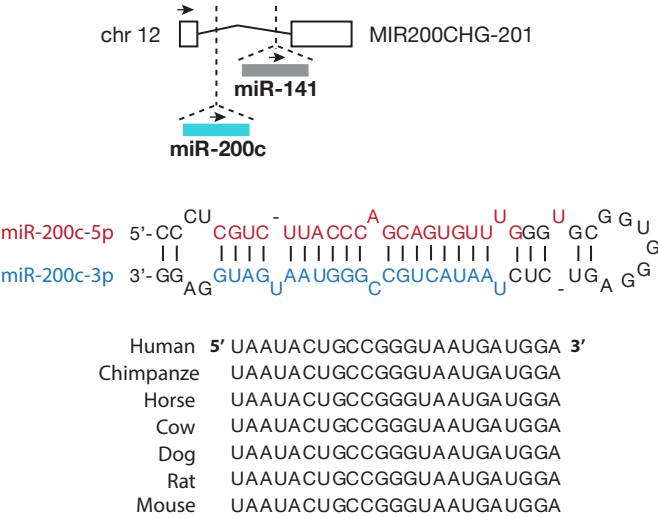


Supplemental Information

Intercellular transfer of miR-200c-3p impairs the angiogenic capacity of cardiac endothelial cells

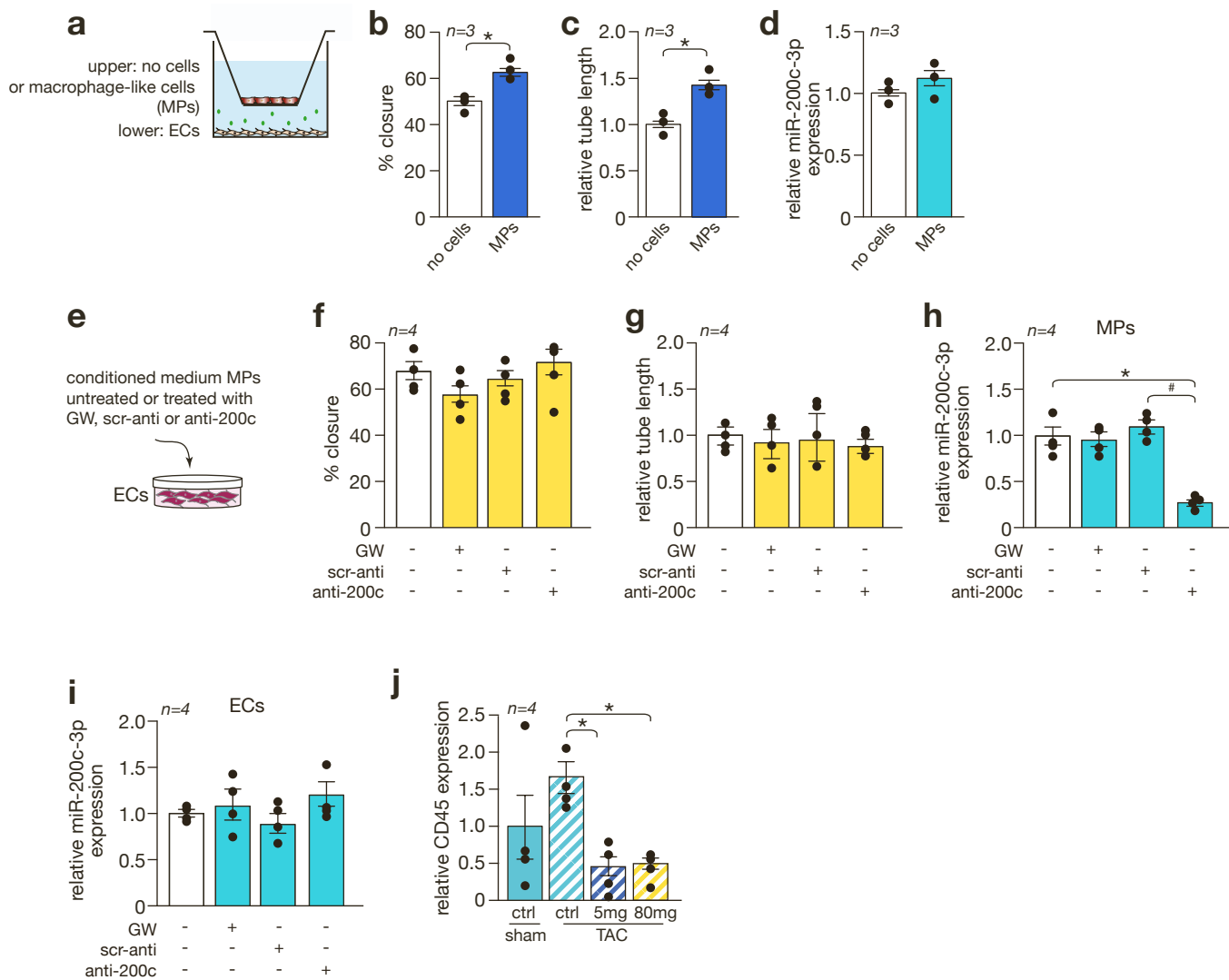
Lara Ottaviani, Rio P. Juni, Ricardo C. de Abreu, Marida Sansonetti, Vasco Sampaio-Pinto, Julie Halkein, Jana C. Hegenbarth, Nadja Ring, Kevin Knoops, Jordy M.M. Kocken, Carlos de Jesus, Auriane C. Ernault, Hamid el Azzouzi, Frank Rühle, Servé Olieslagers, Hugo Fernandes, Lino Ferreira, Luca Braga, Monika Stoll, Diana S. Nascimento, Leon J. de Windt, and Paula A. da Costa Martins

