine	181.0740	12.711	C9H11NO3	11	20910833	19777500	19114167	**26086667**	**25225000**	**27333333**
L-Tryptophan	204.0899	11.207	C11H12N2O2	6	6745000	6737500	6395000	7125833	6657500	6149167
L-Serine	105.0427	15.571	C3H7NO3	4	5267273	5594167	5453333	6034167	6032500	5555000

Values are peak intensities. Bold and underlined values indicate a significant change ($p < 0.01$). Isomers: The number of possible isomeric forms. Mass, exact mass; RT, retention time. Fatty acids shown using Cx:y notation where x is the carbon chain length and y is the number of double bonds.

Supplementary Table 2. Other fatty acids, glycine conjugates, bile acid products and cholates in plasma that changed during the experimental postprandial period after consumption of the HFHCM.

		RT			Control time (min)			Experimental time (min)		
	Mass	(min)	Formula	Isomers	-120	-60	0	60	120	360
C11:0	186.1619	3.847	C11H22O2	26	513667	506167	539750	484667	486667	**912333**
C17:0	270.2561	3.649	C17H34O2	31	4352500	4018333	4940833	**2619833**	**2157333**	5298333
C24:0	366.3499	3.523	C24H46O2	6	382167	350333	379833	**269750**	**232000**	**286833**
C8:1	142.0994	4.421	C8H14O2	35	655250	689500	715917	**567917**	**555750**	**567917**
C14:1	226.1933	3.727	C14H26O2	37	4188917	4733333	6062500	**2533583**	**1931083**	4954167
C19:1	296.2718	3.631	C19H36O2	29	829250	765500	1018917	**551083**	**382000**	858333
C10:2	168.1150	4.055	C10H16O2	71	613500	610083	634083	**510667**	**447417**	**476750**
C18:4	276.2090	3.668	C18H28O2	60	324667	397083	570250	**355192**	**304050**	343417
C22:4	332.2717	3.615	C22H36O2	10	751000	753500	928833	**523750**	**417250**	**548667**
C22:5	330.2560	3.620	C22H34O2	15	1953333	2034750	2955833	**1738917**	**1259667**	**1737500**
hydroxy(C11:0)	202.1569	3.919	C11H22O3	6	207617	239967	270358	220400	**176817**	319667
hydroxy(C16:0)	272.2353	3.641	C16H32O3	21	2768333	2940833	3006667	2670833	**2332500**	3074167
hydroxy(C18:1)	314.2455	3.489	C18H34O4	42	886833	924333	927250	826833	859167	**758667**
hydroxy(C18:2)	312.2304	4.077	C18H32O4	68	1635500	1517083	1439500	1530917	1489500	**2366333**
hydroxy(C20:3)	355.2722	7.249	C20H34O4	13	617142	727167	695000	674167	575442	**492950**
oxo(C10:0)	186.1255	3.953	C10H18O3	19	670750	578667	589250	506083	**419500**	618000
oxo(C14:0)	242.1884	3.687	C14H26O3	9	1478917	1529500	1746750	**1241333**	**1149083**	1316750
oxo(C14:2)	240.1727	3.721	C14H24O3	5	861083	921167	993917	**738583**	**643667**	767500
methyl(C12:0)	214.1933	3.747	C13H26O2	26	779250	720167	821000	**614750**	**591167**	**1142000**
methyl(C14:0)	242.2247	3.689	C15H30O2	22	3792500	3394167	4026667	**2183833**	**2028833**	5510000
methyl(C15:0)	258.1833	4.572	C14H26O4	7	1108167	974333	953250	1036167	1054750	**2199333**
methyl(C16:0)	272.1990	4.504	C15H28O4	3	98225	86925	90183	89942	89167	**129517**
methyl(C18:0)	298.2874	3.622	C19H38O2	27	395333	347833	418833	315058	**247725**	440750
methyl(C8:1)	156.1150	7.229	C9H16O2	30	397333	365417	340167	389417	368500	**491250**
methyl(C16:1)	268.2405	3.660	C17H32O2	44	2551250	2428083	2997000	**1332083**	**967083**	2495833

methyl,oxo(C5:0)	130.0630	6.650	C6H10O3	18	1528333	1359750	1454333	**1885833**	1629167	**1799167**
methoxy,hydroxy(C18:2)	326.2460	3.965	C19H34O4	4	138400	133792	126450	132083	130050	**155183**
Dodecanedioic acid	230.1519	4.584	C12H22O4	2	312992	236433	241200	**1079500**	**927000**	**9152500**
Decanedioic acid	202.1206	9.604	C10H18O4	3	19708	12325	14558	**59967**	44433	**289025**
Bilirubin	584.2633	3.714	C33H36N4O6	4	8755000	9475250	11034167	**7079583**	**6207500**	**5984333**
I-Urobilinogen	592.3259	4.352	C33H44N4O6	1	741583	824167	854417	1066917	1292917	**2600167**
L-Urobilin	594.3420	4.317	C33H46N4O6	1	270667	335250	419250	381667	484833	**1607667**
D-Urobilinogen	590.3108	7.260	C33H42N4O6	2	532000	597150	540750	618583	692550	**1365417**
I-Urobilin	590.3110	4.383	C33H42N4O6	2	479517	475767	491333	567750	630425	**953417**
Chenodeoxyglycocholate	449.3146	7.245	C26H43NO5	5	1795833	1378583	901250	**5587000**	**7835833**	**5775833**
Glycodeoxycholate	449.3145	4.309	C26H43NO5	5	1426167	1109917	789750	**4511083**	**6515833**	**4779167**
Glycocholate	465.3089	4.565	C26H43NO6	2	430917	346083	285433	**982083**	**1794000**	**1326167**
Taurodeoxycholate	499.2982	4.025	C26H45NO6S	4	111608	72925	47842	**444550**	**744750**	**543500**
Hydroxy-isocaproic acid	132.0786	4.610	C6H12O3	16	246833	254833	242583	250167	239500	**285917**
Phenacetylglycine	193.0737	4.619	C10H11NO3	10	30292	36400	20667	**136100**	**169167**	**149525**
Capryloylglycine	201.1365	4.249	C10H19NO3	2	178600	175542	161058	**112608**	**118808**	**78533**
Hippurate	179.0583	7.262	C9H9NO3	6	7416667	7158333	6750833	**7004167**	**7888333**	**4718333**
2-Methylbutyrylglycine	159.0896	7.273	C7H13NO3	10	1595583	1681000	1767417	1638500	1610917	**1411417**

Values are peak intensities. Bold and underlined values indicate a significant change ($p < 0.01$). Isomers: The number of possible isomeric forms. Mass, exact mass; RT, retention time. Fatty acids shown using Cx:y notation where x is the carbon chain length and y is the number of double bonds.

Supplementary Table 3. Carnitines in plasma that changed during the experimental postprandial period after consumption of the HFHCM.

		RT			Control (time, min)			Experimental (time, min)		
Carnitines	**Mass**	**(min)**	**Formula**	**Isomers**	**-120**	**-60**	**0**	**60**	**120**	**360**
Acetylcarnitine	203.1158	10.309	C9H17NO4	1	264416667	254475000	295666667	**240333333**	**188083333**	**219166667**
Propanoylcarnitine	217.1314	9.050	C10H19NO4	1	17933333	17200000	15551667	19135833	**23750000**	**23425000**
Octenoylcarnitine	285.1939	7.263	C15H27NO4	1	22453333	21729167	21411667	19940833	19055000	**16437500**
Hexanoylcarnitine	259.1783	7.266	C13H25NO4	2	6596667	6345833	6505833	5750000	**4508333**	8030000
Palmitoylcarnitine	399.3345	4.177	C23H45NO4	1	2587750	2625333	2787583	2573500	**2235750**	**2042500**
Oleoylcarnitine	425.3504	4.107	C25H47NO4	3	2911000	2975833	3126667	**2552750**	**2046583**	**1685750**
cis-5-Tetradecenoylcarnitine	369.2877	4.325	C21H39NO4	2	2935333	2894333	3449833	**2366667**	**1623500**	**1198000**
Linoelaidylcarnitine	423.3345	4.133	C25H45NO4	3	1510000	1485833	1567500	1299500	**1122000**	**945583**
2-*trans*,4-*cis*-Decadienoyl carnitine	311.2095	4.576	C17H29NO4	1	1522917	1768000	1708667	**1220917**	**986833**	**831833**
Hexenoylcarnitine	257.1627	7.272	C13H23NO4	1	821917	768000	824417	727917	**572083**	818167
Hexanoylcarnitine	259.1783	4.720	C13H25NO4	2	576500	521417	553667	516750	**390917**	683500
Heptanoylcarnitine	273.1939	7.265	C14H27NO4	1	721667	769000	753083	650667	**548833**	651333
trans-2-Tetradecenoylcarnitine	369.2878	7.227	C21H39NO4	2	1470833	1543333	1867667	1290417	**806333**	**573917**
Undecanoylcarnitine	329.2564	4.517	C18H35NO4	2	700167	730250	807750	668508	**547967**	**542667**
Hydroxylauroylcarnitine	359.2671	7.262	C19H37NO5	1	719000	833750	867167	698500	**451750**	496500
Dimethylnonanoylcarnitine	329.2564	7.252	C18H35NO4	2	685583	748250	808583	633833	569417	**495083**
trans-Hexadec-2-enoylcarnitine	397.3191	4.213	C23H43NO4	2	802167	850917	975000	**674167**	**512250**	**457750**
3-Hydroxy-*cis*-5-tetradecenoyl carnitine	385.2827	4.556	C21H39NO5	2	692833	762500	797833	**571333**	**469250**	**374917**
Tetradecadiencarnitine	367.2722	7.238	C21H37NO4	1	992250	1015917	1174750	**682667**	**507417**	**372500**
6-Keto-decanoylcarnitine	329.2201	4.584	C17H31NO5	1	442000	502167	477167	384283	**338900**	**356083**
2-Hydroxymyristoylcarnitine	387.2984	4.550	C21H41NO5	1	341167	369642	377425	358883	324667	**246583**
Heptanoylcarnitine,1	273.1939	4.578	C14H27NO4	1	236167	237250	242167	193667	**155733**	186617

3-Hydroxy-5, 8-tetradecadiencarnitine	383.2671	4.568	C21H37NO5	1	307417	348500	321000	222275	**184742**	**167167**
3-Hydroxyhexadeca dienoylcarnitine	411.2986	4.447	C23H41NO5	2	188167	202317	207925	181083	161483	**118900**
Elaidiccarnitine	425.3506	7.008	C25H47NO4	3	171733	173867	188892	**152167**	**118542**	**104817**
9-Hexadecenoylcarnitine	397.3192	7.185	C23H43NO4	2	172717	176017	180917	148683	**101742**	**98117**
9,12-Hexadecadienoylcarnitine	395.3036	4.256	C23H41NO4	1	256417	267167	325833	217750	**65583**	**19500**
Hydroxybutyrylcarnitine,1	293.1478	9.118	C11H21NO5	1	219500	235250	235417	**376592**	**316167**	**330500**
Hydroxypropionylcarnitine	279.1320	10.504	C10H19NO5	1	142800	149875	155025	**207442**	183333	186417

Values are peak intensities. Bold and underlined values indicate a significant change ($p < 0.01$). Isomers: The number of possible isomeric forms. Mass, exact mass; RT, retention time.

