SUPPLEMENTAL FILES

Supplemental table 1. Gene table. Complete data set of all the genes studied by real time PCR. Key to responses: (1) oxidative stress, (2) apoptosis, (3) inflammation, (4) non-inflammatory immune responses.

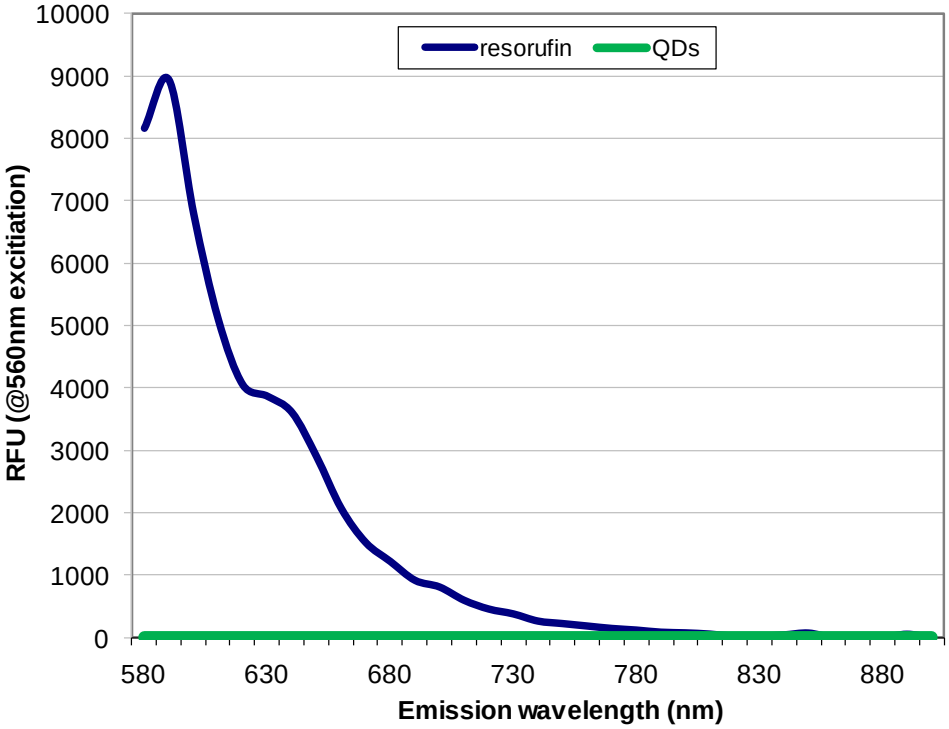
						QDs				
						8hr	48hr	8hr	48hr	
Pos	Unigene	GeneBank	Symbol	Description	Gene Name	30 nM		60 nM		Class
A01	Hs.197029	NM_000675	ADORA2A	Adenosine A2a receptor	ADORA2/RDC8	4.53	1.21	7.06	1.44	2,3
A02	Hs.494997	NM_001735	C5	Complement component 5	CPAMD4	1.08	0.8	0.91	0.81	3,4
A03	Hs.93210	NM_000562	C8A	Complement component 8, alpha	C8A	-	-	-	-	4
A04	Hs.51120	NM_004345	CAMP	Cathelicidin antimicrobial peptide	CAP18/CRAMP	-	-	-	-	4
A05	Hs.2490	NM_033292	CASP1	Caspase 1, apoptosis-related cysteine	ICE/IL1BC	0.87	1.26	1.21	1.68	2
A06	Hs.138378	NM_001225	CASP4	Caspase 4, apoptosis-related cysteine	ICE(rel)II/ICERE L-II	0.93	0.94	0.87	1.22	2
A07	Hs.303649	NM_002982	CCL2	Chemokine (C-C motif) ligand 2	GDCF-2/HC11	4.03	1.13	6.68	1.57	3
A08	Hs.506190	NM_001837	CCR3	Chemokine (C-C motif) receptor 3	CC-CKR-3/CD193	0.59	0.88	0.36	1.08	3
A09	Hs.163867	NM_000591	CD14	CD14 molecule	CD14	0.2	1.09	0.58	0.6	3,4