Supplemental Figure 1



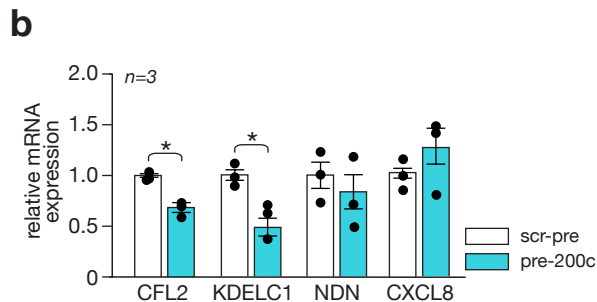
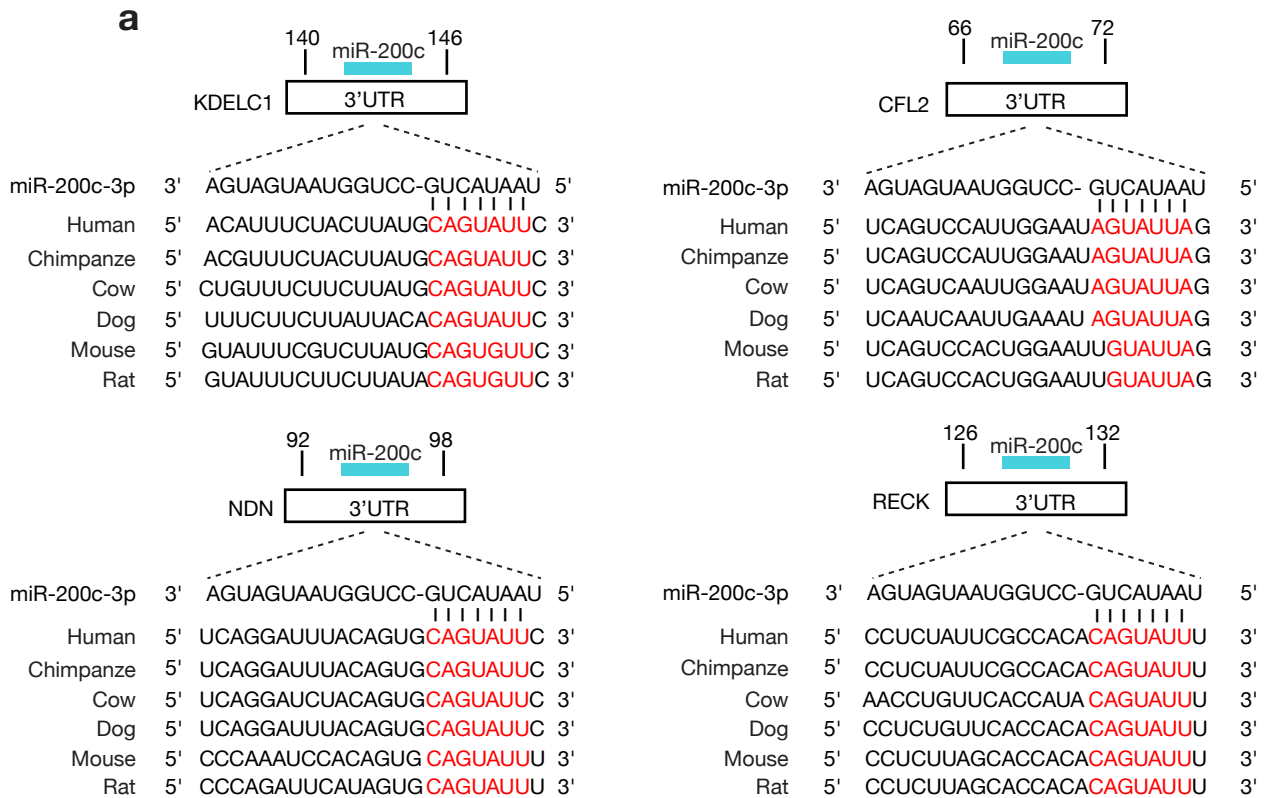
Supplemental Figure 1 | Schematic representation of hsa-miR-200c-3p genomic localisation (upper panel) and precursor sequence showing that the mature strand of miR-200c-3p is conserved among species (lower panel).

Supplemental Figure 2



Supplemental Figure 2 | (a) Experimental setup of transwell coculture system with macrophage-like cells (MPs) in the upper well and HUVECs in the lower one. **(b)** Assessment of EC migration by quantification of wound closure within 24hr hours on HUVECs after 72h in co-culture with MPs, or no cells in the upper compartment. *p<0.05 versus control "no cells". **(c)** Quantification of tube formation by determining relative tube length. a,b: *p<0.05 versus control "no cells". **(d)** Real-time PCR analysis of miR-200c-3p expression in ECs, cocultured with MPs or not. **(e)** Experimental setup of adding conditioned medium from MPs to cultured HUVECs. Conditioning medium was from macrophage-like cells that were untreated or treated with GW4869, or transfected either with a control inhibitor or a miR-200c-3p specific inhibitor. **(f)** Assessment of EC migration by quantification of wound closure within 24hr hours on HUVECs after 72h in co-culture with MPs, or no cells in the upper compartment. **(g)** Quantification of tube formation by determining relative tube length. **(h)** Real-time PCR analysis of miR-200c-3p expression in untreated MPs or upon treatment with GW4869, or transfected either with a control inhibitor or a miR-200c-3p specific inhibitor. *p<0.05 versus untreated cells, #p<0.05 versus anti-200c. **(i)** Real-time PCR analysis of miR-200c-3p expression in ECs upon incubation with conditioned medium from untreated MPs or treated with GW4869; transfected either with a control inhibitor or a miR-200c-3p specific inhibitor. **(j)** Real-time PCR analysis of CD45 expression in animals subjected to TAC or sham surgery, and either left untreated or treated with low/high doses of antagonist. *p<0.05 versus the control TAC. Error bars are s.e.m.

