

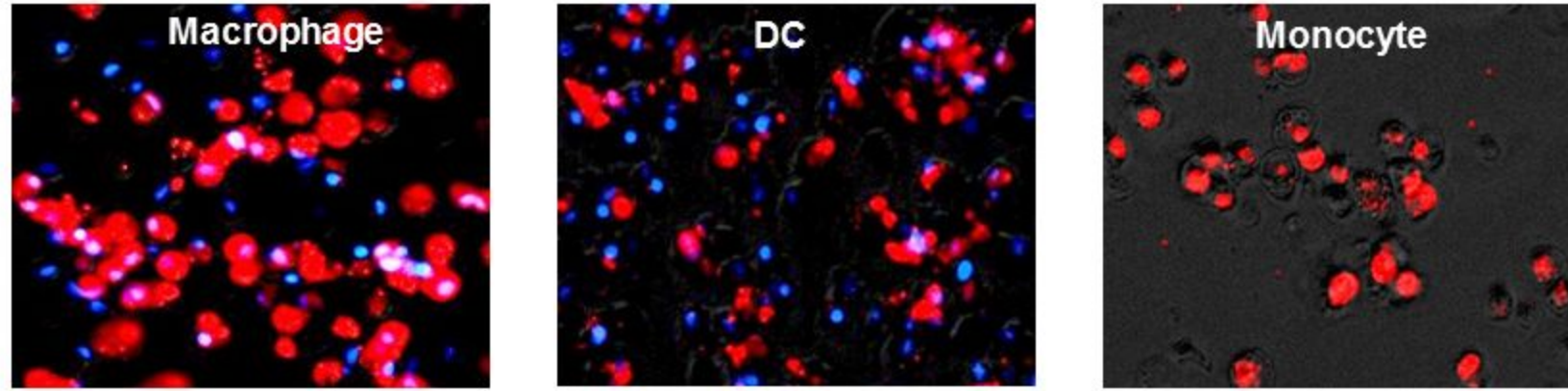
Supplemental Table I. List of genes altered by miRNA mimics in DC and Mφ. Highlighted genes indicate predicted targets

Dendritic Cells					
miR-24		miR-30b		miR-142-3p	
Gene	Fold Change Ratio Inhib/Mimic	Gene	Fold Change Ratio Inhib/Mimic	Gene	Fold Change Ratio Inhib/Mimic
DIRAS family, GTP-binding RAS-like 3	149.09	Mannose receptor, C type 1	129.79	Phospholipase C, beta 1 (phosphoinositide-specific)	49.87
Toll-like receptor 6	74.03	Macrophage receptor with collagenous structure	78.25	Macrophage receptor with collagenous structure	44.63
Mannose receptor, C type 1	48.84	Fc fragment of IgG, low affinity IIa, receptor (CD32)	38.59	Mannose receptor, C type 1	32.90
Fc fragment of IgG, low affinity IIa, receptor (CD32)	24.59	C-type lectin domain family 7, member A	35.02	Fc fragment of IgG, low affinity IIa, receptor (CD32)	29.65
C-type lectin domain family 7, member A	18.00	Toll-like receptor 4	32.67	CD14 molecule	24.93
Toll-like receptor 4	17.51	DIRAS family, GTP-binding RAS-like 3	20.97	Toll-like receptor 6	24.08
Macrophage receptor with collagenous structure	16.91	Fc fragment of IgE, high affinity I, receptor for; alpha polypeptide	19.97	Toll-like receptor 4	21.41