Supplementary Table 4: Phospholipids in plasma that changed during the experimental postprandial period after consumption of the HFHCM.

		RT			Control time (min)			Experimental time (min)		
tentative ID	**Mass**	**(min)**	**FORMULA**	**Isomers**	**-120**	**-60**	**0**	**60**	**120**	**360**
PE(32:1)	731.5466	4.142	C40H78NO8P	42	2192500	2351667	2230000	2277500	2395000	**2812500**
PC(34:2)	757.5619	3.680	C42H80NO8P	56	329666667	324583333	326166667	**296750000**	**298833333**	331416667
PC(36:2)	785.5925	3.652	C44H84NO8P	80	173333333	170166667	171000000	**153166667**	**154250000**	177250000
PC(34:1)	759.5757	3.677	C42H82NO8P	48	159916667	160000000	162916667	**150833333**	**150583333**	160333333
PE(34:2)	757.5621	4.996	C42H80NO8P	56	3046667	3074167	3109167	3073333	3228333	**3964167**
PC(36:4)	781.5616	3.661	C44H80NO8P	62	119441667	117925000	120716667	**108975000**	**108383333**	115383333
PC(36:3)	783.5765	3.655	C44H82NO8P	45	96000000	96150000	96166667	**87766667**	**86808333**	95766667
PC(38:4)	809.5923	3.625	C46H84NO8P	38	63916667	65283333	66708333	**61266667**	**61033333**	63875000
PC(38:6)	805.5615	3.635	C46H80NO8P	46	60666667	60375000	64050000	**58041667**	**57525000**	59725000
PC(32:1)	731.5464	3.715	C40H78NO8P	42	9273333	9245000	9382500	9050833	9255000	**10842500**
PC(38:2)	835.6066	3.612	C46H88NO8P	36	8850833	9239167	9410833	8633333	**8493333**	8668333
PC(38:3)	795.6120	3.623	C46H86NO7P	27	6858333	6866667	7025833	6400833	**6143333**	**6085833**
PC(34:1)	743.5822	3.670	C42H82NO7P	28	6365833	6500833	6663333	**5975000**	**5790833**	**5545833**
PC(36:2)	769.5965	3.648	C44H84NO7P	28	5470833	5729167	5575833	5045000	**4876667**	4851667
PC(30:0)	705.5308	3.738	C38H76NO8P	36	2215833	2174167	2108333	1964167	1986667	**4468333**
PC(32:2)	729.5312	3.733	C40H76NO8P	34	3135833	3175000	3310000	2945000	3072500	**4219167**
PC(40:5)	819.6130	3.616	C48H86NO7P	14	2889167	2959167	3010833	2794167	2715833	**2605833**
PC(28:0)	677.4993	3.781	C36H72NO8P	34	253333	240000	254500	296833	495417	**2591667**
PC(36:1)	771.6124	3.646	C44H86NO7P	24	2216667	2397500	2427500	2136667	**2082500**	2090000
PC(40:4)	821.6280	3.610	C48H88NO7P	12	2330000	2300000	2441667	2214167	2175833	**2054167**
PC(32:0)	717.5654	3.703	C40H80NO7P	18	1575833	1613333	1716333	**1491083**	**1503667**	**1451667**
PE(38:2)	771.5774	3.661	C43H82NO8P	43	8095833	7875833	8262500	**7431667**	**7431667**	8473333
PE(35:1)	731.5466	4.142	C40H78NO8P	42	2192500	2351667	2230000	2277500	2395000	**2812500**
PE(38:5)	749.5357	3.550	C43H76NO7P	16	2020417	2167083	2165000	1987250	**1910000**	**1796917**

PI(34:1)	836.5422	3.473	C43H81O13P	21	820333	838667	799583	749417	781333	**953000**
PI(36:4)	858.5268	3.471	C45H79O13P	22	763500	726833	744333	723917	741917	**909750**
PI(34:2)	834.5268	3.479	C43H79O13P	21	629667	596917	575667	577000	616333	**707417**
LysoPC(14:0)	467.3011	4.342	C22H46NO7P	5	7055000	6957500	6509167	6357500	7287500	**10848333**
LysoPE(16:0)	453.2860	4.250	C21H44NO7P	9	978667	951833	933417	988250	**1097250**	**1159250**
LysoPE(18:2)	477.2857	7.241	C23H44NO7P	3	3742500	3460000	3280833	3735000	**4165000**	**6330000**
LysoPE(18:2)	477.2856	4.209	C23H44NO7P	3	3355833	2953333	2926667	3290000	3683333	**5429167**
LysoPC(12:0)	439.2699	4.477	C20H42NO7P	12	113658	114808	92367	**354417**	**717833**	**3109167**
LysoPE(16:0)	453.2855	7.250	C21H44NO7P	9	2033333	1984167	1979167	2152500	2217500	**2649167**
LysoPE(17:0)	467.3012	7.249	C22H46NO7P	5	5570833	5535000	5109167	5310833	5562500	**8934167**
LysoPE(20:5)	499.2702	4.178	C25H42NO7P	3	173058	157633	158750	190783	**199567**	**363667**
LysoPE(20:5)	499.2695	7.235	C25H42NO7P	3	171333	159850	153325	190950	**211017**	**328667**

Values are peak intensities. Only compounds which showed a significant change (values in bold and underlined; $p < 0.01$) are included. Any phospholipids that changed during the control period are excluded. Tentative ID: Indicated phospholipids were automatically tentatively identified based on exact mass and retention time. Isomers: The number of possible isomeric forms. For each PC species there is an isomeric PE species and so in principal any of the PCs could be PEs or vice versa. We have annotated each compound as the lipid we estimate is most likely to be the most abundant based on known human metabolite data. For each of the PC and PE isomeric pairs, one will have an even number of carbons across the fatty chains and the other odd. We have assigned species with an even number of carbon atoms as there are significantly more fatty acids in vivo with this configuration. Mass, exact mass; RT, retention time; PC, phosphatidyl choline; PE, phosphatidyl ethanolamine; PI, phosphatidyl inositol. Fatty acids shown using Cx:y notation where x is the carbon chain length and y is the number of double bonds, but for the phospholipids indicated here, the numbers are a sum of the fatty acids present in the phospholipid.

Supplementary Table 5. Peptides in plasma that changed during the experimental postprandial period after consumption of the HFHCM.

					Control time (min)			Experimental time (min)		
peptides	**Mass**	**RT**	**Formula**	**Isomers**	**-120**	**-60**	**0**	**60**	**120**	**360**
Ile-pro	228.1474	9.330	C11H20N2O3	3	13973333	14129167	13775833	12525000	12344167	**10956667**
Leu-Pro	228.1474	12.422	C11H20N2O3	3	4734167	4930833	4720000	4465833	4373333	**3815000**
Phe-Gly	222.1004	10.901	C11H14N2O3	1	2415667	2571083	2649417	**3278333**	**3150000**	**3276667**
Ile-Ala	202.1318	12.050	C9H18N2O3	3	2000833	2096667	2060833	1864167	1856667	**1546667**
γ-Glu-ala	218.0903	14.105	C8H14N2O5	3	1133250	1164500	1166500	**1541167**	**1550833**	1300500
Ile-Ala-Gly	259.1533	15.145	C11H21N3O4	5	363208	511417	502317	691500	**884250**	580900
Glu-lys	275.1483	17.778	C11H21N3O5	6	256750	231750	231000	**340083**	**322417**	**340000**
Ala-Ser	176.0798	21.760	C6H12N2O4	4	181167	190833	179583	221750	212583	**228333**
Lys-Pro	243.1583	10.021	C11H21N3O3	1	143792	56192	60183	44233	47367	**207583**
Ile-Gly-Val	287.1846	13.279	C13H25N3O4	3	103733	127383	122208	**185933**	**204917**	167275
γ-Glu-ile	260.1375	10.493	C11H20N2O5	4	95200	93992	95075	119433	**125958**	**145050**
γ-Glu-ε-lys	275.1482	16.485	C11H21N3O5	6	163092	177733	156342	242550	198250	**261875**
Pro-hydroxypro	228.1111	12.751	C10H16N2O4	2	504667	464250	420583	375250	327750	**227667**

Values are peak intensities. Only compounds which showed a significant change (values in bold and underlined; $p < 0.01$) are included. Any peptides that changed during the control period are excluded. Peptides were automatically tentatively identified based on exact mass and retention time. Isomers: The number of possible isomeric forms. Mass, exact mass; RT, retention time.

Supplementary Table 6. Miscellaneous metabolites in plasma that changed during the experimental postprandial period after consumption of the HFHCM.