Supplemental Figure 3



Supplemental Figure 3 | (a) Bioinformatic prediction of the miR-200c-3p seed sequence interaction with the 3'-UTR of the downregulated genes revealed by the RNA sequencing and validated by QPCR: KDELC1 (Protein O-Glucosyltransferase 2), CFL2 (Cofilin 2), NDN (Necdin, MAGE Family Member) and RECK (Reversion Inducing Cysteine Rich Protein With Kazal Motifs). **(b)** Real-time PCR analysis of CFL2, KDELC1, NDN and CXCL8 in MPs that were transfected with either a control scrambled precursor (scr) or a precursor molecule for miR-200c-3p (pre-200c). * $p < 0.05$ versus scr, error bars are s.e.m.

Supplemental Table1: Profiling of microRNAs in CM-derived exosomes by RT-qPCR-based array

miRNA	Fold change PE+Iso vs SF
rno-miR-200c-3p	5,067636345
rno-miR-212-3p	4,275339537
mmu-miR-335-3p	3,836886264
rno-miR-362-3p	3,311392445
rno-miR-30d-3p	2,469203943
mmu-miR-345-5p	2,392393993
rno-let-7f-1-3p	2,370763909
mmu-miR-466j	2,305577242
mmu-miR-466k	2,248652923
rno-miR-204-5p	2,243879184
rno-miR-1249	2,227465366
mmu-miR-1951	2,164179255
rno-miR-338-3p	2,043624306
rno-miR-27a-5p	2,040865349
mmu-miR-466g	2,038492996
rno-miR-872-5p	1,9804002
rno-let-7b-3p	1,937805805
rno-miR-25-3p	1,920183251
mmu-miR-467d-3p	1,873890952
mmu-miR-1900	1,832864329
rno-miR-29a-5p	1,819409133
rno-miR-132-3p	1,808035494
rno-miR-146b-5p	1,800229702
rno-miR-667-3p	1,798971087
rno-miR-382-3p	1,781889656
rno-miR-195-5p	1,765732747
rno-miR-347	1,721687135
rno-miR-379-3p	1,712297047
rno-miR-134-5p	1,703267465
rno-miR-15b-3p	1,674486796
mmu-miR-503-3p	1,651101716
rno-miR-378a-5p	1,598071547
mmu-miR-669c-5p	1,579056727
rno-miR-132-5p	1,538466469
rno-miR-25-5p	1,531335078
mmu-miR-706	1,52424731
rno-miR-152-3p	1,514236973
rno-miR-340-3p	1,493257533

rno-miR-151-3p

1,486242984

miRNA	Fold change SF vs PE
rno-miR-542-5p	1,470631712
rno-miR-30e-3p	1,405016429
rno-miR-365-3p	1,404652244
rno-miR-7a-1-3p	1,397949262
mmu-miR-574-3p	1,397311816
mmu-miR-1196-5p	1,394985378
rno-miR-139-3p	1,383788062
rno-miR-23a-3p	1,38244971
rno-miR-130b-5p	1,366606601
mmu-miR-149-5p	1,354563475
rno-miR-322-5p	1,353577038
rno-miR-23b-3p	1,32475172
rno-miR-374-5p	1,318329501
rno-miR-409a-3p	1,273364986
mmu-miR-125b-2-3p	1,256498544
rno-miR-34b-3p	1,246189961
rno-miR-21-5p	1,238363625
mmu-miR-421-3p	1,237933657
mmu-miR-18a-3p	1,228502676
mmu-miR-667-3p	1,215421738
rno-miR-296-5p	1,202363401
rno-miR-499-5p	1,193558269
mmu-miR-1195	1,186627399
rno-miR-210-3p	1,181342256
rno-miR-877	1,180610436
rno-miR-342-5p	1,180344507
mmu-miR-93-3p	1,165041221
rno-miR-320-3p	1,164202483
rno-miR-99b-5p	1,158998742
mmu-miR-1839-3p	1,137870204
rno-miR-872-3p	1,133927184
rno-miR-126a-5p	1,127329302
rno-miR-99b-3p	1,127051156
mmu-miR-3107-5p	1,101982261
mmu-miR-27b-5p	1,09986694
mmu-miR-466f-3p	1,09281031
mmu-miR-1935	1,086728083
rno-miR-130a-3p	1,083699676
rno-miR-16-5p	1,082674072
mmu-miR-297a-3p	1,068383796