Fc fragment of IgE, high affinity I, receptor for; alpha polypeptide	16.34	Toll-like receptor 6	17.03	Fc fragment of IgE, high affinity I, receptor for; alpha polypeptide	20.68
Phospholipase C, zeta 1	11.08	Fc fragment of IgE, low affinity II, receptor for (CD23)	9.51	C-type lectin domain family 7, member A	15.56
Phospholipase C, beta 1 (phosphoinositide-specific)	9.13	CD14 molecule	9.32	Actin, alpha 1, skeletal muscle	13.45
Fc fragment of IgE, low affinity II, receptor for (CD23)	7.89	Macrophage scavenger receptor 1	7.11	Ras-related C3 botulinum toxin substrate 2 (rho family, small GTP binding protein Rac2)	11.55
Toll-like receptor 1	7.57	Lymphocyte antigen 86	7.06	Phospholipase C, beta 2	9.92
CD14 molecule	7.36	Toll-like receptor 1	6.28	Toll-like receptor 1	9.45
Toll-like receptor 9	5.21	Lymphocyte antigen 96	5.94	Fc fragment of IgE, low affinity II, receptor for (CD23)	8.51
Lymphocyte antigen 96	5.10	Complement component 3	5.10	Fibronectin 1	8.00
Toll-like receptor 5	4.66	Ras-related C3 botulinum toxin substrate 2 (rho family, small GTP binding protein Rac2)	4.63	Toll-like receptor 9	7.41