A10	Hs.1799	NM_001766	CD1D	CD1d molecule	CD1A/R3	-	-	-	-	4
A11	Hs.126517	NM_000574	CD55	CD55 molecule, decay accelerating	CR/CROM	0.85	1.39	0.9	1.62	4
A12	Hs.198998	NM_001278	CHUK	Conserved helix-loop-helix ubiquitous	IKBKA/IKK-alpha	0.86	1.06	0.88	1.47	3
B01	Hs.464422	NM_130386	COLEC12	Collectin sub-family member 12	CLP1/NSR2	0.89	0.47	0.63	0.58	4
B02	Hs.709456	NM_000567	CRP	C-reactive protein, pentraxin-related	PTX1	-	-	-	-	3,4
B03	Hs.593413	NM_003467	CXCR4	Chemokine (C-X-C motif) receptor 4	CD184/D2S201 E	-	-	2.64	-	4
B04	Hs.292356	NM_000397	CYBB	Cytochrome b-245, beta polypeptide	CGD/GP91-1	-	-	-	-	1,3,4
B05	Hs.105924	NM_004942	DEFB4	Defensin, beta 4	DEFB-2/DEFB102	-	-	-	-	4
B06	Hs.279611	NM_004406	DMBT1	Deleted in malignant brain tumors 1	GP340/muclin	-	-	-	-	4

B07	Hs.203717	NM_002026	FN1	Fibronectin 1	CIG/DKFZp686F10164	0.95	1.13	0.92	1.05	1,4
B08	Hs.517581	NM_002133	HMOX1	Heme oxygenase (decycling) 1	HO-1/HSP32	0.04	1.6	0.05	2.31	1,4
B09	Hs.37026	NM_024013	IFNA1	Interferon, alpha 1	IFL/IFN	0.04	2.33	0.23	0.88	4
B10	Hs.93177	NM_002176	IFNB1	Interferon, beta 1, fibroblast	IFB/IFF	0.55	2.17	1.39	1.95	4
B11	Hs.520414	NM_000416	IFNGR1	Interferon gamma receptor 1	CD119/IFNGR	1.13	1.06	1.32	1.01	3,4