miRNA	Fold change SF vs PE
rno-miR-191a-5p	1,053133989
rno-miR-351-5p	1,050307668
rno-miR-376c-3p	1,048544434
rno-miR-423-3p	1,028925124
rno-miR-672-5p	1,021963733
mmu-miR-467f	1,020245254
rno-miR-433-3p	1,005620524
rno-miR-146a-5p	-1,013362256
mmu-miR-7a-1-3p	-1,015649067
mmu-miR-223-3p	-1,022235076
rno-miR-125b-5p	-1,02380645
rno-miR-125a-5p	-1,026343744
rno-miR-150-5p	-1,026849679
rno-miR-214-3p	-1,027533906
rno-miR-99a-5p	-1,040741662
rno-miR-30a-3p	-1,043762156
rno-miR-28-3p	-1,052550169
rno-miR-27b-3p	-1,058541624
rno-miR-30c-5p	-1,061577722
rno-miR-26a-5p	-1,063262636
rno-miR-30d-5p	-1,067182564
rno-miR-674-3p	-1,085596519
rno-miR-223-3p	-1,095782904
rno-miR-382-5p	-1,097182868
rno-let-7e-3p	-1,09828616
rno-miR-140-3p	-1,100172693
rno-miR-301b-3p	-1,114734392
rno-miR-369-5p	-1,123619058
rno-miR-187-3p	-1,137008469
rno-miR-451-5p	-1,151099066
rno-miR-218a-5p	-1,153145053
rno-miR-29a-3p	-1,156455698
mmu-miR-1895	-1,181967199
rno-miR-30a-5p	-1,192368361
rno-miR-708-5p	-1,207585216
rno-miR-126a-3p	-1,215334967
mmu-miR-501-5p	-1,233388244
rno-miR-342-3p	-1,240872598
rno-let-7d-3p	-1,245748641
rno-miR-181b-5p	-1,25030754
rno-miR-139-5p	-1,251717502

rno-miR-434-3p -1,259452751

miRNA	Fold change SF vs PE
rno-miR-352	-1,27265555
rno-miR-22-3p	-1,304747828
rno-miR-1839-5p	-1,305614514
rno-miR-490-3p	-1,307043358
rno-miR-541-5p	-1,329174942
mmu-miR-322-3p	-1,332151349
rno-let-7f-5p	-1,33558056
mmu-miR-155-5p	-1,340478426
mmu-miR-675-3p	-1,343381438
mmu-miR-1905	-1,344159183
mmu-miR-1957a	-1,344657735
rno-miR-328a-3p	-1,349321372
rno-miR-411-5p	-1,351867728
rno-miR-322-3p	-1,356949471
mmu-miR-1946b	-1,364461795
mmu-let-7f-1-3p	-1,373558161
rno-let-7e-5p	-1,374747821
rno-miR-532-3p	-1,378522677
rno-miR-30b-5p	-1,38032118
rno-miR-140-5p	-1,388294846
mmu-miR-483-3p	-1,398463888
rno-miR-181a-5p	-1,406543333
rno-miR-31a-5p	-1,409977362
rno-miR-34c-3p	-1,438266479
rno-miR-93-5p	-1,463356217
rno-miR-100-5p	-1,468454943
mmu-miR-214-3p	-1,470088491
mmu-miR-744-5p	-1,47321603
rno-miR-199a-3p	-1,474669851
rno-miR-361-5p	-1,481548649
mmu-miR-351-5p	-1,48195126
rno-miR-15b-5p	-1,491716109
mmu-miR-2137	-1,492598354
rno-miR-20a-5p	-1,494566406
rno-miR-181d-5p	-1,500488228
rno-miR-483-3p	-1,501232054
rno-miR-101a-3p	-1,507298342
rno-miR-154-5p	-1,514938261
rno-miR-24-3p	-1,535915663
mmu-miR-423-5p	-1,559895085

mmu-miR-324-3p -1,589647624

miRNA	Fold change SF vs PE
rno-miR-379-5p	-1,591128111
rno-let-7d-5p	-1,604019855
rno-miR-194-5p	-1,605790852
rno-miR-301a-3p	-1,64246087
rno-miR-185-5p	-1,658359743
rno-miR-425-5p	-1,680386383
rno-miR-186-5p	-1,708607476
rno-miR-199a-5p	-1,717767761
mmu-miR-455-3p	-1,721652527
rno-miR-455-5p	-1,725666885
rno-miR-27a-3p	-1,781677229
rno-miR-1-3p	-1,782319526
rno-miR-133a-3p	-1,82009531
mmu-miR-350-3p	-1,830250349
rno-miR-222-3p	-1,83233336
rno-miR-221-3p	-1,848807478
rno-miR-350	-1,876738965
rno-miR-466b-5p	-1,893844659
mmu-miR-709	-1,895042232
rno-miR-18a-5p	-1,908622784
rno-let-7a-5p	-1,920074115
mmu-miR-409-3p	-1,921966247
rno-miR-101b-3p	-2,013510506
rno-miR-330-3p	-2,041816195
rno-miR-26b-5p	-2,056651002
mmu-miR-466f	-2,06782343
mmu-miR-1946a	-2,067880763
rno-miR-378a-3p	-2,08205907
rno-let-7c-5p	-2,105256472
rno-miR-30e-5p	-2,121674
rno-miR-145-5p	-2,135694068
rno-miR-450a-5p	-2,148145925
mmu-miR-146b-5p	-2,207883424
rno-miR-151-5p	-2,22691424
rno-miR-133b-3p	-2,272571996
rno-miR-484	-2,290178423
mmu-miR-143-3p	-2,29845433
mmu-miR-148a-3p	-2,309097354
rno-miR-107-3p	-2,32155265
mmu-miR-1a-3p	-2,325026243

rno-miR-148b-3p -2,343264808

miRNA	Fold change SF vs PE
rno-miR-299a-5p	-2,382235433
rno-miR-208a-5p	-2,390225944
rno-miR-532-5p	-2,499322376
rno-miR-192-5p	-2,539902294
rno-miR-335	-2,544639
rno-miR-28-5p	-2,581178654
rno-miR-103-3p	-2,614574175
rno-miR-760-5p	-2,708665045
rno-miR-652-3p	-2,744253963
mmu-miR-450a-5p	-2,816149649
rno-miR-665	-2,833173592
rno-miR-106b-5p	-2,855768434
mmu-miR-208b-3p	-2,866876983
mmu-miR-193b-3p	-2,997697901
rno-miR-143-3p	-3,013552085
rno-miR-106b-3p	-3,256524318
rno-miR-298-5p	-3,260840782
rno-miR-127-3p	-3,34310577
mmu-miR-15a-5p	-3,456217478
mmu-let-7g-5p	-3,630363477
rno-miR-31a-3p	-4,169287908
mmu-miR-1186a	-5,091959696
rno-let-7i-5p	-5,200001358
mmu-miR-1983	-5,869538199
rno-let-7b-5p	-15,71206611

