

Antisense/decoy ODN transfection (in vitro)

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No.	Author	Reference	PMID	Cell	Origin	decoy/antisense ODN target	Remarks
1	S. Akagi et al.	<i>J. Am. Soc. Nephrol.</i> , 15, 3215-3224 (2004).	15579525	primary CD34 ⁺ cell	Human blood (EPO-H, EPO-R patients)	SHP-1 antisense ODN	pEGFP-Luc plasmid:primary CD34 ⁺ cell
2	S. F Feigl et al.	<i>J. Clin. Invest.</i> , 115, 3057-3071 (2005).	16239967	HeLa, Raji cell	Human Cervix Adenocarcinoma, Human B lymphocyte(Burkitt's lymphoma)	NF-κB decoy ODN	
3	S. F Feigl et al.	<i>Nature Med.</i> , 12, 99-106 (2006).	16327802	THP-1, MM6(Mono Mac6)	Human monocytic cell, Human monocytic cell	STAT-6, NF-κB, AP-1 decoy ODN	Luc.plasmid:THP-1, MM6
4	Y. Miyazaki et al.	<i>Am. J. Pathol.</i> , 169, 697-707 (2006).	16877367	primary HDMECs	Human dermal microvascular endothelial cell	STAT-6, NF-κB decoy ODN	
5	Y. Kubota et al.	<i>J. Immunol.</i> , 178, 2923-2931 (2007).	17312137	primary macrophage	C3H mouse peritoneal resident	Mcl-1 antisense ODN	
6	G. Son et al.	<i>Am J Physiol Gastrointest Liver Physiol.</i> , 293, 631-639 (2007).	17640975	primary macrophage primary HSC	Mouse liver Rat Hepatic stellate cell	NF-κB decoy ODN	FITC labeled NF-κB decoy:almost 100%
7	KF.Takahashi et al.	<i>BMC Dev Biol.</i> 10(1), 115. (2010).	21108791	mandibles (organ culture)	E10.5 Mouse Embryo	Prtg(Protogenin) decoy ODN	organ culture
8	Y. Nakamura et al.	<i>Int. Arch. Allergy Immunol.</i> , 155, 129-140 (2011).	21196757	CD3+ T cells	Mouse	Ribbon-type NFAT decoy ODN	100nM
9	Y. F. Ookuma et al.	<i>Histochem. Cell Biol.</i> , 139(2) 355-370 (2013).	23052839	mandibles at E11.0 tooth germs at E15.0	Mouse Embryo	Tβ4 antisense s-ODN	organ culture
10	Y. Matsuishi et al.	<i>Biochem. Biophys. Res. Commun.</i> , 495(2), 1655-1660 (2018).	29223396	Tooth germs (mandibles at E18.5)	Mouse Embryo	mouse DRP1 antisense ODN	organ culture

siRNA transfection / miRNA transfection (in vitro)