Ras-related C3 botulinum toxin substrate 2 (rho family, small GTP binding protein Rac2)	4.63	Toll-like receptor 3	4.53	Toll-like receptor 2	5.94
Macrophage scavenger receptor 1	4.59	Mannose receptor, C type 2	4.20	DIRAS family, GTP-binding RAS-like 3	5.66
Complement component 3	4.53	Phospholipase C, zeta 1	4.06	Phospholipase C, zeta 1	5.39
Lymphocyte antigen 86	4.08	Toll-like receptor 5	2.99	Lymphocyte antigen 86	5.35

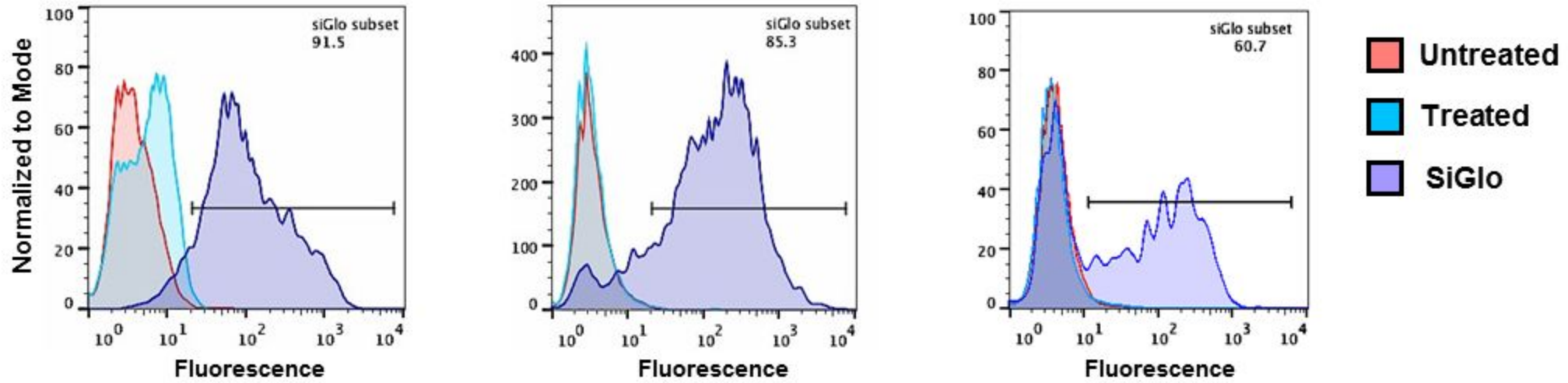
Phospholipase C, beta 2	3.71	Phospholipase C, gamma 2	2.91	Phospholipase C, gamma 2	5.24
Mannose receptor, C type 2	3.66	Fc fragment of IgE, high affinity I, receptor for; gamma polypeptide	2.87	Toll-like receptor 3	5.03
Protein kinase C, beta	2.95	Phospholipase C, beta 2	2.77	Mannose receptor, C type 2	4.92
Fc fragment of IgE, high affinity I, receptor for; gamma polypeptide	2.93	Fibronectin 1	2.08	Toll-interleukin 1 receptor (TIR) domain containing adaptor protein	4.66
Phospholipase C, gamma 2 (phosphatidylinositol-specific)	2.79	Phosphoinositide-3-kinase, regulatory subunit 2 (beta)	1.96	Macrophage scavenger receptor 1	4.53
Fibronectin 1	2.51	Phosphoglycerate kinase 1	1.96	Phosphoinositide-3-kinase, regulatory subunit 1 (alpha)	4.41