SF: serum-free; PE: Phenylephrine; Iso: Isoproterenol

Supplemental Table2: Validation of the 5 most enriched microRNAs from the profiling of CM-derived exosomes by RT-qPCR-based array, after treating EV samples with RNase +/- Triton X-100. Data represent fold change PE+Iso vs SF.

miRNA	Treatment			
	-	RNase A	Triton X-100	RNase A Triton X-100
miR-200c-3p	4,992*	4,631*	3,902*	0,528 ^{#,1}
miR-212-3p	3,775*	3,237*	2,933*	0,663 ^{#,1}
miR-335-3p	3,356*	1,412 [#]	1,101 [#]	0,909 ^{#,1}
miR-362-3p	3,002*	1,258 [#]	0,932 [#]	0,025 ^{#,1}
miR-30d-3p	2,092*	1,967*	1,366 [#]	0,199 ^{#,1}

SF: serum-free; PE: Phenylephrine; Iso: Isoproterenol

*p<0.05 versus the SF samples

[#]p<0.05 versus untreated samples (-)

¹p<0.05 versus RNase A treatment

Supplemental Table 3: Sequencing of RNA derived from HUVEC's after transfection with pre-miR-200c-3p

Ensembl gene ID	log2FoldChange	p value	HGNC symbol	gene biotype
ENSG00000103160	-0.591364037959192	0.00150792681144476	HSDL1	protein_coding
ENSG00000110756	-0.593149772648068	6,41E+00	HPS5	protein_coding
ENSG00000196372	-0.598231882502013	0.00099205581547257	ASB13	protein_coding
ENSG00000123728	-0.599305304458973	6,71E-04	RAP2C	protein_coding
ENSG00000107560	-0.60131565512048	2,22E+05	RAB11FIP2	protein_coding
ENSG00000162407	-0.603787197038826	6,77E-01	PLPP3	protein_coding
ENSG00000122376	-0.605177114686447	0.000490923112321308	FAM35A	protein_coding
ENSG00000197632	-0.605304059164926	8,37E-02	SERPINB2	protein_coding
ENSG00000158859	-0.606236442105014	1,83E+02	ADAMTS4	protein_coding
ENSG00000141232	-0.607417431334612	0.000498961034852149	TOB1	protein_coding
ENSG00000165757	-0.621272841412988	1,16E-12	JCAD	protein_coding
ENSG00000135723	-0.621984560623499	1,94E+00	FHOD1	protein_coding
ENSG00000075618	-0.626881593836077	0.000808569542827331	FSCN1	protein_coding
ENSG00000141682	-0.63267563566931	2,34E+04	PMAIP1	protein_coding
ENSG00000104967	-0.63670990808039	3,38E+05	NOVA2	protein_coding
ENSG00000115216	-0.637622352764944	3,85E-26	NRBP1	protein_coding
ENSG00000134242	-0.637911293732313	1,63E+07	PTPN22	protein_coding
ENSG00000134954	-0.640894382045728	2,36E-29	ETS1	protein_coding
ENSG00000136237	-0.651314277580284	4,14E-21	RAPGEF5	protein_coding
ENSG00000115935	-0.652976698795794	6,87E+07	WIPF1	protein_coding
ENSG00000270607	-0.656112296130271	0.000972051147940525		lincRNA
ENSG00000186106	-0.66404056554468	1,14E+09	ANKRD46	protein_coding
ENSG00000182287	-0.66519899272896	5,51E-05	AP1S2	protein_coding
ENSG00000153814	-0.679444210542959	4,57E+08	JAZF1	protein_coding

Ensembl gene ID	log2FoldChange	p value	HGNC symbol	gene biotype
ENSG00000171055	-0.680483329367485	0.00316714672374411	FEZ2	protein_coding
ENSG00000158156	-0.683761550972862	6,16E+08	XKR8	protein_coding
ENSG00000164938	-0.685141958212356	2,33E+05	TP53INP1	protein_coding
ENSG00000150510	-0.685850211689224	0.000129179438374966	FAM124A	protein_coding
ENSG00000248187	-0.689377509247583	9,23E+09		lincRNA
ENSG00000183722	-0.691237181490188	4,60E+01	LHFPL6	protein_coding
ENSG00000056050	-0.697733571610229	2,19E+02	HPF1	protein_coding
ENSG00000103241	-0.698206740734348	8,39E+07	FOXF1	protein_coding
ENSG00000145388	-0.710000067670269	0.000710639886527536	METTL14	protein_coding
ENSG00000104368	-0.710748130790017	1,34E-20	PLAT	protein_coding
ENSG00000180398	-0.713377999765962	1,80E-03	MCFD2	protein_coding
ENSG00000243243	-0.717520180245784	0.00283816865931245		antisense
ENSG00000100034	-0.741540796858184	0.000121927740260567	PPM1F	protein_coding
ENSG00000150867	-0.749200930499433	6,08E-15	PIP4K2A	protein_coding
ENSG00000164283	-0.754900111991758	4,66E-95	ESM1	protein_coding
ENSG00000108960	-0.759231192134464	2,62E+09	MMD	protein_coding
ENSG00000159167	-0.765212436110676	1,14E+05	STC1	protein_coding
ENSG00000165424	-0.779745701013421	0.00201887073644037	ZCCHC24	protein_coding
ENSG00000100292	-0.788032912686648	1,56E-08	HMOX1	protein_coding
ENSG00000280852	-0.797362410679192	8,05E+09		transcribed_processed_pseudogene
ENSG00000134901	-0.800065837046592	1,50E+01	KDEL1C1	protein_coding
ENSG00000122707	-0.80422437712145	8,85E+00	RECK	protein_coding
ENSG00000124333	-0.821164006970525	0.001063926300418	VAMP7	protein_coding
ENSG00000163739	-0.830247617837695	7,87E-09	CXCL1	protein_coding
ENSG00000100934	-0.853513747856206	2,65E-86	SEC23A	protein_coding