					Control time (min)			Experimental time (min)		
Metabolite	**Mass**	**RT (min)**	**Formula**	**Isomers**	**-120**	**-60**	**0**	**60**	**120**	**360**
Creatine	131.0694	14.238	C4H9N3O2	2	629000000	601250000	560916667	**720833333**	**702500000**	**680666667**
Sulfate	97.9673	18.185	H2O4S	1	65941667	61125000	59125000	60791667	64100000	**67666667**
N1-Methyl-2-pyridone-5-carboxamide	152.0586	7.323	C7H8N2O2	3	41000000	42116667	42716667	41091667	39266667	**29908333**
Formyl-N-acetyl-5-methoxykynurenamine	264.1109	4.647	C13H16N2O4	4	4234917	4032333	3769583	3618250	3704917	**2638083**
Hypoxanthine	136.0386	9.842	C5H4N4O	3	7760000	5629167	5400833	4403333	3781667	**2145000**
Indolelactate	205.0739	7.914	C11H11NO3	5	1438500	1354583	1318917	1258000	1289417	**1151750**
N-acetyl-arginine	216.1223	13.980	C8H16N4O3	2	1456833	1419000	1421583	1239083	1344000	**1110750**
Caffeine	194.0805	4.594	C8H10N4O2	1	1466292	1371842	1172167	1187250	1123342	**932567**
5-6-Dihydrouridine	246.0851	10.147	C9H14N2O6	2	991417	1017667	1033083	915500	917750	**892000**
Indole	117.0579	9.625	C8H7N	2	629167	651500	634333	748417	**765500**	**745000**
4-Acetamidobutanoate	145.0739	8.888	C6H11NO3	9	687167	683083	652917	580750	587583	**563500**
D-Glucuronate	194.0426	16.339	C6H10O7	15	380083	386750	378000	375500	393000	**452417**
Glycerol	92.0472	10.141	C3H8O3	1	462167	482000	500917	371917	**359583**	447500
N-Acetyl-D-glucosaminate	237.0849	14.085	C8H15NO7	4	446833	506000	535417	477500	483500	**390917**
3-(4-Hydroxyphenyl)pyruvate	180.0423	8.034	C9H8O4	11	224542	194367	191450	**340242**	**351467**	**334175**
N4-Acetylcytidine	285.0960	7.847	C11H15N3O6	1	173500	169417	160583	151033	150333	**135317**
Nicotinamide-N-oxide	138.0429	8.897	C6H6N2O2	3	157975	159250	157508	140083	130267	**109742**
N-Carboxyethyl-γ-aminobutyric acid	175.0845	12.131	C7H13NO4	3	212867	227583	192017	191083	221083	**96008**
Indoxylsulfate	213.0097	8.043	C8H7NO4S	1	7416667	7158333	6750833	7004167	7888333	**4718333**
Pyruvate	88.0160	7.325	C3H4O3	3	4594000	4083667	3663333	5496917	**5899333**	4286333
Cholesterolsulfate	466.3119	3.447	C27H46O4S	1	3740833	3611667	3558333	3509167	3655000	**4201667**
α-N-Phenylacetyl-L-glutamine	264.1109	7.266	C13H16N2O4	4	40690000	38895833	35803333	35060000	34099167	**23049167**
Carnitine [1]	161.1052	12.698	C7H15NO3	2	1275333333	1312666667	1271083333	1290416667	1387916667	1307833333
Urate [1]	168.0283	12.619	C5H4N4O3	1	52866667	52741667	51400000	51333333	52016667	48383333
Cholate [1]	425.3140	4.352	C24H40O5	82	966333	570000	422383	479250	421167	346417

Indole	117.0579	9.625	C8H7N	2	629167	651500	634333	748417	**765500**	**745000**
Proline betaine	143.0947	10.144	C7H13NO2	2	97805000	95210000	91670833	87740833	86049167	**74355000**
1-/3-methyl histidine	169.0852	12.523	C7H11N3O2	5	90825000	86066667	81425000	78876667	73716667	**56916667**
(S)-ATPA (3-(5-tert-butyl-3-hydroxy-1,2-oxazol-4-yl)-L-alanine)	228.1110	14.520	C10H16N2O4	2	2916667	2816667	2483333	2058417	**1654167**	**1063417**
2-oxosuberate (2-Oxooctanedionic acid)	210.0505	13.159	C8H12O5	1	180833	193750	187250	165833	**155000**	**131883**
THTC (2-tetrahydrothiophenecarboxylic acid)	178.0300	7.612	C5H8O2S	1	373417	378417	345750	360333	387167	**402500**
Muramic acid	251.1006	12.909	C9H17NO7	1	706333	760500	762917	999917	**1000417**	740583

Values are peak intensities. Only compounds which showed a significant change (values in bold and underlined; $p < 0.01$) are included. The number of possible isomeric forms. Mass, exact mass; RT, retention time. [1] Did not change at any time point but shown for reference.

Supplementary Table 7. Unknown or tentative compounds in plasma that changed during the experimental postprandial period after consumption of the HFHCM.

	Control time (min)			Experimental time (min)			
Mass	**-120**	**-60**	**0**	**60**	**120**	**360**	**Speculative identification**
84.0213	428333	425750	504333	409417	**320250**	**347500**	3-Butynoate
85.0892	2999167	2889167	2977500	**4491667**	**4042500**	**4678333**	
99.0684	27010833	28961667	30665833	32117500	33705000	**16603333**	
103.0633	21108333	20950000	20425000	23068333	**24066667**	**23125000**	
103.0634	2875000	2855000	2803333	2773333	2565833	**2457500**	(R)-3-Amino-2-methylpropanoate
112.0273	110408	117908	119958	92175	**72767**	**64467**	
113.0477	559917	557750	480917	**706833**	**668500**	554750	
115.0269	1388083	1215833	1115417	1579358	**1624833**	1254250	Maleamate
117.0426	518667	518083	612583	526750	**465667**	**434167**	
117.0578	1025583	996083	839417	**1127000**	**1217917**	**1135917**	Phenylacetonitrile
130.0630	44775000	40800000	40066667	52075000	45783333	**50950000**	4-Methyl-2-oxopentanoate
130.0742	12291667	13900833	13943333	15947500	**18612500**	14072500	
131.0582	537500	550500	534500	529417	494250	**407917**	5-Aminolevulinate
133.0528	779917	773833	708750	738750	800083	**502667**	Indoxyl
152.0143	592000	594750	568500	458750	539667	**484000**	S-Methylthioglycolate
154.0379	296917	282083	244750	313583	**323667**	**325917**	Imidazol-5-yl-pyruvate
155.0947	112325	103092	106175	**334833**	**850500**	**1164917**	
155.0948	559667	551250	547000	696750	**1073750**	**1608333**	
157.1103	2273750	2282250	2145583	2302083	**2344167**	**2466417**	
158.0942	664750	627417	594417	533000	**499750**	528500	Ethyl 3-oxohexanoate,1

159.0896	3854250	3620750	3331833	2823833	2700583	**2140083**	5-Acetamidopentanoate
161.0689	747000	674167	697083	**1019917**	**1059333**	**1113250**	
163.0667	130058	110742	105008	78533	90200	**61525**	S-Methyl-L-methionine
166.0487	692917	677833	640217	549617	535500	**442325**	7-Methylxanthine
170.0692	4307500	4262500	3900000	3864667	3639167	**3255833**	3-Hydroxy-2-methylpyridine-5-carboxylate
170.1307	1675667	1717500	1990000	1425250	**1236417**	**3224167**	
172.1212	12063333	12887500	13035000	**17898333**	**17323333**	**17675000**	
174.0166	477533	129192	134150	126367	284042	**500675**	L-Dehydroascorbate
176.0586	1685250	1833333	1939250	1947583	1672417	**1344000**	4-Hydroxyaminoquinoline N-oxide
179.0582	261900	233125	204617	**276333**	323000	**334667**	3-Succinoylpyridine
179.0582	542250	465167	421083	**551917**	**656750**	**691083**	
185.1052	156742	158250	172083	**517500**	**649333**	**403583**	
185.1052	307167	369500	351667	438583	498917	387000	4-(1-Methyl-2-pyrrolidinyl)-3-oxobutanoate
188.1161	103433	96808	90400	111233	100342	**130000**	γ-Glutamyl-isopropylamide
190.0776	3653333	3945000	3993333	**4980833**	**5149167**	4486667	
190.0954	373083	412250	423833	**522250**	508833	484417	D,D-Diaminopimelate
191.0254	2379167	2003583	1880250	**2712000**	2494167	2316667	
192.1150	120117	127242	125067	118317	119475	**97592**	
198.1005	289475	299083	266583	245133	232517	**163517**	3-Amino-3-(4-hydroxyphenyl)propanoate
204.1475	383917	377750	357333	334417	**298583**	**282167**	3-Hydroxy-N6,N6,N6-trimethyl-L-lysine
205.0952	173008	176083	174417	155825	**144233**	**125508**	
206.1056	5960833	6318333	6274167	**7103333**	**7229167**	6620000	
210.1256	308617	333417	339083	286392	**268167**	**205125**	
222.0377	80042	29500	35283	31033	64808	**112075**	
223.1209	108875	105533	106092	83083	**78342**	**61683**	

