Supplementary Table III. Gene Ontology biological processes affected by OxPAPC, HDL and cholesterol-cyclodextrin.

		Number of genes in pathway	Number of significantly affected genes by:			P value		
GO.ID	Biological process		OxPAPC	OxPAPC+HDL	OxPAPC+CHOL	OxPAPC	OxPAPC+HDL	OxPAPC+CHOL
GO:0007275	multicellular organismal development	2523	770	NA	NA	7.00E-08	NS	NS
GO:0031349	positive regulation of defense response	153	69	NA	NA	4.40E-07	NS	NS
GO:0048584	positive regulation of response to stimu...	721	246	NA	NA	1.40E-06	NS	NS
GO:0001933	negative regulation of protein phosphory...	145	64	NA	NA	2.80E-06	NS	NS
GO:0002237	response to molecule of bacterial origin	142	61	NA	NA	1.40E-05	NS	NS
GO:0051240	positive regulation of multicellular org...	285	107	NA	NA	2.10E-05	NS	NS
GO:0045428	regulation of nitric oxide biosynthetic ...	28	18	NA	NA	2.90E-05	NS	NS
GO:0008063	Toll signaling pathway	66	33	NA	NA	3.60E-05	NS	NS
GO:0045088	regulation of innate immune response	151	61	NA	NA	0.00012	NS	NS
GO:0051186	cofactor metabolic process	189	73	NA	NA	0.00015	NS	NS
GO:0045168	cell-cell signaling involved in cell fat...	20	13	NA	NA	0.00034	NS	NS
GO:0051301	cell division	381	130	NA	NA	0.00045	NS	NS
GO:0006606	protein import into nucleus	146	50	NA	56	0.02204	NS	NS
GO:0006461	protein complex assembly	572	170	95	NA	0.03957	NS	NS
GO:0032446	protein modification by small protein co...	490	146	NA	NA	0.04951	NS	NS
GO:0031326	regulation of cellular biosynthetic proc...	2356	741	NA	826	3.30E-10	NS	8.50E-12
GO:0009889	regulation of biosynthetic process	2377	744	NA	834	8.40E-10	NS	5.20E-12
GO:2000112	regulation of cellular macromolecule bio...	2227	701	NA	779	1.10E-09	NS	8.10E-11
GO:0010556	regulation of macromolecule biosynthetic...	2262	710	NA	796	1.40E-09	NS	1.00E-11
GO:0001944	vasculature development	358	146	NA	157	1.40E-09	NS	2.80E-09
GO:0001568	blood vessel development	341	139	NA	149	3.70E-09	NS	9.70E-09
GO:0048514	blood vessel morphogenesis	299	121	NA	131	6.30E-08	NS	6.30E-08
GO:0044249	cellular biosynthetic process	3571	1053	NA	1169	2.00E-07	NS	5.00E-08
GO:0007049	cell cycle	1137	373	NA	408	2.60E-07	NS	3.90E-07
GO:0010558	negative regulation of macromolecule bio...	652	229	NA	252	2.80E-07	NS	1.20E-07
GO:2000113	negative regulation of cellular macromol...	633	223	NA	244	3.10E-07	NS	2.50E-07
GO:0051145	smooth muscle cell differentiation	22	17	NA	17	9.30E-07	NS	4.80E-06
GO:0001816	cytokine production	263	105	NA	108	1.00E-06	NS	3.10E-05
GO:0042326	negative regulation of phosphorylation	155	68	NA	72	1.80E-06	NS	5.00E-06
GO:0010563	negative regulation of phosphorus metabo...	160	69	NA	73	3.20E-06	NS	9.50E-06
GO:0045936	negative regulation of phosphate metabol...	160	69	NA	73	3.20E-06	NS	9.50E-06
GO:0035295	tube development	257	101	NA	110	3.70E-06	NS	2.80E-06
GO:0006809	nitric oxide biosynthetic process	35	22	NA	21	6.50E-06	NS	0.00016
GO:0045089	positive regulation of innate immune res...	115	51	NA	50	2.40E-05	NS	0.00091