Toll-like receptor 3	2.38	Protein kinase C, beta	1.95	Lymphocyte antigen 96	4.32
Phosphoinositide-3-kinase, catalytic, gamma polypeptide	2.04			Fc fragment of IgE, high affinity I, receptor for; gamma polypeptide	4.03
Toll-like receptor 2	2.01			Single immunoglobulin and toll-interleukin 1 receptor (TIR) domain	3.63
				Phosphoinositide-3-kinase, regulatory subunit 2 (beta)	3.61
				Phospholipase C, beta 4	3.51
				Protein kinase C, beta	3.36
				Ras homolog gene family, member B	3.34
				Ras homolog gene family, member D	3.27
				Ras homolog gene family, member A	2.77
				Mitogen-activated protein kinase kinase kinase 7	2.71
				Phospholipase C, delta 1	2.69
				Protein kinase C, epsilon	2.45
				Mitogen-activated protein kinase 14	2.38
				Wiskott-Aldrich syndrome-like	2.31
				Protein kinase C, alpha	2.03

Macrophages					
miR-24		miR-30b		miR-142-3p	
Gene	Fold Change Ratio Inhib/Mimic	Gene	Fold Change Ratio Inhib/Mimic	Gene	Fold Change Ratio Inhib/Mimic
Rho family GTPase 3	6.15	Fc fragment of IgE, high affinity I, receptor for; alpha polypeptide	67.65	Mannose receptor, C type 1	15.24