B12	Hs.634632	NM_005534	IFNGR2	Interferon gamma receptor 2 (interferon	AF-1/IFGR2	1.38	1.13	1.43	1.04	3,4
C01	Hs.597664	NM_001556	IKBKB	Inhibitor of kappa light polypeptide gene	IKK-beta/IKK2	1.17	1.52	1.17	1.13	1,3,4
C02	Hs.193717	NM_000572	IL10	Interleukin 10	CSIF/IL-10	0.18	1.67	0.13	1.69	3,4
C03	Hs.479347	NM_001559	IL12RB2	Interleukin 12 receptor, beta 2	RP11-102M16.1	0.51	0.82	0.43	0.66	4
C04	Hs.1722	NM_000575	IL1A	Interleukin 1, alpha	IL-1A/IL1	1.19	2.41	1.56	0.45	3,4
C05	Hs.126256	NM_000576	IL1B	Interleukin 1, beta	IL-1/IL1-BETA	7.62	2.01	13	2.19	3,4
C06	Hs.306974	NM_173161	IL1F10	Interleukin 1 family, member 10 (theta)	FIL1-theta/FKSG75	-	-	-	-	3
C07	Hs.516301	NM_012275	IL1F5	Interleukin 1 family, member 5 (delta)	FIL1/FIL1(DELTA)	-	-	-	-	3
C08	Hs.278910	NM_014440	IL1F6	Interleukin 1 family, member 6 (epsilon)	FIL1/FIL1(EPSILON)	-	-	-	-	3
C09	Hs.166371	NM_173205	IL1F7	Interleukin 1 family, member 7 (zeta)	FIL1/FIL1(ZETA)	0.9	2.14	1.14	1.17	3
C10	Hs.278909	NM_173178	IL1F8	Interleukin 1 family, member 8 (eta)	FIL1/FIL1-(ETA)	-	-	-	-	3
C11	Hs.211238	NM_019618	IL1F9	Interleukin 1 family, member 9	IL-1F9/IL-1H1	-	-	-	-	3