Ensembl gene ID	log2FoldChange	p value	HGNC symbol	gene biotype
ENSG00000140379	-0.86894797673122	8,70E+08	BCL2A1	protein_coding
ENSG00000148288	-0.869143781021503	0.00242307235870447	GBGT1	protein_coding
ENSG00000099804	-0.887349197992863	0.000133885541031604	CDC34	protein_coding
ENSG00000121274	-0.89027325793549	0.000650387915915273	PAPD5	protein_coding
ENSG00000235105	-0.892930043223598	0.00180970672071792		processed_pseudogene
ENSG00000213390	-0.900833404713182	2,94E-26	ARHGAP19	protein_coding
ENSG00000089041	-0.909789402061331	0.000452307810181628	P2RX7	protein_coding
ENSG00000204386	-0.93303469460238	0.00011623984562505	NEU1	protein_coding
ENSG00000186666	-0.934758512416185	0.000918937448595612	BCDIN3D	protein_coding
ENSG00000066117	-0.942415695936093	0.00200425715314589	SMARCD1	protein_coding
ENSG00000113083	-0.942955323350405	2,12E-48	LOX	protein_coding
ENSG00000169429	-0.951718455000476	8,00E-07	CXCL8	protein_coding
ENSG00000082146	-0.963907300080235	8,34E+06	STRADB	protein_coding
ENSG00000154582	-0.976291678587739	0.00142983361986796	ELOC	protein_coding
ENSG00000128699	-100.133.118.120.163	0.00014654224109863	ORMDL1	protein_coding
ENSG00000189227	-108.912.192.975.236	0.000705642432144648	C15orf61	protein_coding
ENSG00000165410	-108.956.209.785.806	0.000771928395160165	CFL2	protein_coding
ENSG00000174899	-11.005.851.578.077	0.0030255284717621	PQLC2L	protein_coding
ENSG00000144476	-110.725.877.058.259	4,11E+06	ACKR3	protein_coding
ENSG00000081041	-111.488.680.049.059	0.00085847221559386	CXCL2	protein_coding
ENSG00000174684	-114.633.690.815.927	4,03E-13	B4GAT1	protein_coding
ENSG00000171984	-116.312.178.158.406	0.00245338994406232	C20orf196	protein_coding
ENSG00000188906	-119.379.705.893.357	0.00233901922680108	LRRK2	protein_coding
ENSG00000081087	-127.889.073.859.194	1,30E-24	OSTM1	protein_coding
ENSG00000184752	-130.871.675.497.707	4,31E+09	NDUFA12	protein_coding

Ensembl gene ID	log2FoldChange	p value	HGNC symbol	gene biotype
ENSG00000182636	-131.846.373.876.123	1,34E+03	NDN	protein_coding
ENSG00000130222	-164.387.092.700.388	0.000185517498734289	GADD45G	protein_coding
ENSG00000233369	-115.398.276.571.192	2,30E+09	GTF2IP4	transcribed_processed_pseudogene
ENSG00000175548	-261.527.568.524.707	6,27E+08	ALG10B	protein_coding
ENSG00000203818	-371.705.388.658.652	0.00248477454188882	HIST2H3PS2	protein_coding
ENSG00000108825	-798.500.922.795.109	0.000711010460224698	PTGES3L-AARSD1	protein_coding
ENSG00000213943	0.587985889243156	0.00143606925852977	KRT18P17	processed_pseudogene
ENSG00000168209	0.597576149699436	3,63E+07	DDIT4	protein_coding
ENSG00000106537	0.597733187547293	0.00271860790446437	TSPAN13	protein_coding
ENSG00000158985	0.599413920593871	0.00011756361645188	CDC42SE2	protein_coding
ENSG00000141562	0.601630815908915	8,35E+07	NARF	protein_coding
ENSG00000159388	0.605083542421654	2,15E+05	BTG2	protein_coding
ENSG00000175264	0.605394773874569	0.000425227233274914	CHST1	protein_coding
ENSG00000128203	0.608075798747928	0.00358504593234682	ASPHD2	protein_coding
ENSG00000105810	0.61464021186409	2,22E-04	CDK6	protein_coding
ENSG00000071575	0.614799634644943	2,07E+07	TRIB2	protein_coding
ENSG00000184675	0.615242519591055	0.00347933909127795	AMER1	protein_coding
ENSG00000146072	0.619280996948098	6,36E-04	TNFRSF21	protein_coding
ENSG00000111912	0.61968828234916	0.000864792941856614	NCOA7	protein_coding
ENSG00000133874	0.621597846662272	0.00292785749612483	RNF122	protein_coding
ENSG00000099889	0.623787847627552	3,41E+07	ARVCF	protein_coding
ENSG00000181284	0.624906683421293	0.000634940110011621	TMEM102	protein_coding
ENSG00000171105	0.63338896415052	0.000118590438818491	INSR	protein_coding
ENSG00000133083	0.633480118511122	0.00122840931823547	DCLK1	protein_coding