No.	Author	Reference	PMID	Cell	Origin	siRNA/miRNA target	Remarks
1	Y. Itoh et al.	<i>Nature</i> , 422(13), 173-176 (2003).	12629551	MIN6	Mouse pancreatic βcell	GPR40	
2	T. Ishii et al.	<i>J. Immunol.</i> , 170(1), 3653-3661 (2003).	12646630	Jurkat	Human acute T cell leukemia	SS-A/Ro52	
3	C. Kojima et al.	<i>EMBO J.</i> , 23, 4413-4422 (2004).	15483625	C2C12	Mouse myoblast(differentiated)	Bin1	
4	K. Ohnuma et al.	<i>Proc. Natl. Acad. Sci. USA</i> , 101(39),14186-14191 (2004).	15353589	primary monocyte	Human monocyte	Caveolin-1	
5	A. Watanabe et al.	<i>J. Mol. Cell. Cardiol.</i> , 37(3), 691-698 (2004).	15350842	primary cardiac myocyte	Rat cardiac myocyte	phospholamban	
6	M. Asada et al.	<i>Mol. Cell. Biol.</i> , 24(18), 8236-8243 (2004).	15340083	U937	Human leukemic monocyte cell	Brp2	
7	R. Kuribara et al.	<i>Mol. Cell. Biol.</i> , 24(14), 6172-6183 (2004).	15226421	K562	Human chronic myelogenous leukemia	Bim	
8	T. Matsumoto et al.	<i>EMBO J.</i> , 24, 2342-2353 (2005).	15962004	HUVEC	Human umbilical vein endothelial cell	TSAd (T-cell specific adapter)	
9	T. Takada et al.	<i>Biochem. Biophys. Res. Commun.</i> , 331(4),1039-1044 (2005).	15882982	CMK6G3	Monkey ES cell (stably expresses EGFP)	EGFP	
10	K. Ohnuma et al.	<i>Mol. Cell. Biol.</i> , 25,7743-7757 (2005).	16107720	primary monocyte	Human monocyte	Tollip(Toll-interacting protein), IRAK-1(IL-1 receptor-associated serine/threonine kinase 1)	
11	S. Sangkhathat et al.	<i>Int. J. Oncology</i> , 28, 715-722 (2006).	16465377	HuH-6, HuH-7, HepG2	Human hepatoblastoma cell, Human Hepatocellular carcinoma cell	β-catenin	
12	S. F Feigl et al.	<i>Nature Med.</i> , 12, 99-106 (2006).	16327802	J774	Mouse macrophage cell	IL-13 Receptor α2	
13	D. D Feng et al.	<i>Endocrinology</i> , 147, 674-682 (2006).	16254037	MIN6	Mouse pancreatic β cell	GPR40	
14	K. Ohnuma et al.	<i>J. Biol. Chem.</i> , 282(13), 10117-10131 (2007).	17287217	primary T cell	Human peripheral blood	Human CARMA1	
15	Y. Nakamichi et al.	<i>J. Immunol.</i> , 178, 192-200 (2007).	17182555	primary calvarial osteoblasts	Mouse calvarial osteoblasts	OPG (Osteoprotegerin)	
16	A. Masuda et al.	<i>J. Immunol.</i> , 178, 360-368 (2007).	17182574	primary mast cell	Mouse bone marrow-derived	GATA-1,GATA-2	
17	H. Iguchi et al.	<i>J. Biol. Chem.</i> , 282(26), 19052-19061(2007).	17412698	INS-1E, NIH-3T3	Rat β cell, Mouse embryonic fibroblast	Sox6	
18	Y. Kubota et al.	<i>J. Immunol.</i> , 178, 2923-2931 (2007).	17312137	primary macrophage	C3H mouse peritoneal resident	Mcl-1	
19	M. Shimada et al.	<i>Mol. Endocrinol.</i> , 21, 2487-2502 (2007).	17595323	primary granulosa cell	Mouse granulosa cell	Snap25 (Synaptosomal associated protein 25)	
20	Y. Yamashita et al.	<i>Endocrinology</i> , 148, 6164-6175 (2007).	17901238	primary granulosa cell	Rat granulosa cell	TACE/ADAM17	
21	E. Saito et al.	<i>J. Atheroscler.Thromb.</i> , 14, 317-324 (2007).	18174662	BASMC	Bovine aortic smooth muscle cell	Bovine TE(tropoelastin)	