GO:0022402	cell cycle process	863	277	NA	303	6.70E-05	NS	9.90E-05
GO:0048729	tissue morphogenesis	268	114	72	NA	5.70E-09	1.40E-07	NS
GO:0009966	regulation of signal transduction	1200	395	248	NA	7.00E-08	2.30E-09	NS
GO:0009790	embryo development	561	204	131	NA	7.20E-08	1.90E-08	NS
GO:0048583	regulation of response to stimulus	1542	489	312	NA	3.30E-07	1.30E-10	NS
GO:0051246	regulation of protein metabolic process	1020	335	205	NA	1.00E-06	6.60E-07	NS
GO:0031399	regulation of protein modification proce...	730	243	155	NA	1.30E-05	6.60E-07	NS
GO:0001775	cell activation	494	168	110	NA	8.60E-05	3.20E-06	NS
GO:0048519	negative regulation of biological proces...	2180	727	421	804	3.30E-16	2.70E-11	1.40E-17
GO:0048523	negative regulation of cellular process	2010	668	392	746	2.40E-14	4.60E-11	6.50E-17
GO:0050794	regulation of cellular process	5391	1576	915	1736	5.30E-12	7.70E-12	3.40E-11
GO:0031323	regulation of cellular metabolic process	3161	974	583	1077	1.70E-11	2.40E-12	4.50E-12
GO:0019222	regulation of metabolic process	3464	1055	625	1164	3.40E-11	1.80E-11	2.50E-11
GO:0060255	regulation of macromolecule metabolic pr...	2983	916	535	1006	2.90E-10	5.60E-09	7.40E-10
GO:0050789	regulation of biological process	5652	1630	943	1797	3.90E-10	3.00E-10	2.30E-09
GO:0072359	circulatory system development	515	198	127	215	6.90E-10	9.00E-10	7.10E-10
GO:0072358	cardiovascular system development	515	198	127	215	6.90E-10	9.00E-10	7.10E-10
GO:0080090	regulation of primary metabolic process	3086	940	558	1038	1.10E-09	4.50E-10	6.40E-10
GO:0048518	positive regulation of biological proces...	2428	756	464	834	1.70E-09	7.70E-12	9.80E-10
GO:0065007	biological regulation	5949	1702	991	1876	1.70E-09	3.70E-11	1.50E-08
GO:0035556	intracellular signal transduction	1342	446	277	494	1.90E-09	2.30E-10	2.60E-10
GO:0051239	regulation of multicellular organismal p...	1088	371	230	399	2.10E-09	1.20E-09	3.30E-08
GO:0010468	regulation of gene expression	2378	739	423	817	4.40E-09	1.70E-06	1.50E-09
GO:0006351	transcription, DNA-dependent	2233	698	402	781	4.90E-09	9.20E-07	7.80E-11
GO:0051716	cellular response to stimulus	3431	1029	621	1123	5.20E-09	1.20E-11	1.30E-07
GO:0048522	positive regulation of cellular process	2235	697	436	779	8.00E-09	1.80E-12	1.90E-10
GO:0008283	cell proliferation	1016	346	217	376	9.50E-09	1.50E-09	2.70E-08
GO:0010605	negative regulation of macromolecule met...	965	330	196	363	1.30E-08	5.60E-07	5.90E-09
GO:0050896	response to stimulus	4402	1286	774	1408	1.90E-08	1.30E-12	4.70E-07
GO:0042127	regulation of cell proliferation	752	265	173	298	2.10E-08	2.70E-10	3.40E-10
GO:0010629	negative regulation of gene expression	628	226	136	251	3.70E-08	1.10E-06	3.80E-09
GO:0048646	anatomical structure formation involved ...	528	195	123	214	3.80E-08	6.10E-08	1.50E-08
GO:0006928	cellular component movement	764	267	158	294	4.40E-08	2.70E-06	1.60E-08