Ensembl gene ID	log2FoldChange	p value	HGNC symbol	gene biotype
ENSG00000149573	0.635903324962663	6,98E-05	MPZL2	protein_coding
ENSG00000114315	0.639329867172576	0.000362165823867606	HES1	protein_coding
ENSG00000188811	0.645293609097237	6,20E+08	NHLRC3	protein_coding
ENSG00000078081	0.645867575767101	0.000393256554110373	LAMP3	protein_coding
ENSG00000135269	0.648160553582652	0.000169176025570413	TES	protein_coding
ENSG00000086712	0.660681064612718	1,80E+03	TXLNG	protein_coding
ENSG00000133627	0.662505954940455	0.000657579181075589	ACTR3B	protein_coding
ENSG00000165959	0.663799814988615	0.00120925231672195	CLMN	protein_coding
ENSG00000259623	0.670767186945949	5,42E+06		sense_overlapping
ENSG00000161040	0.67358456978045	0.00152552273840014	FBXL13	protein_coding
ENSG00000171791	0.675547396187128	0.00260434587644589	BCL2	protein_coding
ENSG00000056972	0.67565456640837	9,11E+06	TRAF3IP2	protein_coding
ENSG00000139116	0.67983971368407	8,95E+04	KIF21A	protein_coding
ENSG00000052795	0.681422467875935	2,23E-07	FNIP2	protein_coding
ENSG00000135622	0.687821070340484	0.000823591307269312	SEMA4F	protein_coding
ENSG00000135480	0.694500843303269	2,75E-21	KRT7	protein_coding
ENSG00000105976	0.702626515318126	3,27E+08	MET	protein_coding
ENSG00000197971	0.711908232037634	0.00056707347917147	MBP	protein_coding
ENSG00000198517	0.712870965568924	0.00335009252507504	MAFK	protein_coding
ENSG00000116138	0.714960094695562	0.00200660040730662	DNAJC16	protein_coding
ENSG00000101665	0.715631107894264	0.00023583164924336	SMAD7	protein_coding
ENSG00000179456	0.716797633744359	1,28E-02	ZBTB18	protein_coding
ENSG00000166897	0.730378898110816	1,03E+07	ELFN2	protein_coding
ENSG00000104450	0.741572979313027	1,78E+07	SPAG1	protein_coding
ENSG00000198740	0.744785465059016	0.00313271110824812	ZNF652	protein_coding

Ensembl gene ID	log2FoldChange	<i>p</i> value	HGNC symbol	gene biotype
ENSG00000272617	0.754966875730222	0.000646416122262426		protein_coding
ENSG00000147894	0.762812325658864	1,43E+09	C9orf72	protein_coding
ENSG00000126970	0.767354796253669	0.000204413052166175	ZC4H2	protein_coding
ENSG00000189164	0.770003674001871	0.000947802308902116	ZNF527	protein_coding
ENSG00000169087	0.771718269761412	0.000831946551216924	HSPBAP1	protein_coding
ENSG00000136869	0.772313908407749	1,03E-03	TLR4	protein_coding
ENSG00000049759	0.777335081252865	1,39E+03	NEDD4L	protein_coding
ENSG00000108179	0.779839904902356	2,84E-15	PPIF	protein_coding
ENSG00000196323	0.784009024330427	0.000379071300384087	ZBTB44	protein_coding
ENSG00000213983	0.806239906663446	3,87E+09	AP1G2	protein_coding
ENSG00000124120	0.806280814532387	0.00270840081316325	TTPAL	protein_coding
ENSG00000235109	0.814265656748186	0.000313307761566796	ZSCAN31	protein_coding
ENSG00000120756	0.818594935408422	0.00246610215567427	PLS1	protein_coding
ENSG00000164463	0.819417163482375	0.000173076613655866	CREBRF	protein_coding
ENSG00000102385	0.820928747145759	0.00207331711430881	DRP2	protein_coding
ENSG00000189410	0.82739787936999	0.00020133873702774	SH2D5	protein_coding
ENSG00000275993	0.828592037196402	0.00149390720887599	SIK1B	protein_coding
ENSG00000145358	0.829478236681893	0.000758326610682258	DDIT4L	protein_coding
ENSG00000079691	0.832162248646532	0.000685420020323039	CARMIL1	protein_coding
ENSG00000173065	0.843354190826361	0.000355873413628068	FAM222B	protein_coding
ENSG00000145287	0.846133706398049	0.000107321044405404	PLAC8	protein_coding
ENSG00000146083	0.861397768386269	6,85E+09	RNF44	protein_coding
ENSG00000071967	0.867753502114203	4,61E-10	CYBRD1	protein_coding
ENSG00000143367	0.871287908534822	4,60E+08	TUFT1	protein_coding
ENSG00000198889	0.871641167069611	1,57E+07	DCAF12L1	protein_coding
ENSG00000197375	0.879739160438194	0.00108575514735103	SLC22A5	protein_coding