224.1413	205367	224917	229942	**168567**	**162233**	**131992**	
237.1000	94992	77492	75700	149308	**178833**	91617	2,6-Dioxo-6-phenylhexanoate
238.0987	13006667	13102500	13274167	**15275000**	**15283333**	**16233333**	
240.1473	1238333	1355000	1342500	1157833	1175667	**1118083**	
240.2090	607833	441500	533750	**329667**	**305333**	550083	2,5-Dimethyl-2E-tridecenoic acid
245.1164	3751667	4177500	4045833	4065833	4027500	**3426667**	
250.0952	129483	356483	268700	166217	98667	**134383**	
254.1153	80425	71100	71617	62050	53933	**45258**	Methyl 4-[2-(2-formyl-vinyl)-3-hydroxy-5-oxo-cyclopentyl]-butanoate
256.1215	61992	57317	74975	64608	72467	**52492**	
256.6383	559942	407158	467250	**806750**	**831333**	**894500**	
258.0853	1175333	1143333	1037583	920667	908750	**852417**	(1-Ribosylimidazole)-4-acetate
261.1320	60158	50125	49108	58708	61233	**73075**	γ-Glutamyl-ornithine
270.1582	123808	123025	128708	123750	**95008**	**76983**	
279.1470	1150500	1039917	1021167	1068750	1211500	**683750**	
282.0963	342667	350833	365333	339500	316333	**302500**	
285.1364	3466750	3364500	3104675	3421500	3697967	**2736125**	N-[(E,E)-Piperoyl]piperidine
286.2146	250192	179117	197500	260917	217500	**536000**	2,3-Dihydroxycyclopentaneundecanoic acid
327.2408	2544083	2889250	2789667	2865083	2550583	**1659833**	10-Nitro-9E-octadecenoic acid
327.2409	2580250	2745833	2807500	2841000	2475500	**1590583**	9-Nitro-9E-octadecenoic acid
328.2980	655250	625917	660750	712083	717917	**843500**	L-2-Hydroxyphytanate
332.1377	87925	99533	124100	95150	96817	**80233**	
337.2252	396500	439000	423083	370042	352917	**238142**	
342.1164	0	0	0	**58533**	**78517**	**92733**	Disaccharide
342.1166	83750	71517	105025	**190575**	**233417**	112875	Disaccharide

342.2771	296500	301083	314667	280167	284417	**368333**	1,9S,11R,15S-Tetrahydroxy-13E-prostaene
343.2721	1969417	2120833	2399167	2002667	**1632333**	3171667	N-palmitoyl serine
345.2515	120883	132317	139333	116567	111583	**79792**	
348.1030	28650	23875	19542	132467	**256417**	**287308**	
354.2773	226250	226833	213333	213125	224750	**258417**	
355.2358	219325	212350	214333	171083	149983	**95625**	
355.2721	748833	856333	873750	773833	**691750**	**607833**	
357.2514	819000	856583	875833	**609917**	**498417**	**487500**	2,3-Dioctanoylglyceramide
357.2876	719917	848917	876750	881167	748917	**615917**	N-Palmitoyl threonine
357.2877	400750	469833	499750	531000	399000	**275917**	N-Palmitoyl threonine,1
382.2119	73700	69258	66875	71708	73258	**97558**	1-Tetradecanoyl-2-sn-glycero-3-phosphate
447.2989	62092	54150	42158	**142325**	**192050**	**142333**	
455.3248	362833	380417	374083	332333	312000	**285167**	3β-(3-Methyl-butanoyloxy)-villanovane-13α,7-diol
474.9648	99500	98067	98842	122700	121475	**127175**	Adenylylselenate
482.3361	172750	167917	49333	**661333**	**1329500**	**857833**	
516.2942	114325	112608	112308	126208	**152000**	**148658**	
619.5902	336917	355667	366833	345833	324417	**184167**	Ceramide (d40:2)
647.6215	1383917	1433833	1418500	1347917	1272583	**1040583**	N-(15Z-tetracosenoyl)-sphing-4-enine
702.5675	2062500	2320000	2127500	2457500	2241667	**2600833**	N-(hexadecanoyl)-sphing-4-enine-1-phosphocholine

Values are peak intensities. Only compounds (bold and underlined) that showed a significant change ($p < 0.01$) are included. Any compounds that changed during the control period are excluded. Mass, exact mass. Tentatively identified named compounds were automatically identified based on exact mass and retention time, but are not in the human metabolite database.

74 **Supplementary Table 8**. Proteins that changed in plasma after the HFHCM

			Control period			Experimental period				
Protein ID	Gene name	ANOVA Adjusted *p*-value	-120 min Log2 Fold change	-60 min Log2 Fold change	60 min Log2 Fold change	120 min Log2 Fold change	180 min Log2 Fold change	240 min Log2 Fold change	300 min Log2 Fold change	360 min Log2 Fold change
P00558	PGK1	2.64E-12	0.0001	-0.0167	0.0046	-0.0051	-0.0254	**-0.0934**	**-0.0813**	-0.0038
Q99497	PARK7	2.64E-12	-0.0018	-0.0263	0.0010	-0.0142	-0.0321	**-0.1084**	**-0.0961**	-0.0140
P62258	YWHAE	2.78E-12	0.0008	-0.0208	0.0037	0.0043	-0.0091	**-0.1046**	**-0.0909**	-0.0027
P26447	S100A4	3.75E-12	-0.0012	-0.0261	0.0051	-0.0106	-0.0359	**-0.1106**	**-0.1005**	-0.0167
P55072	VCP	2.38E-11	-0.0021	-0.0257	0.0022	-0.0025	-0.0229	**-0.1018**	**-0.0923**	-0.0099
P99999	CYCS	2.38E-11	0.0314	-0.0045	0.0208	0.0072	-0.0119	**-0.0955**	**-0.0805**	0.0125
P62937	PPIA	2.44E-11	0.0056	-0.0072	0.0168	0.0018	-0.0161	**-0.0819**	**-0.0743**	-0.0009
P06576	ATP5F1B	2.44E-11	0.0035	-0.0124	0.0203	0.0166	-0.0097	**-0.0941**	**-0.0861**	0.0066
P00441	SOD1	2.44E-11	-0.0057	-0.0351	-0.0076	-0.0259	-0.0483	**-0.1059**	**-0.0953**	-0.0299
P60953	CDC42	2.44E-11	0.0108	-0.0109	0.0216	0.0037	-0.0159	**-0.1037**	**-0.0942**	0.0059
P10599	TXN	2.44E-11	0.0046	-0.0247	-0.0034	-0.0121	-0.0423	**-0.1019**	**-0.0903**	-0.0129
P60174	TPI1	2.86E-11	-0.0057	-0.0219	0.0034	-0.0100	-0.0253	**-0.1003**	**-0.0913**	-0.0074
P58546	MTPN	2.86E-11	0.0154	-0.0121	0.0157	-0.0010	-0.0213	**-0.0997**	**-0.0906**	0.0009
P37840	SNCA	3.66E-11	0.0064	-0.0250	0.0005	-0.0160	-0.0367	**-0.0890**	**-0.0802**	-0.0136
P30041	PRDX6	3.9E-11	-0.0113	-0.0326	-0.0083	-0.0228	-0.0435	**-0.1078**	**-0.1015**	-0.0257
Q05682	CALD1	4.78E-11	0.0181	-0.0062	0.0161	-0.0060	-0.0164	**-0.0973**	**-0.0909**	0.0093
Q3ZCW2	LGALSL	5.77E-11	0.0115	-0.0087	0.0197	0.0133	-0.0126	**-0.0924**	**-0.0883**	0.0104
P62987	UBA52	9.18E-11	-0.0125	-0.0425	-0.0142	-0.0307	-0.0462	**-0.1047**	**-0.0906**	-0.0256
P40227	CCT6A	1E-10	-0.0101	-0.0221	0.0094	0.0021	-0.0214	**-0.1161**	**-0.1111**	-0.0069
P20073	ANXA7	1E-10	0.0016	-0.0252	-0.0057	-0.0065	-0.0308	**-0.1264**	**-0.1328**	-0.0268
P48426	PIP4K2A	1.22E-10	0.0003	-0.0177	0.0114	-0.0043	-0.0243	**-0.1223**	**-0.1282**	-0.0016
P37802	TAGLN2	1.65E-10	0.0140	-0.0042	0.0168	0.0037	-0.0106	**-0.0812**	**-0.0764**	0.0080
P06753	TPM3	1.86E-10	0.0047	-0.0141	0.0182	0.0058	-0.0128	**-0.0977**	**-0.0816**	0.0067
Q06830	PRDX1	1.91E-10	-0.0068	-0.0341	-0.0084	-0.0202	-0.0426	**-0.1078**	**-0.0988**	-0.0236
P04075	ALDOA	2.28E-10	0.0055	-0.0045	0.0150	0.0026	-0.0093	**-0.0721**	**-0.0661**	0.0035