C12	Hs.701982	NM_000877	IL1R1	Interleukin 1 receptor, type I	CD121A/D2S1473	0.7	0.75	0.68	0.78	3
D01	Hs.25333	NM_004633	IL1R2	Interleukin 1 receptor, type II	CD121b/IL1RB	0.07	-	0.08	-	3
D02	Hs.478673	NM_002182	IL1RAP	Interleukin 1 receptor accessory	C3orf13/IL-1RAcP	0.89	1.21	0.86	0.96	3
D03	Hs.675519	NM_017416	IL1RAPL2	Interleukin 1 receptor accessory	IL-1R9/IL1R9	-	0.54	0.31	-	3
D04	Hs.659863	NM_003854	IL1RL2	Interleukin 1 receptor-like 2	IL1R-rp2/IL1RRP2	0.26	0.61	0.29	0.29	3

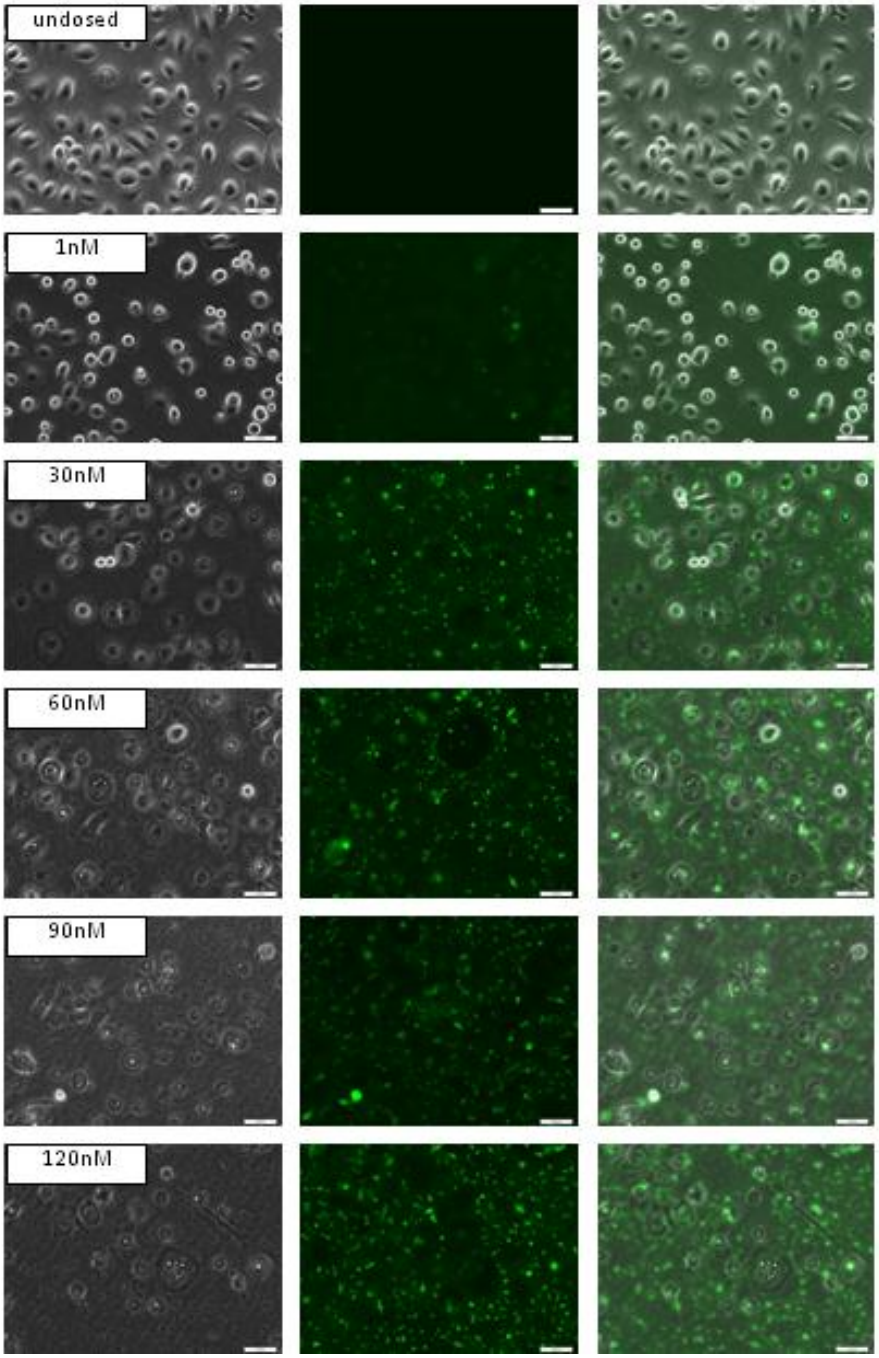
D05	Hs.81134	NM_000577	IL1RN	Interleukin 1 receptor antagonist	ICIL-1RA/IL-1ra3	0.21	-	-	-	3
D06	Hs.654458	NM_000600	IL6	Interleukin 6 (interferon, beta 2)	BSF2/HGF	7.16	2.04	11.79	2.16	3,4
D07	Hs.522819	NM_001569	IRAK1	Interleukin-1 receptor-assoc. kinase 1	IRAK/pelle	1.21	0.8	0.96	0.9	3
D08	Hs.449207	NM_001570	IRAK2	Interleukin-1 receptor-assoc. kinase 2	IRAK-2	2.85	1.08	4.26	1.92	3
D09	Hs.436061	NM_002198	IRF1	Interferon regulatory factor 1	IRF-1/MAR	1.57	1.13	1.64	1.02	3
D10	Hs.72938	NM_002289	LALBA	Lactalbumin, alpha-	MGC138521	-	-	-	-	4
D11	Hs.154078	NM_004139	LBP	Lipopolysaccharide binding protein	MGC22233	-	-	-	-	4