Ensembl gene ID	log2FoldChange	<i>p</i> value	HGNC symbol	gene biotype
ENSG00000164976	0.882899518443072	8,93E+03	MYORG	protein_coding
ENSG00000102554	0.901966283293466	2,33E+07	KLF5	protein_coding
ENSG00000165244	0.912008496336801	2,24E-13	ZNF367	protein_coding
ENSG00000185697	0.914373361299223	4,35E+08	MYBL1	protein_coding
ENSG00000100625	0.915571283177859	5,65E+03	SIX4	protein_coding
ENSG00000269609	0.920571218499544	0.000410727287964765	RPARP-AS1	processed_transcript
ENSG00000240891	0.930335744895033	1,01E+04	PLCXD2	protein_coding
ENSG00000057294	0.93724227536298	7,76E+05	PKP2	protein_coding
ENSG00000125378	0.942211861853582	1,53E+08	BMP4	protein_coding
ENSG00000138771	0.943147091962238	5,31E+08	SHROOM3	protein_coding
ENSG00000163251	0.945621003563649	5,68E+06	FZD5	protein_coding
ENSG00000166908	0.95205237199239	7,28E+06	PIP4K2C	protein_coding
ENSG00000173875	0.993146904062026	4,25E+08	ZNF791	protein_coding
ENSG00000109906	100.653.186.569.371	0.00373320958517015	ZBTB16	protein_coding
ENSG00000118804	100.689.524.668.013	0.000671545467164105	STBD1	protein_coding
ENSG00000100784	10.202.879.899.399	0.000395293721925771	RPS6KA5	protein_coding
ENSG00000173156	103.418.738.921.649	8,82E+07	RHOD	protein_coding
ENSG00000065923	104.429.347.454.235	0.000190349841503729	SLC9A7	protein_coding
ENSG00000255624	105.104.019.157.999	0.00132086863113063		transcribed_processed_pseudogene
ENSG00000114529	10.894.219.485.309	7,49E+08	C3orf52	protein_coding
ENSG00000174640	109.222.344.769.868	3,54E+09	SLCO2A1	protein_coding
ENSG00000128833	109.394.110.723.591	0.000126906591239205	MYO5C	protein_coding
ENSG00000164114	110.232.815.152.113	0.000111118811316268	MAP9	protein_coding
ENSG00000184117	110.955.779.713.758	3,18E+09	NIPSNAP1	protein_coding

Ensembl gene ID	log2FoldChange	<i>p</i> value	HGNC symbol	gene biotype
ENSG00000106852	111.018.931.503.806	0.000741184495667419	LHX6	protein_coding
ENSG00000111424	111.905.406.208.171	0.000500877211699353	VDR	protein_coding
ENSG00000177076	115.567.460.980.479	4,49E+09	ACER2	protein_coding
ENSG00000183691	116.458.960.124.156	9,62E+08	NOG	protein_coding
ENSG00000126562	118.139.889.845.957	4,10E+09	WNK4	protein_coding
ENSG00000106692	121.396.569.250.191	0.00364133386971977	FKTN	protein_coding
ENSG00000101306	130.777.180.411.487	5,01E+09	MYLK2	protein_coding
ENSG00000132849	130.810.533.276.893	6,60E+07	PATJ	protein_coding
ENSG00000116675	131.254.398.910.589	1,32E+07	DNAJC6	protein_coding
ENSG00000120337	135.159.147.530.903	2,09E-29	TNFSF18	protein_coding
ENSG00000168672	137.989.925.365.319	3,38E-03	FAM84B	protein_coding
ENSG00000144228	138.625.190.267.157	0.000680594872415992	SPOPL	protein_coding
ENSG00000182272	14.367.059.723.608	0.00152732022881098	B4GALNT4	protein_coding
ENSG00000233251	147.867.702.708.974	0.000903066635845831		antisense
ENSG00000153094	15.543.062.223.722	0.000414952569581912	BCL2L11	protein_coding
ENSG00000156675	180.539.412.249.995	1,90E+07	RAB11FIP1	protein_coding
ENSG00000281344	238.628.511.469.846	0.00182228114766388	HELLPAR	macro_lncRNA
ENSG00000130962	242.298.868.383.795	0.000736762505129227	PRRG1	protein_coding
ENSG00000260342	217.853.106.939.651	2,72E+07		protein_coding
ENSG00000280987	535.111.111.826.855	0.000921383418837557		protein_coding

HGNC: Hugo Gene Nomenclature Committee

Supplemental Table 4: Functional high throughput screening to detect siRNAs that interfere with endothelial cell proliferation

Gene	% of EdU⁺/MOCK
CFL2	-3,98987677
KDELC1	-2,230166603
CXCL8	-2,209103936
RECK	-1,75987419
NDN	-1,253524168
AP1S2	-1,222723063
FSCN1	-0,918793167
MAPK6	-0,954316891
ESM1	-1,063123001
METTL14	-0,036903739
RAPGEF5	-0,455887281
ADAMTS4	-0,498518832
ETS1	-0,159134882
PAPD5	-0,677151277
PLAT	-0,693904435
LHFPL6	-0,263460242
XKR8	-0,389453135
FAM35A	-0,797723838
PIP4K2A	-0,298745764
FHOD1	-0,176601637
OSTM1	-0,426871998
PMAIP1	-0,54783802
HMOX1	-0,017324709
PTPN22	0,100539101
SERPIN	0,280522663
P2RX7	-0,256724754
GADD45G	-0,161200014
ZCCHC24	0,056511913
LOX	0,204688623
STRADB	0,259235377
STC1	0,401802716

EdU: 5'-Ethylnyl-2'-deoxyuridine

MOCK: scrambled siRNA, control