No.	Author	Reference	PMID	Cell	Origin	siRNA/miRNA target	Remarks
22	Y. Tsuchiya <i>et al.</i>	<i>Free Radical Biology and Medicine</i> , 43(12), 1604-1615 (2007).	18037126	U937	Human leukemic monocyte cell	Human cathepsin G	
23	Y. Nimura <i>et al.</i>	<i>Int. J. Oncol.</i> , 30(6), 1477-1484 (2007).	17487369	A549, H1299, TE13, PCNA-1, MIAPaCa-2, Du-145, ME-180	Human lung carcinoma, Human esophageal carcinoma, Human pancreas carcinoma, Human prostate carcinoma, Human cervical carcinoma	Ku80	siRNA + 2Gy irradiation
24	Y. Sawa <i>et al.</i>	<i>J. Histochem. Cytochem.</i> , 56, 97-109 (2008).	17938282	HMVEC-dLyNeo(LEC)	Human neonatal dermal lymphatic microvascular endothelial cell	TLR4	siRNA(30uM)
25	T. Saito <i>et al.</i>	<i>British J. Cancer</i> , 98, 345-355 (2008).	18195712	U251MG, D54MG	Human glioma(p53 mutated at codon 273) Human glioma(p53 wild type)	Survivin, p53	
26	M. Shimada <i>et al.</i>	<i>Development</i> , 135, 2001-2011 (2008).	18434414	granulosa cell	Mouse granulosa cell	TLR2, TLR4	siRNA(25nM)
27	H-Y Fan <i>et al.</i>	<i>Development</i> , 135, 2127-2137 (2008).	18506027	granulosa cell	Mouse granulosa cell	Mkp3	siRNA(50nM)
28	H. Mukaide <i>et al.</i>	<i>Cancer Invest.</i> , 26, 385-390 (2008).	18443959	COLO201	Human colon cancer	FKBP51	
29	J J. Konkright <i>et al.</i>	<i>Am. J. Respir. Cell Mol. Biol.</i> , 42, 181-189(2010).	19423771	alveolar type II epithelial cells	Mouse alveolar type II epithelial cells	Nedd4, Nedd4-2	siRNA(200pmol)
30	J P. Bridges <i>et al.</i>	<i>J. Clin. Invest.</i> , 120(5), 1736-1748 (2010).	20407208	primary alveolar type2 cell	mouse lung alveolar type2 cell	LPCAT1(lung lysophosphatidylcholine acyltransferase)	
31	A.Watanabe <i>et al.</i>	<i>Cardiovasc. Res.</i> , 90(1), 57-67 (2011).	21113058	Primary neonatal cardiac ventricular myocyte	Rat primary neonatal cardiac ventricular myocyte	Mitochondriak Transcription Factors(TFAM,TFBZM)	siRNA(100nM)
32	F. Jafarifar <i>et al.</i>	<i>EMBO J.</i> , 30, 1324-1334 (2011).	21343907	U937	Human leukemic monocyte cell	VEGFA(vascular endothelial growth factor-A)	miRNA(200nM)
33	S. Koyanagi <i>et al.</i>	<i>J. Biol. Chem.</i> , 286, 32416-32423 (2011).	21768648	Mouse suprachiasmatic nucleus slice cultures	Mouse suprachiasmatic nucleus	Atf4 (Activating transcription factor4)	siRNA(20 pmol/ml)