D12	Hs.529517	NM_002343	LTF	Lactotransferrin	GIG12/HLF2	-	-	-	-	4
E01	Hs.660766	NM_015364	LY96	Lymphocyte antigen 96	MD-2/MD2	0.86	1.01	0.78	1.66	3,4
E02	Hs.524579	NM_000239	LYZ	Lysozyme (renal amyloidosis)	LZM/lysozyme	-	-	-	-	4
E03	Hs.485233	NM_001315	MAPK14	Mitogen-activated protein kinase 14	CSBP1/CSBP2	0.94	0.88	0.86	0.82	3
E04	Hs.138211	NM_002750	MAPK8	Mitogen-activated protein kinase 8	JNK/JNK1	1.14	1.27	1.14	1.22	3
E05	Hs.407995	NM_002415	MIF	Macrophage migration inhibitory factor	GIF/GLIF	1.01	1.04	0.98	1.48	3,4
E06	Hs.82116	NM_002468	MYD88	Myeloid differentiation primary	MYD88D	1.23	0.85	1.35	0.8	3,4
E07	Hs.474781	NM_000631	NCF4	Neutrophil cytosolic factor 4, 40kDa	NCF/P40PHOX	-	-	-	-	1,4
E08	Hs.654408	NM_003998	NFKB1	Nuclear factor of kappa light polypeptide gene	DKFZp686C01211/EBP-1	1.93	1.05	2.22	1.51	2,3,4
E09	Hs.73090	NM_002502	NFKB2	Nuclear factor of kappa light polypeptide gene	LYT-10/LYT10	0.75	0.93	0.69	0.64	1,3,4
E10	Hs.81328	NM_020529	NFKBIA	Nuclear factor of kappa light polypeptide gene	IKBA/MAD-3	2.2	1.14	2.66	1.37	2
E11	Hs.574741	NM_021209	NLRC4	NLR family, CARD domain containing 4	CARD12/CLAN	1.04	1.3	0.99	1.91	2