GO:0065009	regulation of molecular function	1337	434	267	468	9.10E-08	1.60E-08	1.40E-06
GO:0050793	regulation of developmental process	917	310	202	351	1.40E-07	4.00E-10	1.10E-09
GO:0009892	negative regulation of metabolic process	1029	343	208	382	1.40E-07	3.40E-07	1.40E-08
GO:0032502	developmental process	2845	856	516	948	1.50E-07	2.20E-09	6.00E-08
GO:0060429	epithelium development	337	132	89	142	1.50E-07	1.10E-08	3.20E-07
GO:0008219	cell death	1283	417	250	451	1.50E-07	4.70E-07	1.30E-06
GO:0016265	death	1284	417	250	451	1.60E-07	5.00E-07	1.40E-06
GO:0045595	regulation of cell differentiation	633	224	148	242	2.00E-07	1.90E-09	6.10E-07
GO:0019220	regulation of phosphate metabolic proces...	666	233	151	250	3.10E-07	1.20E-08	2.10E-06
GO:0009058	biosynthetic process	3661	1074	621	1200	4.60E-07	1.70E-06	1.90E-08
GO:0007154	cell communication	3164	939	564	1020	4.70E-07	4.10E-09	1.90E-05
GO:0001709	cell fate determination	20	16	14	15	8.70E-07	3.60E-08	3.30E-05
GO:0031324	negative regulation of cellular metaboli...	947	314	190	348	9.20E-07	2.00E-06	2.20E-07
GO:0051674	localization of cell	589	207	131	227	1.00E-06	3.80E-07	6.80E-07
GO:0009890	negative regulation of biosynthetic proc...	699	240	148	266	1.10E-06	1.40E-06	2.60E-07
GO:0031327	negative regulation of cellular biosynth...	686	236	145	261	1.20E-06	2.00E-06	3.40E-07
GO:0006468	protein phosphorylation	835	280	178	304	1.30E-06	6.50E-08	3.60E-06
GO:0051253	negative regulation of RNA metabolic pro...	582	204	123	223	1.50E-06	1.30E-05	1.40E-06
GO:0044237	cellular metabolic process	6286	1762	997	1955	1.80E-06	2.90E-05	1.20E-06
GO:0023052	signaling	3079	908	547	988	3.00E-06	1.50E-08	6.70E-05
GO:0040011	locomotion	806	269	165	294	3.40E-06	3.00E-06	4.40E-06
GO:0009893	positive regulation of metabolic process	1397	439	289	487	4.60E-06	6.30E-11	1.40E-06
GO:0032501	multicellular organismal process	3399	993	588	1088	4.70E-06	2.20E-07	3.30E-05
GO:0048869	cellular developmental process	1781	547	337	607	5.30E-06	6.50E-08	1.70E-06
GO:0051270	regulation of cellular component movemen...	304	115	76	127	7.00E-06	1.40E-06	2.30E-06
GO:0046209	nitric oxide metabolic process	45	26	19	25	8.70E-06	7.60E-06	0.00022
GO:0008152	metabolic process	6791	1883	1060	2085	1.50E-05	0.00027	3.30E-05
GO:0040012	regulation of locomotion	300	112	77	123	1.80E-05	3.90E-07	9.80E-06
GO:0009987	cellular process	8990	2432	1364	2706	2.30E-05	0.00022	7.40E-06

All biological processes significantly ($p<0.05$) affected by OxPAPC are presented. Enrichment analysis was performed using TopGO R package. Background color indicates reversal by HDL or by cholesterol. NA and NS indicate lack of significant enrichment of indicated pathways. Processes reversed both by HDL and cholesterol are in green, processes reversed by HDL only are in blue, processes reversed by cholesterol only are in grey and processes not reversed by either HDL or cholesterol are in red.