34	B. Kosmider <i>et al.</i>	<i>PLoS One</i> . 6(12), e26059 (2011).	22163265	Human alveolar epithelial type I-like (ATI-like) cells	Human alveolar epithelial	Nrf2	siRNA(300nM)
35	Y. Kobayashi <i>et al.</i>	<i>PLoS One</i> . 6(12), e27627 (2011).	22205926	U937	Human leukemic monocyte cell	PP2A catalytic subunit α	siRNA
36	S. M. Tietz <i>et al.</i>	<i>J. Biomol. Tech.</i> , 12, 2302-2305 (2012)	22951959	U937	Human leukemic monocyte cell	MAPK-activated kinase 2(Mk2)	siRNA
37	B. Kosmider <i>et al.</i>	<i>Respir. Res.</i> , 13(1), 43, (2012).	22672594	Human alveolar epithelial type I-like (ATI-like) cells	Human alveolar epithelial	Nrf2	siRNA(100nM)
38	Y. Kobayashi <i>et al.</i>	<i>Pulm. Pharmacol. Ther.</i> , 25(3), 201-207 (2012).	22401993	U937	Human leukemic monocyte cell	Protein phosphatase 2A catalytic subunit α (PP2A α)	siRNA
39	T. Saito <i>et al.</i>	<i>Circulation</i> , 127(1), 104-114 (2013).	23172836	Artery smooth muscle cells	Porcine	ROCK2, MLCK, ZIPL, ROR α	siRNA(100nM)
40	A. Funayama <i>et al.</i>	<i>Cardiovasc. Res.</i> , 599(4), 657-664 (2013).	23708738	primary cardiomyocytes	Neonatal rat	HMGB1	siRNA
41	M. Fujiya <i>et al.</i>	<i>Oncogene</i> . 33(40),4847-4856 (2014).	24166503	Caco2, HT29, HCT116, SKCO1, SW480, SW620	Human colon cancer cell	microRNA-18a hn RNP A1	miRNA siRNA
42	Y. Tanaka <i>et al.</i>	<i>BMC Cancer</i> , 14(1), 27 (2014).	24428916	HL-60	Human promyelocytic leukemia cell	human BIMEL	siRNA
43	Y. Hayashi <i>et al.</i>	<i>PLoS ONE</i> , 9(5), e98586 (2014).	24879416	HL-60	Human promyelocytic leukemia cell	TIF-IA	siRNA
44	P. Silveyra <i>et al.</i>	<i>Experimental Lung Research</i> , 40(7) 354-366 (2014).	25058539	Human alveolar type II cells	Human alveolar epithelial	Drosha	siRNA(50nM) (Knockdown: 48h 50%, 72h 70%)
45	D. Llobet-Navas <i>et al.</i>	<i>Mol. Cell Biol.</i> , 34(23), 4216-4231 (2014).	25266660	MCF-10A cells	Human breast basal epithelial cell	synthetic miRIDIAN-Mimic-424 and -503	miRNA(100nM)
46	R. Hatano <i>et al.</i>	<i>J. Immunol.</i> 194(3), 960-972 (2015).	25548232	purified CD4 + T cells	Human peripheral blood		siRNA(50p mol)