			Control period			Experimental period				
Protein ID	Gene name	ANOVA Adjusted *p*-value	-120 min Log2 Fold change	-60 min Log2 Fold change	60 min Log2 Fold change	120 min Log2 Fold change	180 min Log2 Fold change	240 min Log2 Fold change	300 min Log2 Fold change	360 min Log2 Fold change
Q9NY65	TUBA8	2.28E-10	0.0062	-0.0087	0.0183	0.0107	-0.0058	**-0.1045**	**-0.0905**	0.0122
Q15691	MAPRE1	2.28E-10	0.0107	-0.0198	0.0081	-0.0090	-0.0182	**-0.1137**	**-0.1042**	0.0039
P06733	ENO1	2.36E-10	0.0094	-0.0082	0.0146	-0.0001	-0.0147	**-0.0803**	**-0.0751**	0.0021
P07737	PFN1	2.36E-10	0.0096	-0.0069	0.0195	0.0024	-0.0098	**-0.0774**	**-0.0774**	0.0066
P50502	ST13	2.36E-10	-0.0193	-0.0386	-0.0104	-0.0250	-0.0511	**-0.1304**	**-0.1197**	-0.0274
P13501	CCL5	2.41E-10	0.0143	-0.0081	0.0245	0.0143	-0.0188	**-0.1179**	**-0.0999**	0.0127
P50990	CCT8	2.46E-10	0.0044	-0.0152	0.0099	-0.0088	-0.0149	**-0.1083**	**-0.1049**	-0.0029
P05556	ITGB1	3.71E-10	0.0055	-0.0053	0.0127	0.0080	-0.0078	**-0.0575**	**-0.0476**	0.0055
P07195	LDHB	3.85E-10	-0.0098	-0.0162	0.0013	-0.0038	-0.0205	**-0.0743**	**-0.0706**	-0.0062
Q14847	LASP1	4.08E-10	0.0168	-0.0050	0.0163	-0.0048	-0.0228	**-0.1067**	**-0.0970**	0.0074
O94919	ENDOD1	4.17E-10	0.0043	-0.0027	0.0192	0.0130	-0.0060	**-0.1015**	**-0.0952**	0.0112
P60028	GDI1	4.87E-10	0.0011	-0.0210	0.0103	-0.0095	-0.0200	**-0.1020**	**-0.0970**	-0.0026
O15511	ARPC5	4.87E-10	0.0061	-0.0111	0.0151	-0.0018	-0.0110	**-0.1025**	**-0.0956**	0.0035
P02775	PPBP	5.02E-10	0.0176	-0.0078	0.0267	0.0157	-0.0243	**-0.0882**	**-0.0870**	0.0051
P26038	MSN	5.29E-10	0.0038	-0.0065	0.0140	0.0050	-0.0118	**-0.0718**	**-0.0699**	0.0026
P38606	ATP6V1A	5.29E-10	-0.0105	-0.0208	0.0099	-0.0011	-0.0217	**-0.1212**	**-0.1256**	-0.0017
Q13201	MMRN1	5.45E-10	0.0003	-0.0100	0.0196	0.0093	-0.0115	**-0.0891**	**-0.0873**	0.0046
O00151	PDLIM1	5.45E-10	0.0175	-0.0036	0.0230	0.0066	**-0.0038**	**-0.0855**	**-0.0822**	0.0144
Q00610	CLTC	5.45E-10	0.0051	-0.0056	0.0154	0.0071	-0.0127	**-0.0878**	**-0.0885**	0.0023
O00299	CLIC1	5.45E-10	0.0169	-0.0021	0.0255	0.0076	-0.0092	**-0.0950**	**-0.0855**	0.0112
P09486	SPARC	5.45E-10	0.0015	-0.0120	0.0188	0.0150	-0.0153	**-0.0986**	**-0.0982**	0.0006
P40925	MDH1	5.76E-10	-0.0087	-0.0288	-0.0095	-0.0167	-0.0333	**-0.1028**	**-0.0961**	-0.0124
P02776	PF4	8.13E-10	0.0118	-0.0083	0.0242	0.0170	-0.0214	**-0.0886**	**-0.0864**	0.0059
Q14019	COTL1	8.13E-10	0.0126	-0.0077	0.0245	0.0069	-0.0172	**-0.1108**	**-0.0995**	0.0088
P30740	SERPINB1	9.95E-10	0.0077	-0.0071	0.0171	0.0082	-0.0087	**-0.0791**	**-0.0730**	0.0047
O15143	ARPC1B	1.1E-09	0.0168	0.0000	0.0254	0.0217	-0.0070	**-0.0889**	**-0.0840**	0.0174

			Control period			Experimental period				
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P07996	THBS1	1.59E-09	-0.0026	-0.0060	0.0204	0.0107	-0.0095	**-0.0853**	**-0.0848**	0.0032
P11021	HSPA5	1.67E-09	0.0032	-0.0038	0.0093	0.0033	-0.0051	**-0.0456**	**-0.0421**	0.0022
Q9NR12	PDLIM7	1.7E-09	0.0130	-0.0041	0.0273	0.0034	-0.0067	**-0.1111**	**-0.1042**	0.0089
P52565	ARHGDIA	1.7E-09	0.0156	-0.0120	0.0115	-0.0044	-0.0185	**-0.0978**	**-0.0912**	0.0024
P07359	GP1BA	2.15E-09	0.0034	-0.0044	0.0159	0.0125	**-0.0003**	**-0.0637**	**-0.0520**	0.0072
P09496	CLTA	2.47E-09	0.0129	-0.0126	0.0133	0.0096	-0.0137	**-0.1202**	**-0.1029**	0.0043
Q14247	CTTN	2.86E-09	0.0226	0.0002	0.0201	-0.0040	-0.0108	**-0.0926**	**-0.0883**	0.0137
P29350	PTPN6	3.46E-09	-0.0046	-0.0128	0.0090	0.0069	-0.0215	**-0.0952**	**-0.0935**	0.0012
P23528	CFL1	3.47E-09	0.0027	-0.0071	0.0195	0.0021	-0.0108	**-0.0843**	**-0.0800**	0.0069
P61981	YWHAG	3.52E-09	0.0001	-0.0080	0.0210	0.0044	-0.0118	**-0.1142**	**-0.1053**	0.0033
P61224	RAP1B	3.89E-09	0.0096	-0.0038	0.0209	0.0043	-0.0087	**-0.0798**	**-0.0768**	0.0093
P55145	MANF	3.94E-09	0.0056	-0.0086	0.0163	-0.0042	-0.0135	**-0.1012**	**-0.0916**	0.0073
Q7L591	DOK3	4.08E-09	0.0195	0.0108	0.0058	0.0032	-0.0351	**-0.1524**	**-0.1144**	0.0080
O14745	SLC9A3R1	4.23E-09	0.0236	-0.0128	0.0280	0.0058	**0.0044**	**-0.1112**	**-0.1000**	0.0108
P11142	HSPA8	4.68E-09	-0.0064	-0.0129	0.0118	-0.0004	-0.0143	**-0.0894**	**-0.0816**	0.0003
P52566	ARHGDIB	4.97E-09	0.0073	-0.0112	0.0086	-0.0083	-0.0206	**-0.0963**	**-0.0853**	0.0036
P10809	HSPD1	5.27E-09	-0.0003	-0.0094	0.0186	0.0075	-0.0138	**-0.1180**	**-0.1120**	0.0059
P09211	GSTP1	5.75E-09	0.0094	-0.0130	0.0133	-0.0021	-0.0168	**-0.0797**	**-0.0838**	0.0042
Q9UBW5	BIN2	6.57E-09	0.0078	-0.0070	0.0144	0.0000	-0.0115	**-0.0853**	**-0.0876**	0.0087
P01137	TGFB1	6.57E-09	-0.0092	-0.0131	0.0164	0.0109	-0.0148	**-0.1056**	**-0.0909**	0.0034
P62942	FKBP1A	8.13E-09	0.0023	-0.0162	0.0115	-0.0074	-0.0260	**-0.1099**	**-0.1090**	-0.0082
Q9Y490	TLN1	9.23E-09	0.0041	-0.0028	0.0180	0.0034	-0.0058	**-0.0717**	**-0.0686**	0.0084
Q15555	MAPRE2	9.94E-09	0.0085	-0.0021	0.0198	0.0020	-0.0093	**-0.0852**	**-0.0860**	0.0118
Q13586	STIM1	9.94E-09	-0.0075	-0.0170	0.0119	-0.0026	-0.0104	**-0.1115**	**-0.1060**	0.0031
P00338	LDHA	1.06E-08	0.0003	-0.0073	0.0116	-0.0011	-0.0204	**-0.0790**	**-0.0736**	0.0059
P00491	PNP	1.06E-08	-0.0055	-0.0217	-0.0009	-0.0119	-0.0352	**-0.1025**	**-0.0962**	-0.0140

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P04406	GAPDH	1.07E-08	-0.0058	-0.0146	0.0095	-0.0030	-0.0189	**-0.0888**	**-0.0847**	-0.0047
P06744	GPI	1.1E-08	-0.0037	-0.0110	0.0099	-0.0031	-0.0174	**-0.0885**	**-0.0897**	0.0020
P04179	SOD2	1.72E-08	0.0007	-0.0085	0.0165	0.0129	-0.0107	**-0.0813**	**-0.0825**	0.0070
P61158	ACTR3	1.77E-08	0.0001	-0.0087	0.0175	-0.0027	-0.0197	**-0.0968**	**-0.0997**	0.0042
Q99439	CNN2	1.81E-08	0.0185	0.0017	0.0220	-0.0075	-0.0116	**-0.0941**	**-0.0921**	0.0111
P18206	VCL	1.85E-08	0.0022	-0.0070	0.0148	0.0028	-0.0045	**-0.0730**	**-0.0705**	0.0066
P14625	HSP90B1	2.02E-08	-0.0001	-0.0049	0.0140	0.0080	-0.0074	**-0.0533**	**-0.0502**	0.0022
P17987	TCP1	2.02E-08	-0.0071	-0.0228	0.0097	0.0052	-0.0223	**-0.1223**	**-0.1042**	0.0018
P16284	PECAM1	2.3E-08	0.0132	0.0040	0.0307	0.0250	**0.0070**	**-0.0906**	**-0.0819**	0.0134
P35237	SERPINB6	2.78E-08	0.0030	-0.0229	0.0024	-0.0066	-0.0238	**-0.1065**	**-0.1035**	0.0015
Q9H0U4	RAB1B	3.01E-08	0.0129	-0.0120	0.0314	0.0148	-0.0122	**-0.1231**	**-0.1064**	0.0132
P60660	MYL6	3.04E-08	0.0006	-0.0032	0.0260	0.0076	-0.0047	**-0.0946**	**-0.0942**	0.0060
Q5IS80	APP	3.64E-08	-0.0012	-0.0117	0.0331	0.0200	-0.0223	**-0.1171**	**-0.1038**	0.0121
P07203	GPX1	3.65E-08	-0.0184	-0.0319	0.0031	-0.0175	-0.0231	**-0.1026**	**-0.1136**	-0.0193
P07237	P4HB	3.7E-08	0.0042	-0.0047	0.0101	0.0016	-0.0111	**-0.0640**	**-0.0605**	0.0031
Q6IBS0	TWF2	3.83E-08	-0.0095	-0.0138	0.0160	-0.0038	-0.0123	**-0.1214**	**-0.1060**	0.0070
P07384	CAPN1	3.95E-08	-0.0031	-0.0104	0.0121	0.0022	-0.0163	**-0.0786**	**-0.0788**	0.0029
P50552	VASP	4.32E-08	0.0056	-0.0057	0.0205	-0.0016	-0.0124	**-0.0974**	**-0.0956**	0.0105
P60842	EIF4A1	4.49E-08	-0.0145	-0.0185	0.0067	-0.0091	-0.0217	**-0.1224**	**-0.1174**	-0.0007
P04899	GNAI2	4.69E-08	-0.0053	-0.0093	0.0163	0.0060	-0.0072	**-0.0956**	**-0.0985**	0.0115
Q01518	CAP1	5.58E-08	-0.0020	-0.0067	0.0175	0.0000	-0.0105	**-0.0845**	**-0.0811**	0.0073
P11413	G6PD	5.8E-08	-0.0040	-0.0132	0.0171	0.0007	-0.0229	**-0.1167**	**-0.1062**	0.0064
P30086	PEBP1	6.13E-08	-0.0241	-0.0564	-0.0270	-0.0178	-0.0773	**-0.1223**	**-0.0921**	-0.0257
P25705	ATP5F1A	6.28E-08	-0.0058	-0.0097	0.0232	0.0064	-0.0082	**-0.0978**	**-0.0915**	0.0055
O43488	AKR7A2	6.32E-08	-0.0109	-0.0141	0.0192	0.0022	-0.0170	**-0.1159**	**-0.1141**	-0.0011
P50148	GNAQ	6.52E-08	0.0002	-0.0058	0.0247	0.0115	-0.0079	**-0.0972**	**-0.1021**	0.0080