		Phospholipase C, zeta 1	23.75	Fc fragment of IgE, high affinity I, receptor for; alpha polypeptide	2.94
		Mannose receptor, C type 1	14.52	Macrophage receptor with collagenous structure	2.29
		Protein kinase C, alpha	2.35	Protein kinase C, alpha	1.95
		Macrophage receptor with collagenous structure	2.10		
		Ras-related C3 botulinum toxin substrate 2 (rho family, small GTP binding protein Rac2)	2.00		

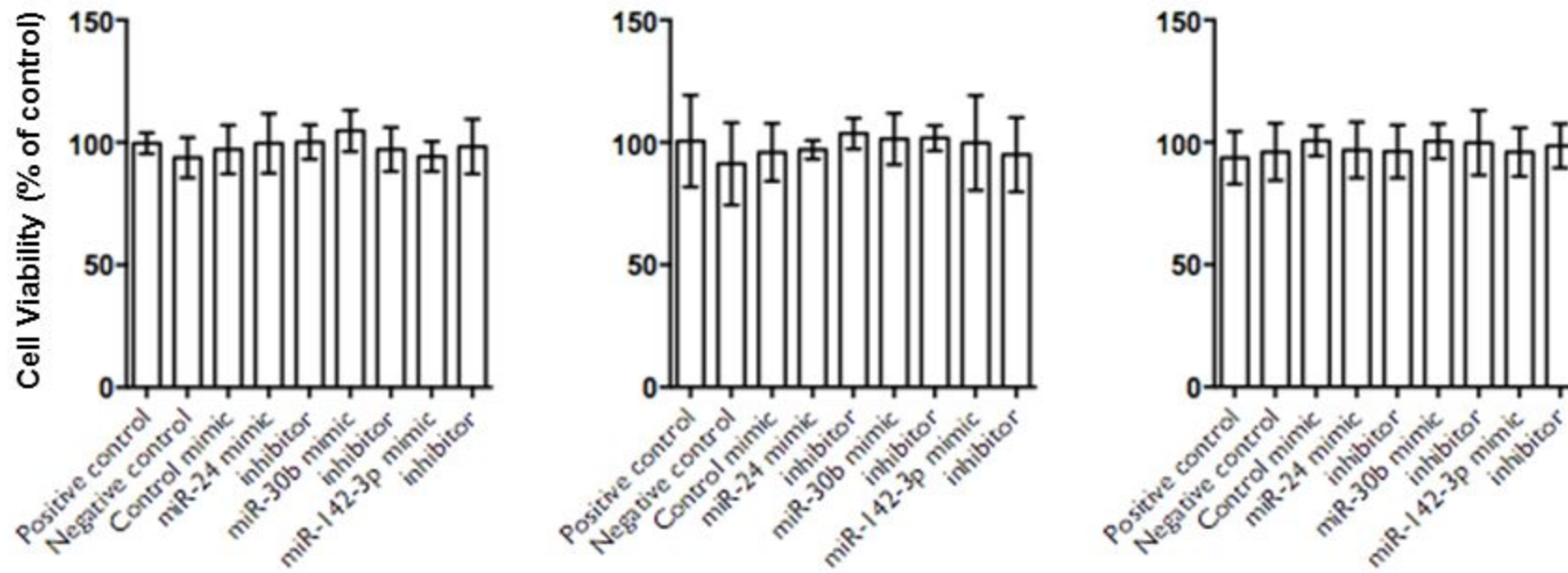
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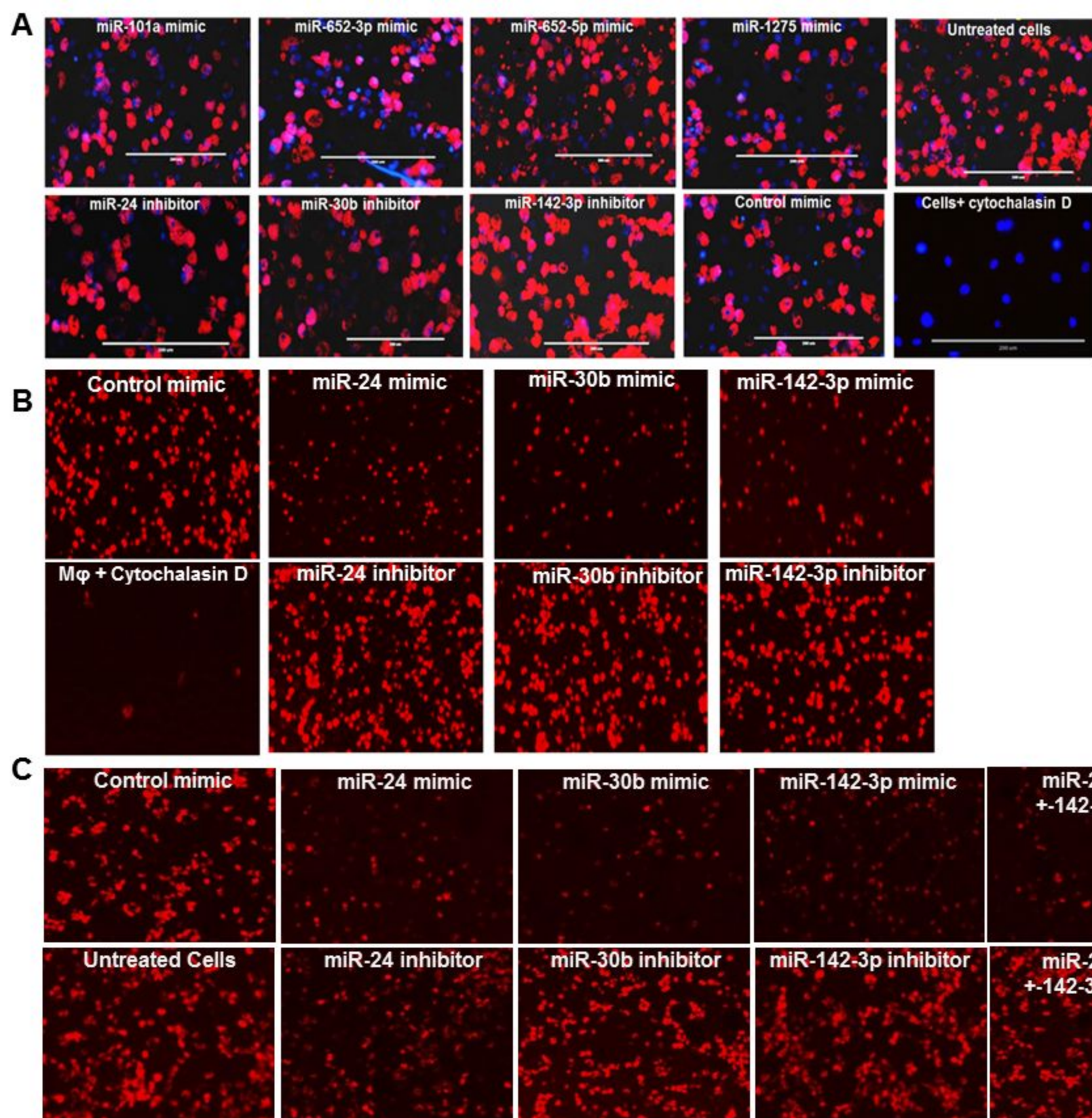
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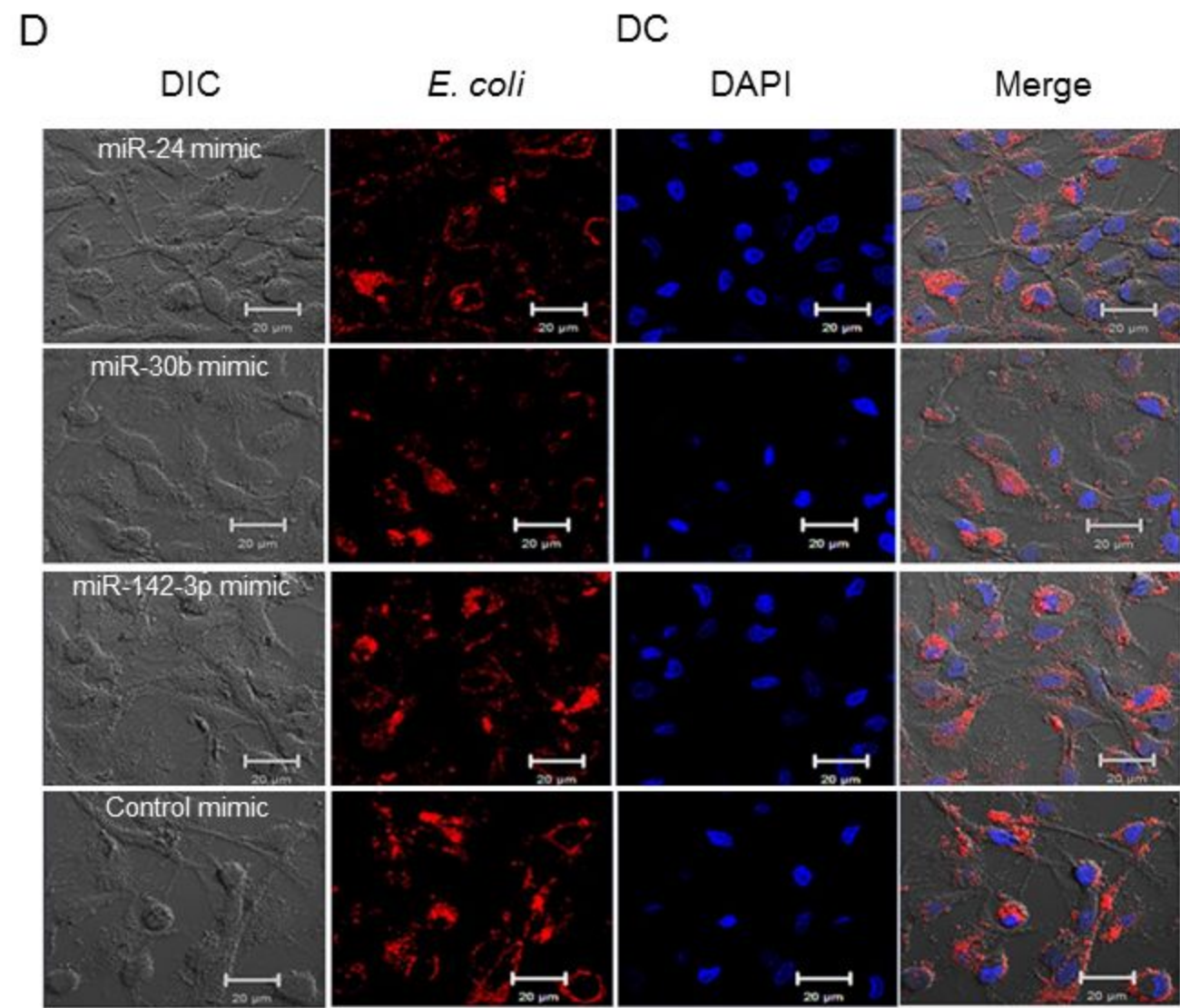
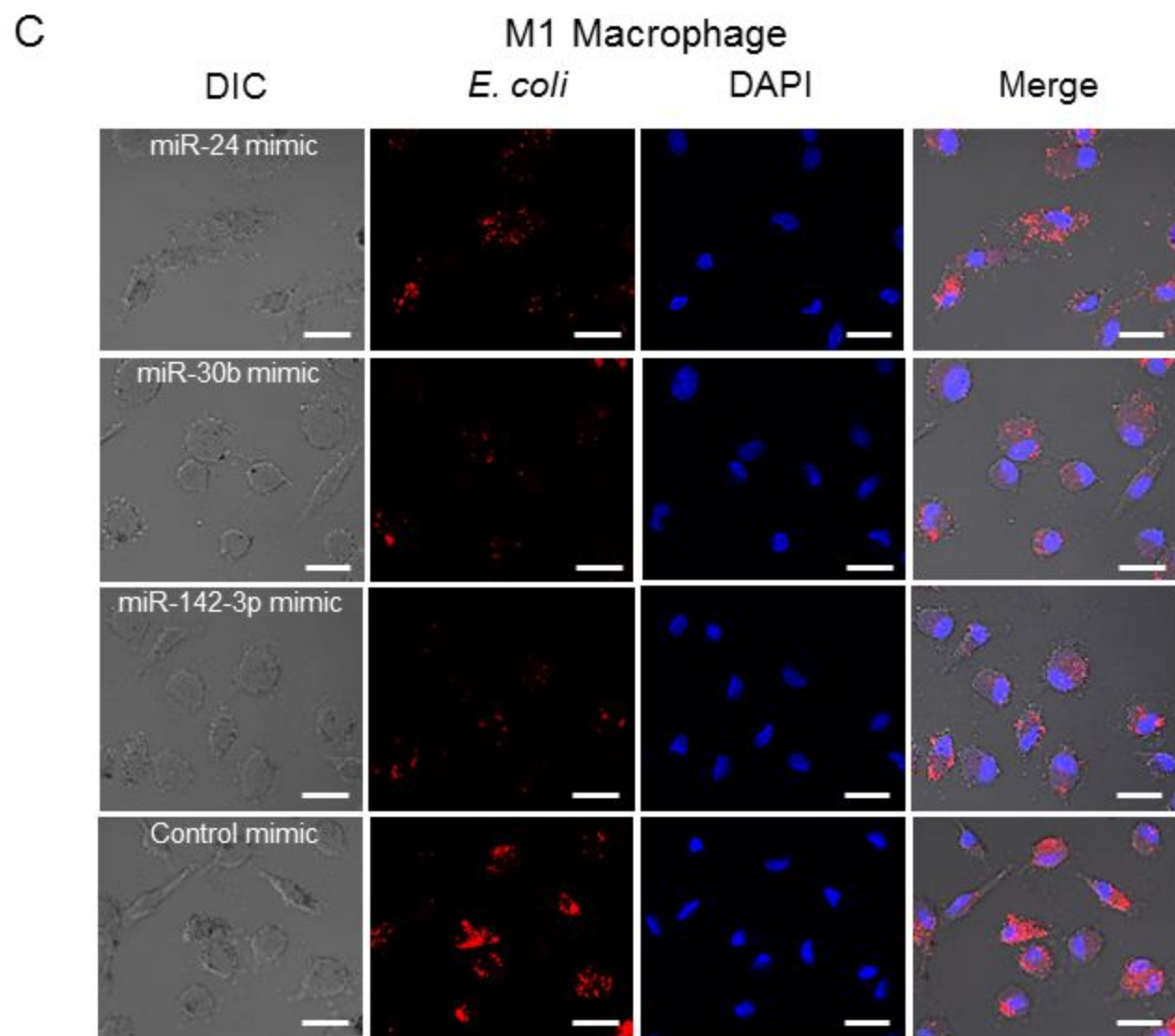
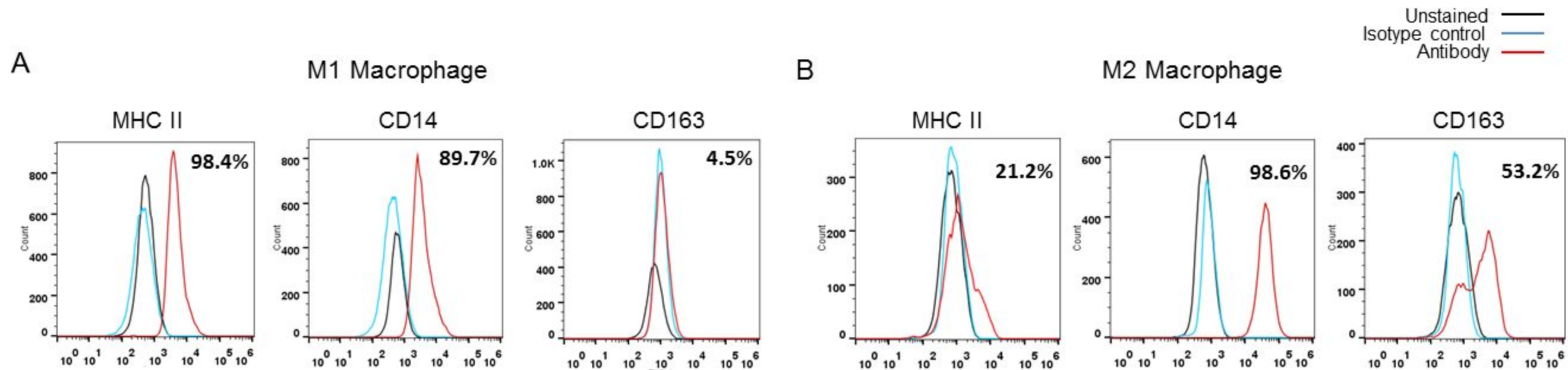
C



Supplemental Figure 1. Oligonucleotide transfection efficiency in M ϕ , DC and monocytes. Cells were transfected with fluorescent oligonucleotide duplex siGLO (DY-547 labeled) at day 0 (monocytes) or day 7 (M ϕ and DC). (A) Representative images of transfected cells with labeled siGLO. Nuclei were counterstained with Hoechst dye. Images were captured at 20X magnification using a fluorescence microscope. Scale bar, 200 μ m. (B) Transfection efficiency assessed