No.	Author	Reference	PMID	Cell	Origin	siRNA/miRNA target	Remarks
47	A. Sakurabashi <i>et al.</i>	<i>J. Steroid. Biochem. Mol. Biol.</i> , 149, 80-88 (2015).	25661920	THP-1	Human acute monocytic leukemia cell	CCAR2	siRNA
48	T. Narumi <i>et al.</i>	<i>J. Mol. Cell Cardiol.</i> , 82 1-12 (2015).	25736854	primary cardiomyocytes	Neonatal rat	HMGB1, HSPB1	siRNA/
49	S. Lin <i>et al.</i>	<i>J. Biol. Chem.</i> , 290 (30), 18559-18574 (2015).	26048993	Mouse alveolar type II cells	Mouse	StraD10	StraD10 Stealth RNAi siRNA
50	M. Kawaguchi <i>et al.</i>	<i>J. Dermatol. Sci.</i> , 78(2) 133-142 (2015).	25818872	Normal human epidermal melanocytes	Human	BACE2	siRNA
51	Y. Saito <i>et al.</i>	<i>PLoS One.</i> , 10(9) e0137079 (2015).	26325290	YN-1 K-562	Human erythroleukemia cell line Human chronic myelogenous leukemia	GATA-2 transcription	siRNA (High-Throughput siRNA Screening)
52	PL. Butler <i>et al.</i>	<i>J. Biol. Chem.</i> , 290(20) 12497-12503 (2015).	25787079	mpkCCD(c14) cells	mouse renal collecting duct principal cell	HDAC7	siRNA
53	H. Konishi <i>et al.</i>	<i>Biochem. Biophys. Res. Commun.</i> , 67(4), 847-852 (2015).	26494299	SW-620	Human colon cancer cell lines	Heterogeneous ribonucleoprotein A1 (hnRNP A1)	miRNA(miR-26a, miR-584)
54	F Monickaraj <i>et al.</i>	<i>FASEB J.</i> , 30(4) 1670-1682 (2016).	26718887	U937	Human leukemic monocyte cell		siRNA
55	N. Wang <i>et al.</i>	<i>Mol. Med. Rep.</i> , 13(3) 2175-2181(2016).	26783193	primary cardiomyocytes	Neonatal rat	Netrin-1	siRNA
56	A. Mitani <i>et al.</i>	<i>Am. J. Respir. Crit. Care Med.</i> , 193(2),143-153 (2016).	26426522	U937	Human leukemic monocyte cell	c-Jun	siRNA
57	Y. Otaki <i>et al.</i>	<i>J.Am.Heart Assoc.</i> , 5, e002485 (2016).	26796253	primary cardiomyocytes	Neonatal rat	ITCH	siRNA
58	Y Kobayashi <i>et al.</i>	<i>Respir. Res.</i> , 17, 30 (2016).	27013170	U937	Human leukemic monocyte cell	PTP-N5, PTP-N7, PTP-RR and PP2AC α	siRNA
59	T.J. LaRocca <i>et al.</i>	<i>J. Biol. Chem.</i> , 291(26) 13753-13761(2016).	27129772	U937	Human leukemic monocyte cell	RIP1	siRNA
60	H Takahashi <i>et al.</i>	<i>Oncogene</i> , 36(30) 4267-4276 (2017).	28346428	REH	Human lymphoblast	TP53, BECN1,ATG5 , ATG7	siRNA (10 nM)
61	Y. Kobayashi <i>et al.</i>	<i>Molecular Pharmacology</i> , 91 (5) 475-481(2017).	28283554	U937	Human leukemic monocyte cell		siRNA
62	H. Tsukamoto <i>et al.</i>	<i>Cancer Res.</i> , 77(9) 2279-2291(2017).	28235765	anti-CD3/CD28 Abs-stimulated T cells	Mouse T cell	Stat3	siRNA (100pmol)
63	F. Lasitschka <i>et al.</i>	<i>Immun. Inflamm. Dis.</i> , 5(4) 480-492(2017).	28681454	PBMO	Human Peripheral blood monocytes	Human PU.1	siRNA
64	H. Zhang <i>et al.</i>	<i>J. Immunol.</i> , 198(11), 4383-4393 (2017).	28424239	ATII cells AMs	Primary human alveolar type II cell Human alveolar macrophage	Human AIM2	siRNA(50 nM)
65	Y. Ishikawa <i>et al.</i>	<i>Oncogenesis</i> , 6, e377 (2017).	28892104	TF-1a cell	Human acute myeloid leukemia cell	siCTRL, LSD1, GF11B, GF11, DTL	siRNA
66	K. Nakayama <i>et al.</i>	<i>Oncotarget</i> , 9(26) 18480-18493 (2018).	29719619	NCI-H929	Human B lymphocyte		siRNA
67	SR. Zuo <i>et al.</i>	<i>J. Cancer .</i> 9(2), 321-330 (2018).	29344279	SMMC-7721	Human Hepatocellular carcinoma cellline	SMYD2	siRNA
68	Y. Kato <i>et al.</i>	<i>Am. J. Respir. Cell Mol. Biol.</i> , 59(4), 448-457(2018).	29698614	Nasalepithelial cells		CRLF2, IL1RL	siRNA