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Q70J99	UNC13D	7.44E-08	0.0061	-0.0103	0.0192	0.0155	**-0.0029**	**-0.0850**	**-0.0676**	0.0095
P19367	HK1	8.13E-08	0.0024	-0.0051	0.0211	0.0051	-0.0118	**-0.1047**	**-0.1004**	0.0097
P23284	PPIB	8.13E-08	0.0043	-0.0049	0.0208	0.0052	-0.0092	**-0.0825**	**-0.0776**	0.0094
P62820	RAB1A	8.4E-08	0.0047	0.0020	0.0287	0.0129	-0.0100	**-0.0895**	**-0.0848**	0.0100
Q15907	RAB11B	8.56E-08	0.0023	-0.0045	0.0208	0.0054	-0.0101	**-0.0936**	**-0.0975**	0.0082
P0DMV9	HSPA1B	8.73E-08	-0.0048	-0.0112	0.0130	0.0031	-0.0126	**-0.0829**	**-0.0650**	0.0035
Q9NYL9	TMOD3	9.71E-08	0.0171	-0.0042	0.0242	-0.0023	-0.0118	**-0.1019**	**-0.1075**	0.0084
Q15833	STXBP2	9.78E-08	0.0020	-0.0044	0.0200	0.0069	**-0.0014**	**-0.0919**	**-0.0824**	0.0103
P40197	GP5	1.02E-07	-0.0038	-0.0162	0.0153	0.0087	-0.0062	**-0.0941**	**-0.0835**	0.0091
P61204	ARF3	1.06E-07	0.0027	-0.0123	0.0082	-0.0002	-0.0269	**-0.0853**	**-0.0853**	0.0000
P30101	PDIA3	1.19E-07	-0.0023	-0.0055	0.0170	0.0019	-0.0101	**-0.0757**	**-0.0697**	0.0063
P11169	SLC2A3	1.2E-07	-0.0030	-0.0076	0.0245	0.0018	-0.0094	**-0.1116**	**-0.1145**	0.0058
P07900	HSP90AA1	1.39E-07	-0.0062	-0.0123	0.0109	0.0007	-0.0157	**-0.0841**	**-0.0808**	0.0009
P67936	TPM4	1.53E-07	-0.0006	-0.0046	0.0197	0.0002	-0.0092	**-0.0796**	**-0.0752**	0.0062
P48059	LIMS1	1.53E-07	-0.0041	-0.0045	0.0222	0.0082	-0.0127	**-0.0925**	**-0.0840**	0.0085
Q0ZGT2	NEXN	1.76E-07	0.0069	-0.0070	0.0184	0.0032	**0.0009**	**-0.1046**	**-0.0858**	0.0073
P08758	ANXA5	1.76E-07	0.0118	-0.0133	0.0188	-0.0055	-0.0247	**-0.1233**	**-0.1135**	-0.0013
P48735	IDH2	1.79E-07	-0.0098	-0.0126	0.0225	0.0071	-0.0123	**-0.1065**	**-0.1062**	0.0038
P12931	SRC	1.81E-07	-0.0101	-0.0090	0.0159	0.0064	-0.0144	**-0.0977**	**-0.0874**	0.0055
Q15404	RSU1	1.94E-07	0.0056	-0.0070	0.0165	0.0049	-0.0131	**-0.0895**	**-0.0851**	0.0069
P60709	ACTB	2.08E-07	-0.0025	-0.0011	0.0211	0.0066	-0.0034	**-0.0698**	**-0.0695**	0.0093
O14950	MYL12B	2.08E-07	-0.0053	-0.0083	0.0165	0.0019	-0.0104	**-0.0922**	**-0.1005**	0.0072
P59998	ARPC4	2.08E-07	-0.0084	-0.0109	0.0163	-0.0039	-0.0166	**-0.1165**	**-0.1078**	0.0013
O00161	SNAP23	2.14E-07	0.0000	-0.0107	0.0201	-0.0158	-0.0194	**-0.1232**	**-0.1129**	0.0103
P51149	RAB7A	2.14E-07	0.0028	-0.0098	0.0195	0.0060	-0.0059	**-0.0991**	**-0.0906**	0.0092
Q9BS26	ERP44	2.14E-07	0.0183	0.0092	0.0303	0.0266	**0.0077**	**-0.0788**	**-0.0550**	0.0233

			Control period			Experimental period				
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Q14697	GANAB	2.15E-07	-0.0010	-0.0052	0.0112	0.0089	-0.0061	**-0.0682**	**-0.0632**	0.0046
P21333	FLNA	2.23E-07	-0.0033	-0.0045	0.0186	0.0050	-0.0035	**-0.0712**	**-0.0690**	0.0072
O00194	RAB27B	2.29E-07	0.0067	0.0028	0.0276	0.0141	**-0.0033**	**-0.0962**	**-0.0836**	0.0125
P06737	PYGL	2.32E-07	0.0208	-0.0112	0.0128	0.0058	-0.0223	**-0.1114**	**-0.1035**	0.0049
Q04917	YWHAH	2.7E-07	-0.0076	-0.0080	0.0141	-0.0021	-0.0192	**-0.1089**	**-0.1075**	-0.0013
P11277	SPTB	2.96E-07	-0.0370	-0.0574	-0.0342	-0.0602	-0.0823	**-0.1376**	**-0.1163**	**-0.0787**
Q15084	PDIA6	2.96E-07	-0.0057	-0.0164	0.0186	0.0112	-0.0089	**-0.1103**	**-0.1100**	0.0108
P16615	ATP2A2	3.06E-07	-0.0077	-0.0082	0.0266	0.0071	-0.0066	**-0.1041**	**-0.1064**	0.0113
P37837	TALDO1	3.27E-07	0.0005	-0.0216	0.0001	-0.0114	-0.0299	**-0.0912**	**-0.0805**	-0.0125
Q16181	SEPTIN7	3.46E-07	-0.0020	-0.0077	0.0191	0.0025	-0.0102	**-0.0977**	**-0.0953**	0.0067
O95810	CAVIN2	4.05E-07	-0.0059	-0.0036	0.0205	0.0042	-0.0083	**-0.0888**	**-0.0889**	0.0089
P51572	BCAP31	4.14E-07	-0.0011	-0.0066	0.0302	0.0130	-0.0134	**-0.1097**	**-0.1017**	0.0116
P62873	GNB1	4.14E-07	0.0035	0.0014	0.0258	0.0099	-0.0050	**-0.0701**	**-0.0785**	0.0120
P27797	CALR	4.83E-07	0.0049	0.0009	0.0203	0.0078	-0.0080	**-0.0630**	**-0.0630**	0.0051
P08514	ITGA2B	4.93E-07	-0.0056	-0.0053	0.0204	0.0062	-0.0066	**-0.0822**	**-0.0811**	0.0083
Q15942	ZYX	5.24E-07	0.0126	0.0041	0.0225	-0.0051	-0.0077	**-0.1065**	**-0.1030**	0.0183
Q16851	UGP2	5.98E-07	-0.0148	-0.0114	0.0081	-0.0107	-0.0191	**-0.1138**	**-0.1069**	-0.0020
Q9ULV4	CORO1C	6.87E-07	-0.0050	-0.0037	0.0182	0.0028	-0.0108	**-0.0867**	**-0.0874**	0.0092
P14618	PKM	8.99E-07	-0.0046	-0.0049	0.0171	0.0042	-0.0097	**-0.0731**	**-0.0695**	0.0070
P12814	ACTN1	9.41E-07	-0.0088	-0.0067	0.0162	0.0030	-0.0080	**-0.0788**	**-0.0767**	0.0057
Q15365	PCBP1	9.5E-07	0.0094	-0.0192	0.0075	-0.0007	-0.0241	**-0.0731**	**-0.0968**	0.0028
P27105	STOM	9.61E-07	-0.0131	-0.0100	0.0146	-0.0046	-0.0147	**-0.0974**	**-0.0925**	-0.0016
P14543	NID1	9.64E-07	-0.0007	-0.0138	0.0090	0.0042	**-0.0021**	**-0.0522**	**-0.0577**	0.0003
Q9NTJ5	SACM1L	9.94E-07	-0.0025	-0.0109	0.0196	-0.0024	-0.0124	**-0.0861**	**-0.0927**	0.0042
P07437	TUBB	1.1E-06	-0.0065	-0.0055	0.0206	0.0027	-0.0064	**-0.0807**	**-0.0793**	0.0070
P45880	VDAC2	1.12E-06	-0.0169	-0.0144	0.0208	0.0039	-0.0106	**-0.1427**	**-0.1242**	0.0067