after 24 h by flow cytometry. M ϕ were transfected with 50 nM siGLO while, DC and monocytes were transfected with 100 nM oligos. (C) Cell viability assays for monocytes, M ϕ and DC following transfection and addition of pHrodo labeled *E. coli*. Cells were transfected at day 0 (monocytes) or day 7 (M ϕ and DC). pHrodo *E. coli* bioparticles were added and viability was assessed after 4 h for M ϕ , DC and monocytes.



Supplemental Figure 2. Screening differentially expressed miRNAs for their potential role in phagocytosis. Mφ were transfected with indicated differentiation induced (miR-652-5p and miR-1275) or downregulated (miR-101-3p, miR-652-3p) miRNA mimics at day 7. Phagocytosis assays were performed for 1 h using labelled *E. coli* bioparticles and images were captured using a fluorescence microscope at 20X magnification. Representative images of each miRNA mimic are shown. miRNA inhibitors of miR-24, -30b and -142-3p have no impact on phagocytosis in Mφ. Phagocytosis assays were performed as described above in presence of 50 nM miRNA inhibitors. Scale bar, 200 μm. (B) miRNA mimics attenuate phagocytosis of *S. aureus* by Mφ. The impact of miRNA mimics was analyzed using rhodamine labelled *S. aureus* bioparticles. Mφ were transfected with miR-24, -30b, -142-3p or control mimics and phagocytosis assays were performed as described earlier. Representative images of each miRNA mimic are shown. (C) miRNA mimics do not exhibit cooperative effect on Mφ phagocytosis. Differentiated Mφ were transfected at day 7 with miR-24, miR-30b and miR-142-3p mimic, inhibitors or control mimics individually or in combination (all three). Phagocytosis assays were performed after 24 h and the cells were fixed before capturing images using a fluorescence microscope at 20X magnification. The data shows representative images of different fields from four independent donors. Scale bar, 400 μm.



Supplemental Fig. 3. M ϕ were polarized to M1 (A) and M2 (B) phenotypes and expression of MHCII, CD14, and CD163 was analyzed by flow cytometry. M1 M ϕ (C) were transfected at day 6 with miR or control mimics and DC (D) were transfected with miR inhibitor or control mimics. Uptake of labelled *E. coli* was assayed after 24 hours. Representative confocal images showing internalized bacteria after the assay. Scale bar = 20 μ m.