E12	Hs.709191	NM_000625	NOS2	Nitric oxide synthase 2, inducible	HEP-NOS/INOS	-	-	0.93	-	1,3
F01	Hs.137583	NM_005091	PGLYRP1	Peptidoglycan recogn. protein 1	PGLYRP/PGRP	1.71	1.39	0.71	0.98	4
F02	Hs.282244	NM_052890	PGLYRP2	Peptidoglycan recogn. protein 2	HMFT0141/PGLYRPL	-	-	-	-	4

F03	Hs.348266	NM_052891	PGLYRP3	Peptidoglycan recogn. protein 3	PGRP-Ialpha/PGRPIA	2.5	-	0.92	-	4
F04	Hs.2164	NM_002704	PPBP	Pro-platelet basic protein (chemokine (C-	B-TG1/Beta-TG	-	-	-	-	1
F05	Hs.224698	NM_000312	PROC	Protein C (inactivator of coagulation	PC/PROC1	-	0.39	0.25	0.58	2
F06	Hs.709174	NM_000952	PTAFR	Platelet-activating factor receptor	PAFR	1.88	2.73	2.13	-	3,4
F07	Hs.19413	NM_005621	S100A12	S100 calcium binding protein A12	CAAF1/CAGC	-	-	-	-	3,4
F08	Hs.525557	NM_000295	SERPINA 1	Serpin peptidase inhibitor, clade A (alpha-1	A1A/A1AT	2.19	0.83	2.95	1.26	4
F09	Hs.414795	NM_000602	SERPINE 1	Serpin peptidase inhibitor, clade E (nexin,	PAI/PAI-1	0.92	1.08	0.91	1.09	4
F10	Hs.253495	NM_003019	SFTPD	Surfactant protein D	COLEC7/PSP-D	0.99	0.69	0.54	0.77	4
F11	Hs.645227	NM_000660	TGFB1	Transforming growth factor, β 1	CED/DPD1	0.93	1	0.88	0.82	2
F12	Hs.654532	NM_003263	TLR1	Toll-like receptor 1	CD281/DKFZp547I0610	-	-	-	-	3,4