Protein/Peptide transfection (in vitro)

No.	Author	Reference	PMID	Cell	Origin	protein/peptide	Remarks
1	S. Yuki <i>et al.</i>	<i>Eur. J. Biochem.</i> , 271(17), 3567-3572 (2004).	15317592	K562, SAS, G-402, BHK-21	continuous human chronic myelogenous leukemia cell, poorly differentiated human squamous cell carcinoma line, human renal leiomyoblastoma, baby hamster kidney cellline	RNaseT1	
2	Y. Kubota <i>et al.</i>	<i>Int. J. Radiat. Biol.</i> , 81(6), 459-472 (2005).	16249161	primary macrophage	C3H mouse peritoneal resident	SOD (Superoxido dismutase)	
3	T. Matsumoto <i>et al.</i>	<i>EMBO J.</i> , 24, 2342-2353 (2005).	15962004	HUVEC	Human umbilical vein endothelial cell	synthetic biotinylated peptide, synthetic phosphorylated peptide	
4	K. Kitadokoro <i>et al.</i>	<i>Proc. Natl. Acad. Sci. USA</i> , 104(12), 5139-5144 (2007).	17360394	Swiss 3T3	Mouse embryonic fibroblasts	PMT(Pasteurella multocida toxin)	
5	S. Kamitani <i>et al.</i>	<i>J. Biol. Chem.</i> , 285(33), 25467-25475 (2010).	20534589	Swiss 3T3	Mouse embryonic fibroblasts	PMT(Pasteurella multocida toxin)	
6	S. Matsuda <i>et al.</i>	<i>PLoS Pathog.</i> , 8(7), e1002803 (2012).	22829766	HeLa	Human Cervix Adenocarcinoma	Vep A (toxin)	
7	E. Hernandez-Cuellar <i>et al.</i>	<i>J. Immunol.</i> , 189(11), 5113-5117(2012).	23100513	primary macrophage		flagellin	175ng
8	H. Hara <i>et al.</i>	<i>Nature Immunol.</i> , 14, 1247-1255 (2013).	24185614	primary macrophage	Mouse peritoneal macrophage	flagellin	15ng
9	F. Chen <i>et al.</i>	<i>Stem Cell Res. Ther.</i> , 7(1) 99 (2016).	27473118	primary fibroblasts	Human	recombinant Yamanaka transcription factors (Sox2, Oct4, Klf4, and c-Myc)	High-efficiency generation of induced pluripotent mesenchymal stem cells from human dermal fibroblasts using recombinant proteins
10	W. WU <i>et al.</i>	<i>Exp. The r. Med.</i> , ,6, 2685-2690 (2017).	28587331	fibroblasts	Human	<ul style="list-style-type: none"> •Oct4 and C/EBPB protein •Sox2, GATA-3 and neurogenic differentiation 1 (NEUROD1) protein •Oct4, FoxA2, HNF1α and GATA-3 I protein 	<ul style="list-style-type: none"> •Oct4 and C/EBPB directly reprogram fibroblasts into adipocytes. •Sox2, GATA-3 and neurogenic differentiation 1 (NEUROD1) induce direct neurogenic reprogramming. •Oct4, FoxA2, HNF1α and GATA-3 induce direct hepatogenic reprogramming.

Antibody delivery into living cells (in vitro)

No.	Author	Reference	PMID	Cell	Origin	Monoclonal antibody	Remarks
1	Y. Kondo <i>et al.</i>	<i>J. Immunol. Methods</i> , 332, 10-17 (2008).	18221753	HeLaS3, Hs68, A549, SAS, HT1080MCF-7, WI38, BNL-CL2, BHK-21, Raw264.7, Jurkat, P19, 3T3-L1		anti-NPC, anti-alpha tubulin, anti-alpha adaptin, anti-NFkB, control IgG (mouse, rat, human, rabbit, goat)	
2	S. Balasubramanian <i>et al.</i>	<i>PLoS One.</i> , 5(7), e11470 (2010).	20635003	adult feline cardiomyocytes	adult feline cardiomyocytes	beta-actin antibody	

Bioimaging (in vitro , ex vivo)

No.	Author	Reference	PMID	Cell	Origin	Magnetic labeling	Remarks
1	K. Toyoda <i>et al.</i>	<i>Neuroreport</i> , 15 (4), 589-593 (2004).	15094458	PC-12, astrocyte	Rat pheochromocytoma cell, Mouse astrocyte	Feridex (superparamagnetic iron oxide particles)	labeled-cells were injected into rat brain <local injection>
2	JA Flexman <i>et al.</i>	<i>Conf Proc IEEE Eng Med Biol Soc.</i> , 7, 5246-5249 (2004).	17271523	PC-12	Rat pheochromocytoma cell	Feridex (superparamagnetic iron oxide particles)	