			Control period			Experimental period				
Protein ID	Gene name	ANOVA Adjusted *p*-value	-120 min Log2 Fold change	-60 min Log2 Fold change	60 min Log2 Fold change	120 min Log2 Fold change	180 min Log2 Fold change	240 min Log2 Fold change	300 min Log2 Fold change	360 min Log2 Fold change
P61160	ACTR2	1.16E-06	-0.0174	-0.0113	0.0118	-0.0019	-0.0134	**-0.1040**	**-0.0989**	0.0036
P68104	EEF1A1	1.22E-06	0.0091	-0.0190	0.0140	0.0025	-0.0271	**-0.1072**	**-0.0930**	-0.0047
P78417	GSTO1	1.25E-06	0.0122	-0.0151	0.0050	-0.0050	-0.0263	**-0.0844**	**-0.0636**	0.0041
P27824	CANX	1.26E-06	-0.0089	-0.0087	0.0154	0.0028	-0.0072	**-0.0896**	**-0.0889**	0.0033
P68366	TUBA4A	1.3E-06	-0.0087	-0.0048	0.0191	0.0024	-0.0049	**-0.0799**	**-0.0816**	0.0070
P09493	TPM1	1.68E-06	0.0050	-0.0025	0.0248	0.0065	-0.0123	**-0.1000**	**-0.0883**	0.0031
P31146	CORO1A	1.87E-06	-0.0049	-0.0083	0.0198	0.0019	-0.0196	**-0.1020**	**-0.1015**	0.0055
P68133	ACTA1	2E-06	0.0044	-0.0028	0.0249	0.0118	-0.0046	**-0.0757**	**-0.0760**	0.0121
Q9Y277	VDAC3	2.08E-06	-0.0097	-0.0039	0.0238	0.0086	**-0.0043**	**-0.1084**	**-0.1028**	0.0095
P63104	YWHAZ	2.39E-06	-0.0102	-0.0070	0.0193	0.0001	-0.0124	**-0.0825**	**-0.0841**	0.0052
P23229	ITGA6	2.59E-06	0.0029	0.0048	0.0296	0.0146	**-0.0045**	**-0.1001**	**-0.0859**	0.0206
P35579	MYH9	2.63E-06	-0.0107	-0.0050	0.0189	0.0037	-0.0054	**-0.0750**	**-0.0742**	0.0054
Q9H4B7	TUBB1	2.68E-06	-0.0102	-0.0041	0.0213	0.0029	-0.0065	**-0.0837**	**-0.0803**	0.0083
Q9Y696	CLIC4	2.71E-06	-0.0001	-0.0068	0.0096	0.0078	-0.0210	**-0.0821**	**-0.0849**	0.0000
O75563	SKAP2	2.82E-06	-0.0018	0.0122	0.0391	0.0110	**-0.0051**	**-0.1191**	**-0.1043**	0.0178
P30405	PPIF	2.94E-06	-0.0068	-0.0192	0.0209	-0.0061	-0.0148	**-0.1383**	**-0.1093**	-0.0076
Q86UX7	FERMT3	3.79E-06	-0.0103	-0.0066	0.0140	0.0012	-0.0123	**-0.0734**	**-0.0755**	0.0058
Q9BQE3	TUBA1C	4.19E-06	-0.0118	-0.0046	0.0214	0.0015	-0.0065	**-0.0928**	**-0.0914**	0.0065
Q01813	PFKP	5.73E-06	-0.0059	-0.0129	0.0103	0.0039	-0.0158	**-0.0781**	**-0.0716**	0.0045
O75083	WDR1	5.73E-06	-0.0121	-0.0078	0.0249	0.0036	-0.0101	**-0.0815**	**-0.0797**	0.0054
Q93084	Q93084	5.81E-06	-0.0093	-0.0082	0.0212	0.0046	-0.0072	**-0.0921**	**-0.0911**	0.0055
P19971	TYMP	5.88E-06	0.0200	0.0085	0.0345	0.0194	**-0.0014**	**-0.0742**	**-0.0749**	0.0232
Q9HBI1	PARVB	6.76E-06	-0.0076	-0.0024	0.0246	0.0044	-0.0066	**-0.0825**	**-0.0884**	0.0082
P68371	TUBB4B	6.85E-06	-0.0144	-0.0065	0.0197	-0.0006	-0.0063	**-0.0917**	**-0.0805**	0.0074
Q13642	FHL1	6.86E-06	-0.0124	-0.0090	0.0176	-0.0093	-0.0100	**-0.0992**	**-0.0980**	0.0051
P05106	ITGB3	7.08E-06	-0.0113	-0.0074	0.0208	0.0027	-0.0109	**-0.0811**	**-0.0794**	0.0061

			Control period			Experimental period				
Protein ID	Gene name	ANOVA Adjusted *p*-value	-120 min Log2 Fold change	-60 min Log2 Fold change	60 min Log2 Fold change	120 min Log2 Fold change	180 min Log2 Fold change	240 min Log2 Fold change	300 min Log2 Fold change	360 min Log2 Fold change
O15144	ARPC2	7.08E-06	-0.0073	-0.0063	0.0209	0.0014	-0.0154	**-0.0950**	**-0.1004**	0.0050
Q9Y4L1	HYOU1	7.52E-06	0.0086	-0.0035	0.0088	0.0069	**-0.0032**	**-0.0447**	**-0.0358**	0.0030
O43707	ACTN4	8.79E-06	-0.0119	-0.0080	0.0153	0.0074	-0.0073	**-0.0979**	**-0.0875**	0.0071
P04843	RPN1	8.86E-06	-0.0110	-0.0062	0.0255	0.0032	**-0.0034**	**-0.1336**	**-0.1149**	0.0102
P49411	TUFM	8.86E-06	-0.0119	-0.0171	0.0234	-0.0100	-0.0086	**-0.1246**	**-0.1035**	0.0069
P00390	GSR	9.64E-06	-0.0005	-0.0153	-0.0039	-0.0096	-0.0166	**-0.0433**	**-0.0407**	-0.0019
P04040	CAT	1.02E-05	**-0.0372**	-0.0695	-0.0492	**-0.0638**	-0.0783	**-0.1023**	**-0.0892**	**-0.0660**
Q9H4M9	EHD1	1.02E-05	-0.0155	-0.0064	0.0186	-0.0115	-0.0197	**-0.1002**	**-0.1044**	0.0093
Q9NZN3	EHD3	1.03E-05	-0.0173	-0.0075	0.0208	0.0011	-0.0061	**-0.0973**	**-0.0905**	0.0107
P14770	GP9	1.14E-05	-0.0057	0.0026	0.0293	0.0128	**0.0024**	**-0.0838**	**-0.0944**	0.0183
Q14766	LTBP1	1.19E-05	-0.0082	-0.0158	0.0113	0.0000	-0.0502	**-0.1012**	**-0.0932**	0.0014
P08567	PLEK	1.19E-05	0.0162	-0.0062	0.0200	0.0059	-0.0065	**-0.0874**	-0.0574	0.0113
Q9Y613	FHOD1	1.34E-05	0.0060	0.0098	0.0299	0.0177	**0.0046**	**-0.0964**	**-0.0995**	0.0101
P24557	TBXAS1	1.4E-05	-0.0135	-0.0269	-0.0025	0.0069	-0.0185	**-0.0965**	**-0.0904**	-0.0096
P61026	RAB10	1.47E-05	-0.0187	-0.0087	0.0178	0.0008	-0.0135	**-0.0888**	**-0.0955**	0.0061
P30048	PRDX3	1.49E-05	-0.0229	-0.0223	0.0178	-0.0056	**-0.0011**	**-0.1217**	**-0.1192**	0.0026
Q13418	ILK	1.49E-05	-0.0138	-0.0047	0.0220	0.0029	-0.0084	**-0.0864**	**-0.0835**	0.0075
P11216	PYGB	1.63E-05	0.0036	-0.0044	0.0203	0.0022	-0.0174	**-0.0854**	**-0.0917**	0.0051
P00918	CA2	1.91E-05	**-0.0368**	-0.0710	-0.0421	-0.0602	-0.0828	**-0.1207**	**-0.0990**	-0.0628
O75390	CS	2.02E-05	-0.0141	-0.0115	0.0225	0.0042	**-0.0041**	**-0.1060**	**-0.1031**	0.0052
Q96FW1	OTUB1	2.22E-05	-0.0348	-0.0257	0.0232	0.0060	-0.0287	**-0.1573**	-0.0768	-0.0008
P04792	HSPB1	2.77E-05	0.0161	-0.0024	0.0224	-0.0016	**-0.0025**	**-0.0732**	**-0.0745**	0.0184
Q9NQC3	RTN4	3.11E-05	-0.0205	-0.0015	0.0236	0.0059	**-0.0027**	**-0.1051**	**-0.1088**	0.0115
P13224	GP1BB	3.32E-05	-0.0137	0.0031	0.0297	0.0086	**0.0030**	-0.0881	**-0.0986**	0.0162
Q14141	SEPTIN6	3.37E-05	-0.0120	-0.0064	0.0269	-0.0016	-0.0067	**-0.1002**	**-0.0924**	0.0119
O75915	ARL6IP5	6.09E-05	-0.0105	-0.0010	0.0233	0.0047	**0.0010**	**-0.1037**	-0.0781	0.0133