G01	Hs.120551	NM_030956	TLR10	Toll-like receptor 10	CD290	-	-	0.32	-	3,4
G02	Hs.519033	NM_003264	TLR2	Toll-like receptor 2	CD282/TIL4	1.01	0.88	1.85	1.46	3
G03	Hs.657724	NM_003265	TLR3	Toll-like receptor 3	CD283	0.97	0.76	1.36	0.66	3,4
G04	Hs.174312	NM_138554	TLR4	Toll-like receptor 4	ARMD10/CD284	0.68	0.77	0.72	1.09	3
G05	Hs.662185	NM_006068	TLR6	Toll-like receptor 6	CD286	0.89	0.68	0.67	0.65	3,4
G06	Hs.660543	NM_138636	TLR8	Toll-like receptor 8	CD288	-	-	-	-	3,4
G07	Hs.87968	NM_017442	TLR9	Toll-like receptor 9	CD289	-	-	-	-	3,4
G08	Hs.241570	NM_000594	TNF-α	Tumor necrosis factor (superfamily,	DIF/TNF-alpha	0.55	1.59	1.14	0.28	2,3
G09	Hs.279594	NM_001065	TNFRSF1 A	Tumor necrosis factor receptor superfamily,	CD120a/FPF	0.95	1.16	0.93	1.58	2,3
G10	Hs.368527	NM_019009	TOLLIP	Toll interacting protein	IL-1RAcPIP	0.95	1.19	1.05	1.39	3
G11	Hs.591983	NM_004620	TRAF6	TNF receptor-associated factor 6	MGC:3310/RNF85	0.95	1.05	0.81	0.99	3,4
G12	Hs.283022	NM_018643	TREM1	Triggering receptor expressed on	TREM-1	-	-	2.3	-	3

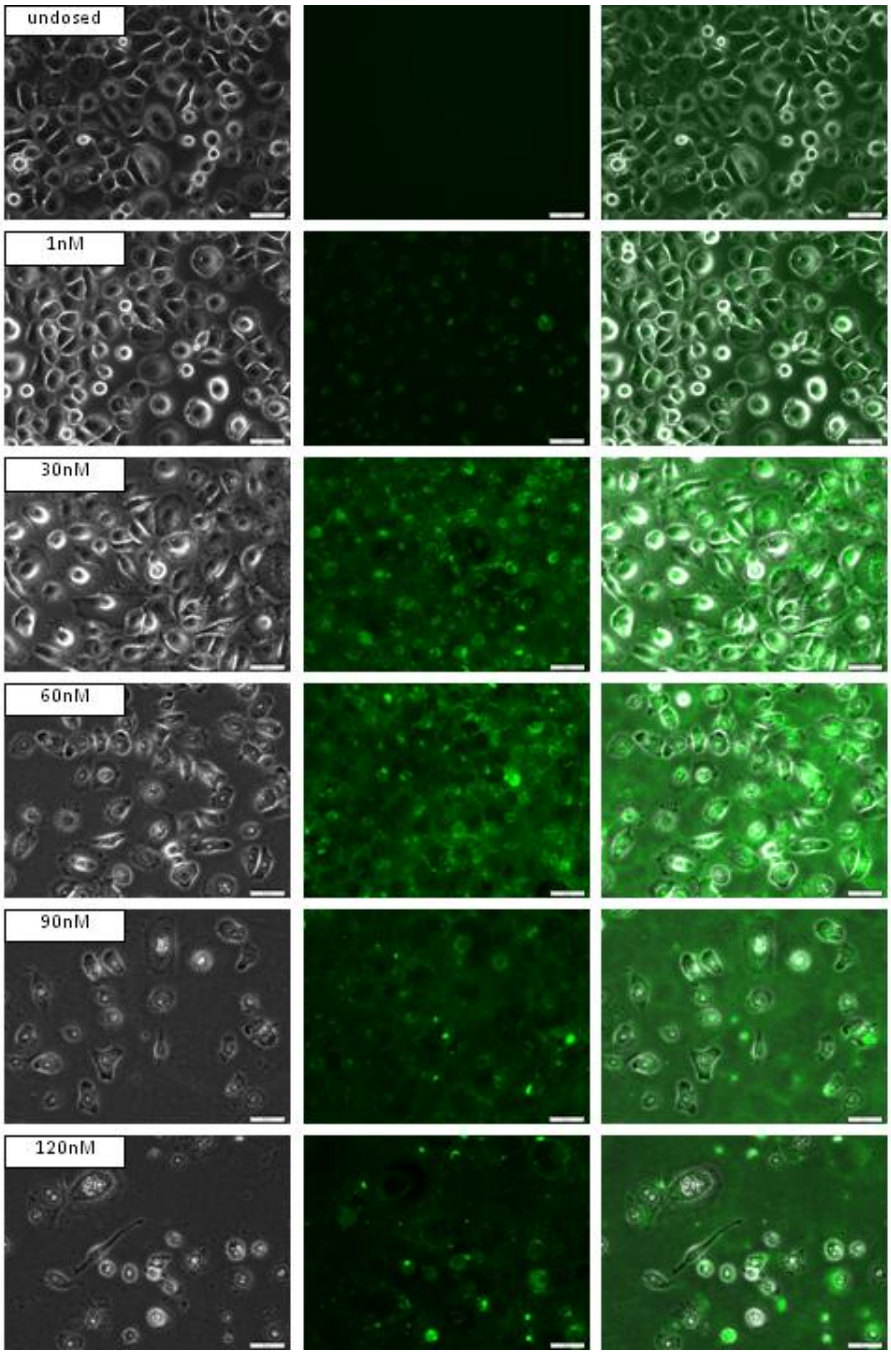