No.	Author	Reference	PMID	Cell	Origin	Magnetic labeling	Remarks
3	S. Miyoshi <i>et al.</i>	<i>Mol. Imaging Biol.</i> , 7(4), 286-295 (2005).	16080022	PC-12	Rat pheochromocytoma cell	Feridex (superparamagnetic iron oxide particles)	
4	Y. Song <i>et al.</i>	<i>Histol. Histopathol.</i> , 21(7), 705-711 (2006).	16598669	microglial cell	Mouse microglial cell	Resovist (superparamagnetic iron oxide particles)	pCAG-EGFP:microglial cell (in vitro transfection) labeled-cells were injected into neck's carotid artery(for rat brain) <systemic injection>
5	K.Takata <i>et al.</i>	<i>FEBS Letters</i> , 581, 475-478(2007).	17240371	microglial cell	Rat microglial cell	Resovist (superparamagnetic iron oxide particles)	Resovist labeled-rat microglia cells were transplanted into the left lateral ventricle. <local injection>
6	N.Takehara <i>et al.</i>	<i>J. Am. Coll. Cardiol.</i> , 52(23), 1858-1865 (2008).	19038683	Cardiosphere-derived cell	Human Cardiosphere-derived cell	Superparamagnetic iron oxide (SPIO)	
7	T.Takimoto <i>et al.</i>	<i>Chem. Mater.</i> , 22 (11), 3462-3471 (2010).		HeLa	Human Cervix Adenocarcinoma	Fluorescent Diamond Nanoparticles	
8	JA. Flexman <i>et al.</i>	<i>Mol. Imaging Biol.</i> , 13(1), 104-111 (2011).	20440567	Primary neural stem cells	Rat fetal striatum	Superparamagnetic iron oxide (SPIO) particles (Feridex IV)	
9	M. Kawamura <i>et al.</i>	<i>Circulation</i> , 128, S87-594 (2013).	24030425	Cardiomyocytes	Human Induced Pluripotent Stem Cell-Derived	superparamagnetic iron oxide (SPIO) ferucarbotran(Resovist)	
10	M. Kawamura <i>et al.</i>	<i>Sci. Rep.</i> , 7(1) 8824 (2017).	28821761	Cardiomyocytes	Human iPS cell-derived cardiomyocytes	superparamagnetic iron oxide (SPIO) ferucarbotran(Resovist)	

Plasmid DNA transfection (in vitro, ex vivo)