			Control period			Experimental period				
Protein ID	Gene name	ANOVA Adjusted *p*-value	-120 min Log2 Fold change	-60 min Log2 Fold change	60 min Log2 Fold change	120 min Log2 Fold change	180 min Log2 Fold change	240 min Log2 Fold change	300 min Log2 Fold change	360 min Log2 Fold change
Q9NR31	SAR1A	9.19E-05	-0.0068	-0.0020	0.0194	0.0037	-0.0183	-0.0727	**-0.0884**	0.0107
P62826	RAN	0.000121	-0.0410	-0.0603	-0.0278	-0.0366	-0.0779	**-0.1164**	**-0.1025**	-0.0495
O95866	MPIG6B	0.00019	-0.0144	-0.0072	0.0280	0.0086	-0.0156	**-0.1057**	**-0.1064**	0.0174
P16671	CD36	0.001115	0.0042	-0.0010	0.0210	0.0120	-0.0108	-0.0887	-0.0815	0.0075
P00488	F13A1	0.002672	-0.0033	-0.0067	0.0025	-0.0038	-0.0076	**-0.0289**	**-0.0292**	-0.0005
P00746	CFD	0.003452	0.0137	0.0172	-0.0089	-0.0111	-0.0088	-0.0027	-0.0043	-0.0101
P36871	PGM1	0.006808	-0.0043	-0.0008	0.0018	0.0141	-0.0098	-0.0648	-0.0611	0.0101
P02730	SLC4A1	0.007954	-0.0345	-0.0650	-0.0469	-0.0852	-0.1082	**-0.1154**	-0.0944	**-0.1107**
P32119	PRDX2	0.025894	-0.0513	-0.0876	-0.0672	**-0.1105**	-0.1169	**-0.1102**	-0.0935	-0.0937
P02042	HBD	0.042473	-0.0409	-0.0872	-0.0642	**-0.1038**	-0.1147	-0.1030	-0.0849	-0.0890
P68871	HBB	0.047211	-0.0447	-0.0755	-0.0544	**-0.0912**	-0.1024	-0.0846	-0.0763	-0.0811
P24592	IGFBP6	0.047627	0.0268	0.0279	-0.0020	-0.0028	-0.0117	0.0053	-0.0004	-0.0064

A one-way ANOVA was performed with FDR adjustment for multiple comparisons, and for significant results, a Tukey post-hoc test was performed for comparisons of each time point with 0-min. Statistical analyses were performed using R statistical analysis software version 4.2.2. All proteins that showed a significant change (ANOVA Adjusted $p < 0.05$) are included. Fold changes that are bold and underlined were significantly different to fasting time 0-min.

Supplementary Table 9. Pearson correlations between serum MPO protein and metabolic biomarkers.

	r	*p*-value	r	*p*-value	r	*p*-value	r	*p*-value
	TGs fasting (0 h)		**TGs p-AUC**		**TGs p-iAUC**		**TGs magnitude**	
MPO fasting (0 h)	0.157	0.626	0.118	0.715	0.019	0.954	-0.190	0.555
MPO p-AUC	0.110	0.733	0.048	0.882	-0.103	0.749	-0.490	0.106
MPO p-iAUC	-0.032	0.920	-0.068	0.834	-0.148	0.646	-0.355	0.258
MPO magnitude	0.075	0.816	0.046	0.886	-0.036	0.912	-0.262	0.411
	Gluc fasting (0 h)		**Gluc p-AUC**		**Gluc p-iAUC**		**Gluc magnitude**	
MPO fasting (0 h)	0.219	0.493	0.154	0.633	-0.061	0.851	-0.142	0.660
MPO p-AUC	0.423	0.171	0.058	0.857	-0.443	0.150	-0.249	0.436
MPO p-iAUC	0.244	0.445	-0.022	0.945	-0.332	0.291	-0.045	0.889
MPO magnitude	0.216	0.500	-0.001	0.997	-0.337	0.284	-0.086	0.791

Gluc, Glucose; MPO, myeloperoxidase; p-AUC, postprandial area under the curve; p-iAAC, postprandial incremental area above the curve; p-iAUC, postprandial incremental area under the curve; r, correlation coefficient; TGs, triglycerides; Data are reported from Pearson correlation analysis; * indicates significant correlation $p < 0.05$.

Supplementary Table 10. Pearson correlations between plasma SOD1 protein and metabolic biomarkers

	r	p-value	r	p-value	r	p-value	r	p-value
	TGs fasting (0 h)		**TGs p-AUC**		**TGs p-iAUC**		**TGs magnitude**	
SOD1 fasting (0 h)	-0.129	0.691	-0.029	0.929	0.212	0.509	-0.063	0.845
SOD1 p-AUC	0.218	0.496	0.228	0.475	0.214	0.503	-0.018	0.957
SOD1 p-iAAC	-0.293	0.355	-0.183	0.569	0.109	0.736	-0.069	0.831
SOD1 magnitude	-0.334	0.289	-0.231	0.470	0.044	0.893	-0.188	0.558
	Gluc fasting (0 h)		**Gluc p-AUC**		**Gluc p-iAUC**		**Gluc magnitude**	
SOD1 fasting (0 h)	**-0.630**	**0.028***	**-0.774**	**0.003***	-0.560	0.059	-0.055	0.864
SOD1 p-AUC	-0.209	0.513	-0.280	0.378	-0.314	0.320	-0.089	0.783
SOD1 p-iAAC	**-0.600**	**0.039***	**-0.723**	**0.008***	-0.446	0.146	0.008	0.979
SOD1 magnitude	**-0.584**	**0.046***	**-0.767**	**0.004***	-0.563	0.057	-0.066	0.838

Gluc, Glucose; MPO, myeloperoxidase; p-AUC, postprandial area under the curve; p-iAAC, postprandial incremental area above the curve; p-iAUC, postprandial incremental area under the curve; r, correlation coefficient; SOD1, superoxide dismutase 1; TGs, triglycerides; Data are reported from Pearson correlation analysis; * indicates significant correlation $p < 0.05$.

Supplementary Table 11. White blood cell counts taken from finger prick blood samples after a high fat/high carbohydrate meal.

	Total WBCs (10^9/L)	NEU (10^9/L)	LYM (10^9/L)	MON (10^9/L)	EOS (10^9/L)
Fasting (-60 min)	5.58 (1.46)	2.98 (1.12)	2.27 (0.48)	0.25 (0.07)	0.10 (0.04)
Postprandial (60 min)	5.49 (1.28)	2.27 (0.48)	2.02 (0.40)	0.25 (0.07)	0.08 (0.05)
Postprandial (120 min)	5.24 (1.57)	2.98 (1.16)	1.95 (0.48)	0.25 (0.08)	0.07 (0.07)
p-values	0.214	0.361	0.026*	0.781	0.034*

EOS, eosinophils; LYM, lymphocytes; MON, monocytes; NEU, neutrophils; WBC, white blood cells. Data presented as mean (SD). Repeated measures ANOVA with time as the within-subjects factor. * Indicates significant effect of time $p < 0.05$.

Supplementary Table 12. Proteins that changed in PBMCs after the HFHCM

Protein ID	Gene name	ANOVA Adjusted *p*-value	180 min Log2 Fold change	Adjusted *p*-value	360 min Log2 Fold change	Adjusted *p*-value
O95881	TXNDC12	0.02503	-0.00425	0.02679	-0.00806	0.00006
P13804	ETFA	0.03615	0.00098	0.95078	0.01432	0.00052
Q9UKZ1	CNOT11	0.04959	-0.02023	0.00133	-0.01957	0.00147
O43169	CYB5B	0.04699	0.01237	0.35668	0.04019	0.00034
Q9BTZ2	DHRS4	0.02503	0.00748	0.27948	0.02456	0.00008
Q13144	EIF2B5	0.02503	-0.00279	0.62268	0.01247	0.00087
P09429	HMGB1	0.02827	0.00889	0.63960	0.04658	0.00019
O00487	PSMD14	0.02932	0.00223	0.78978	0.01579	0.00028
Q9NX62	IMPAD1	0.01692	0.01425	0.02560	0.02895	0.00002
P78356	PIP4K2B	0.03450	-0.00492	0.53319	-0.02163	0.00024
P49795	RGS19	0.03628	-0.00348	0.32510	-0.01132	0.00023
Q5VTU8	ATP5EP2	0.04548	0.01830	0.16488	0.04507	0.00026
Q86SZ2	TRAPPC6B	0.02756	0.01113	0.16513	0.03006	0.00009
P06753	TPM3	0.01921	0.00384	0.81997	0.03271	0.00008
Q9Y3C8	UFC1	0.02503	0.01683	0.00693	0.02597	0.00006
O15258	RER1	0.02827	0.00487	0.24156	0.01465	0.00012
Q9UEE9	CFDP1	0.02827	0.03470	0.16465	0.09115	0.00011
Q9UQ13	SHOC2	0.00172	0.02531	0.00305	0.04856	0.00000
Q6Y7W6	GIGYF2	0.01138	0.04821	0.00944	0.08815	0.00001
Q13907	IDI1	0.00172	0.02572	0.00011	0.03482	0.00000
Q86WR0	CCDC25	0.01193	-0.00849	0.02658	-0.01814	0.00001
Q9H446	RWDD1	0.00914	0.00387	0.90566	0.05161	0.00002
Q9UJC5	SH3BGRL2	0.02932	0.02405	0.00667	0.03437	0.00015
P16083	NQO2	0.03628	0.02382	0.00035	0.00421	0.68116
Q9Y6X5	ENPP4	0.02827	-0.00076	0.98242	0.01857	0.00056
Q14653	IRF3	0.02503	0.02126	0.00069	-0.00349	0.74626
P11169	SLC2A3	0.00082	0.03712	0.00035	0.06398	0.00000
Q8WZA0	LZIC	0.03999	0.01205	0.25487	0.03480	0.00024
P13746	HLA-A	0.02368	0.00687	0.00118	-0.00201	0.43891
P26038	MSN	0.01138	0.00351	0.36982	0.01489	0.00002
P09001	MRPL3	0.02932	-0.00054	0.99527	0.02536	0.00062
Q9NVJ2	ARL8B	0.04881	-0.00553	0.00218	-0.00596	0.00085
Q9UNS2	COPS3	0.02746	-0.00578	0.00203	-0.00732	0.00013
Q99538	LGMN	0.04881	0.01321	0.04617	0.02399	0.00029
Q8N335	GPD1L	0.03615	0.00213	0.80756	0.01541	0.00039
Q96QG7	MTMR9	0.04106	-0.02378	0.63548	-0.12194	0.00039
O43427	FIBP	0.02756	-0.00788	0.00119	-0.00911	0.00020
P62136	PPP1CA	0.01699	0.00919	0.17578	0.02773	0.00003

A one-way ANOVA was performed with FDR adjustment for multiple comparisons, and for significant results, a Tukey post-hoc test was performed for comparisons of each time point with 0-min. Statistical analyses were performed using R statistical analysis software version 4.2.2.