Supplemental Figure 1. Fluorescence spectral emission wavelengths of QDs and resorufin, product of resazurin (i.e. the viability marker), when excited at 560 nm. Resazurin assay data was collected at 590 nm.



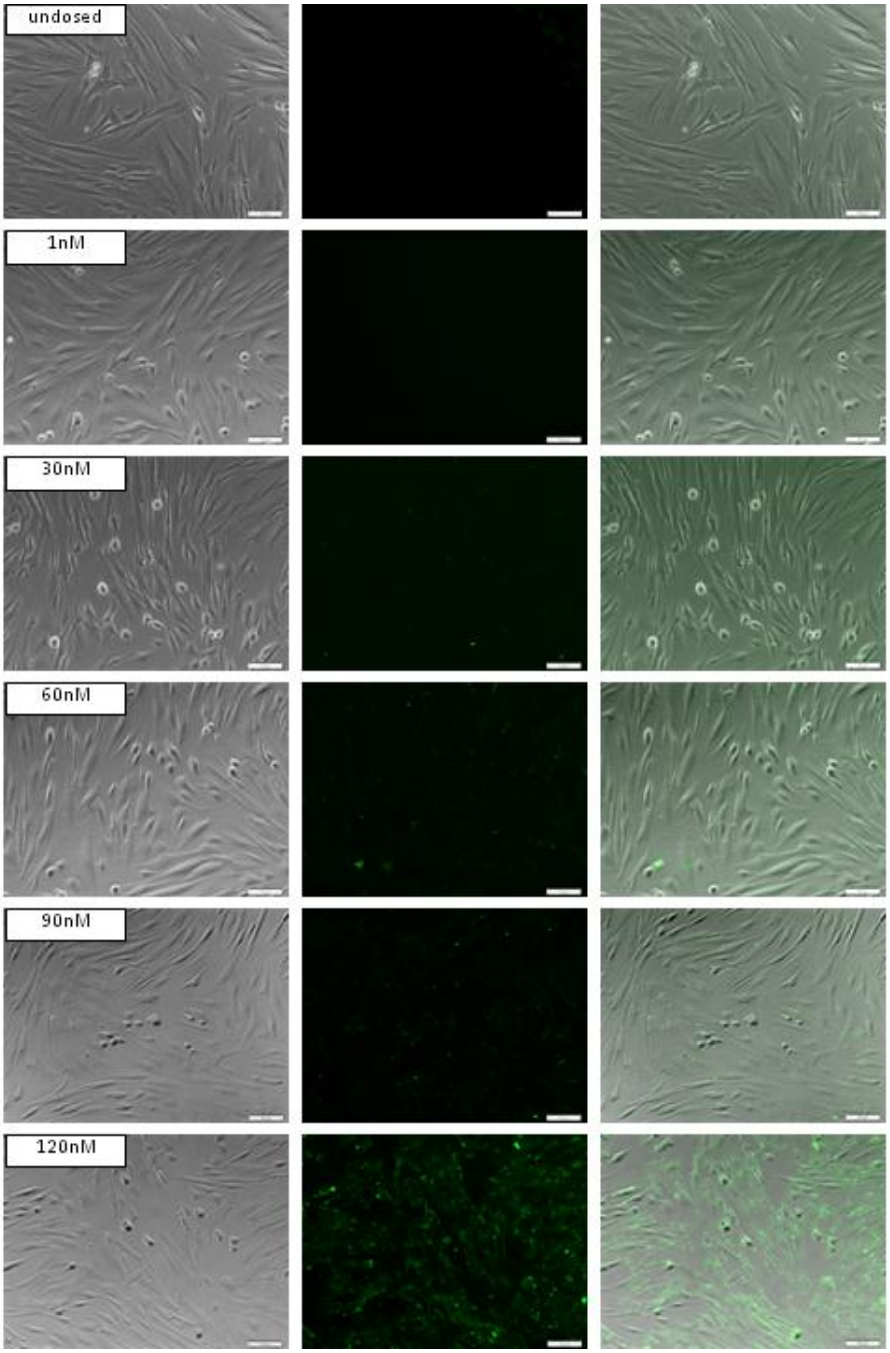
Supplemental Figure 2. Cellular morphology and intracellular QD fluorescence after exposure to HEK cells 8 hrs.



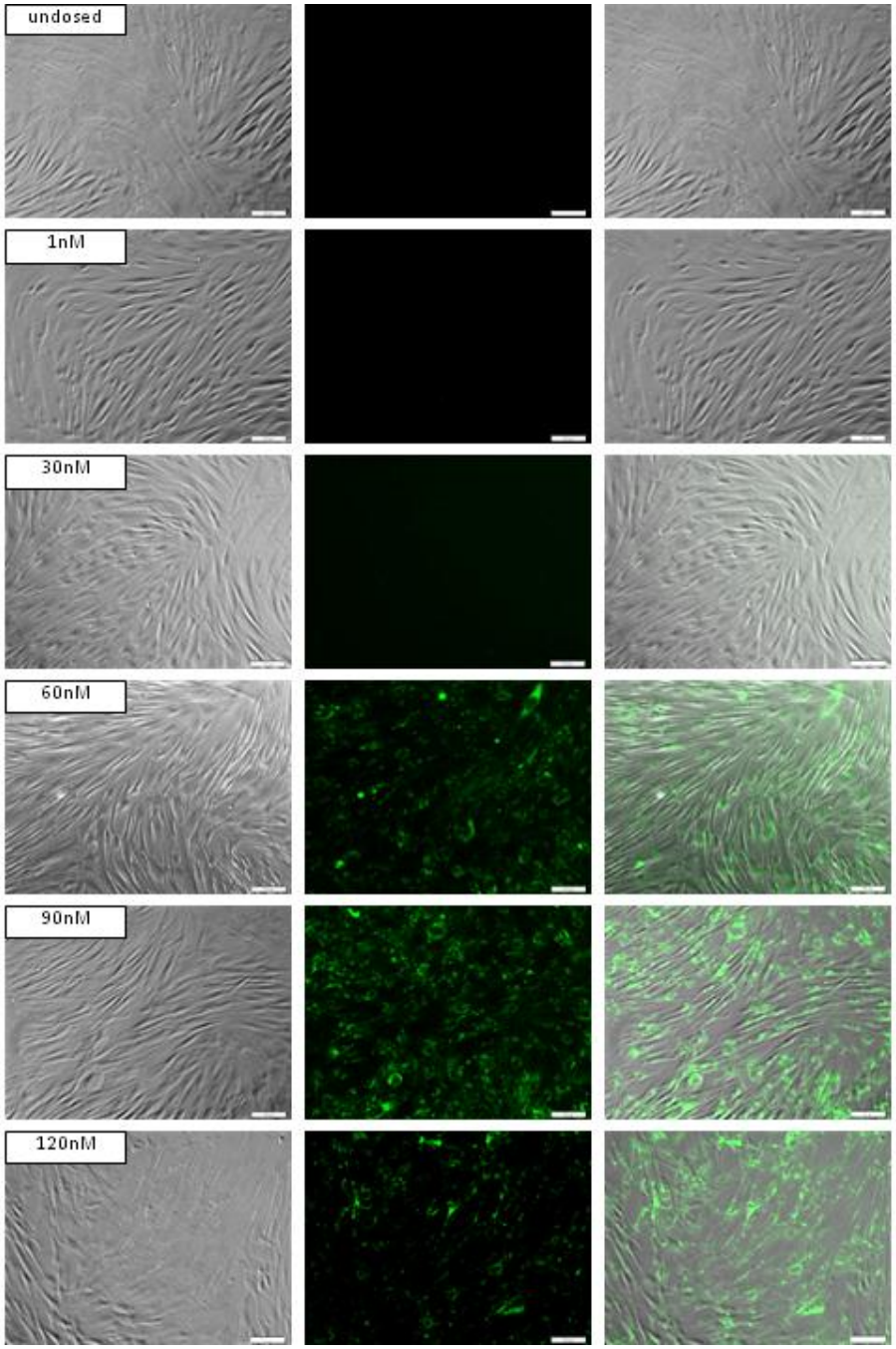
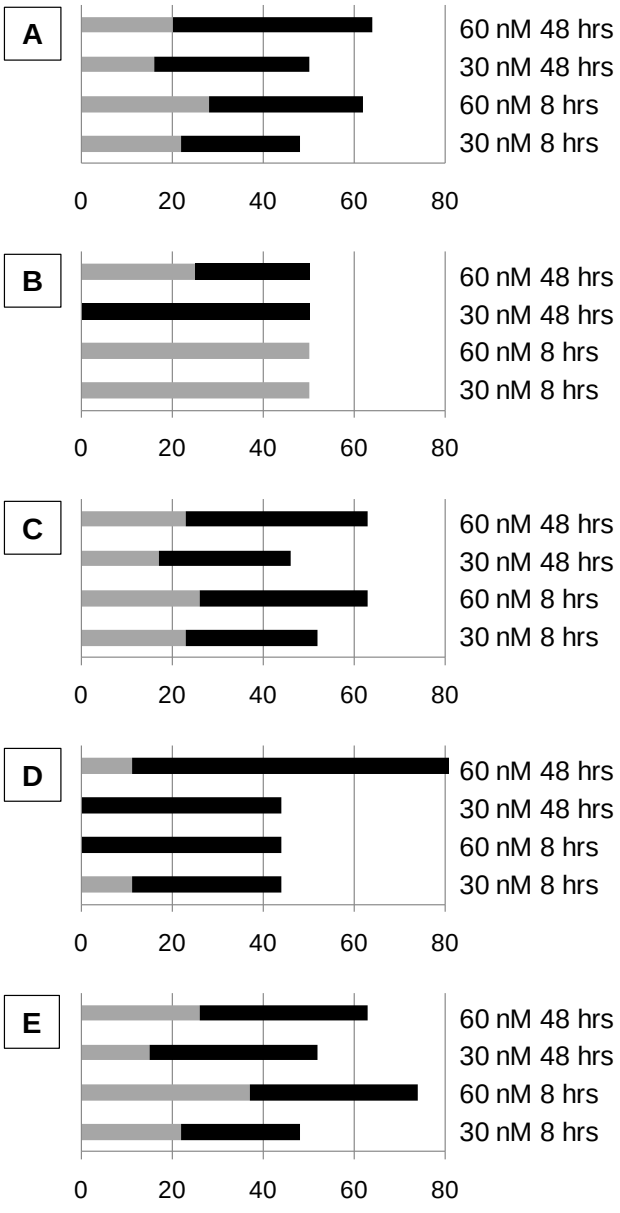
Supplemental Figure 3. Cellular morphology and intracellular QD fluorescence after exposure to HEK cells 48 hrs.



Supplemental Figure 4. Cellular morphology and intracellular QD fluorescence after exposure to HDF cells 8 hrs.



Supplemental Figure 4. Cellular morphology and intracellular QD fluorescence after exposure to HDF cells 48 hrs.



Supplemental Figure 5. A comparison of percent up and downregulation of genes in response to 30 and 60 nM CdSe/ZnS-COOH at 8 and 48 hrs time points. Data is categorized into the following 5 groups: All 50 genes (A), oxidative stress genes (B), inflammatory genes (C), apoptotic genes (D), and non-inflammatory immune genes (E). Graphs represent data from heat map, where values <0.8 were considered for downregulation (gray) and >1.2 (black) were considered for upregulation.