No.	Author	Reference	PMID	Cell	Origin	plasmid DNA transfected	Remarks
1	T. Watanabe <i>et al.</i>	<i>Nature Immunol.</i> , 5, 800-808 (2004).	15220916	primary mouse CD11b ⁺ macrophage	Card15 ^{-/-} mouse(from splenocyte)	NOD2(Nucleotide-binding oligomerization domain 2)	13.8μL(1μg/μL)
2	Y. Ikeda <i>et al.</i>	<i>Hypertens. Res.</i> , 27(2), 119-228 (2004).	15005275	primary Mononuclear cell	Human	hVEGF(Vascular endothelial growth factor)	100ng plasmid/24-well
3	J. Eguchi <i>et al.</i>	<i>Biochem. J.</i> , 387, 343-353 (2005).	15563274	CHO-K1	chinese-hamster ovary	ACAM(adipocyte adhesion molecule) cDNA	Stable transfectant
4	J. Ohishi <i>et al.</i>	<i>J. Control. Release</i> , 110(2), 431-436 (2006).	16309776	NIH-3T3	Mouse	PAK-pEGFP-C1complex (PAK:polyacrylamide possessing substrate for protein kinase A) , Luciferase	
5	T. Nishikawa <i>et al.</i>	<i>Hum. Gene Ther.</i> , 17(4), 470-475 (2006).	16610935	HAECs, ASMCs	Human aortic endothelial cells, Human aortic smooth muscle cells	human heart cDNA library, Luciferase	pLuc:10μg
6	Y. Nakamichi <i>et al.</i>	<i>J. Immunol.</i> , 178, 192-200 (2007).	17182555	primary calvarial osteoblasts	OPG ^{-/-} (C57BL/6) mouse	OPG(Osteoprotegerin)	20μL(3μg/μL)
7	T. Shimamura <i>et al.</i>	<i>J. Immunol.</i> , 181, 4656-4665 (2008).	18802068	Hepatic stellate cell	Human	pTGF-β1-Luciferase and pSV-β-galactosidase	pTGF-β1-Luciferase (250ng) pSV-β-galactosidase(25ng)/ 96-well plate
8	T. Akaike <i>et al.</i>	<i>J. Biol. Chem.</i> , 284(36), 24025-24034 (2009).	19567868	Primary Rat DA SMC	Rat ductus arteriosus smooth muscle cell	rat α1G cDNA	
9	M. Sato <i>et al.</i>	<i>J. Biol. Chem.</i> , 284(45), 31431-31440 (2009).	19723622	cultured rat neonatal cardiomyocytes	Rat neonatal cardiomyocytes	AGS8(Activator of G protein signaling 8)	The transfection efficiency was approximately 50-60% , as estimated by fluorescence of the pEGFP vector.
10	J. L Espinoza <i>et al.</i>	<i>PLoS One</i> , 7(12), e51306 (2012).	23251493	Lcl (Lymphoblastoid cell lines)		NFκB-Luc.	Stable transfectant
11	R. Zhou <i>et al.</i>	<i>J. Biol. Chem.</i> , 288, 5389-5397 (2013).	23297398	MpkCCDC14	Mouse cortical collecting duct cell line	USP(Ubiquitin Specific Peptidase) 8	2.8μg
12	Y. Kitamura <i>et al.</i>	<i>J. Biol. Chem.</i> , 289, 2788-2800 (2014).	24338479	Neonatal cardiomyocytes	Rat neonatal cardiomyocytes	Apoptosis Regulator through Modulating IAP Expression	
13	S.Yoshino <i>et al.</i>	<i>Endocrinology</i> , 155(9), 3459-3572 (2014).	25004093	Mouse primari hepatocyte	Mouse	mouse Helz2	
14	SL. Lin <i>et al.</i>	Transl. Stroke Res. 2018 (in press)	30191468	primary rat vascular smooth muscle cells	Rat	Extracellular superoxide dismutase (EC-SOD)	
15	K. Kato <i>et al.</i>	<i>Nature Communications</i> 9, 4424 (2018)	30356045	THP-1	Human acute monocytic leukemia cell	Human ENPP1 expression plasmid, pGL4-IFN-β-promoter-Luc plasmid, pRL-TK Renilla-Luc plasmid	GenomONE-GX

Review

No	Author	Reference	PubMed ID	Remarks
1	Y. Kaneda <i>et al.</i>	<i>Mol. Ther.</i> , 6(2), 219-226 (2002).	12161188	
2	Y. Kaneda	<i>Curr. Drug Targets</i> , 4(8), 599-602 (2003).	14577648	
3	H. Kotani <i>et al.</i>	<i>Curr. Gene Ther.</i> , 4(2), 183-194 (2004).	15180584	
4	Y. Kaneda <i>et al.</i>	<i>Adv. Genet.</i> , 53, 307-332 (2005).	16240999	
5	Y. Kaneda <i>et al.</i>	<i>Cancer Sci.</i> , 97(5), 348-354 (2006).	16630130	
6	Y. Kaneda	<i>Expert Opinion Drug Deliv.</i> , 5(2), 221-233 (2008).	18248320	
7	Q. Zhang <i>et al.</i>	<i>Biochem Biophys Res Commun</i> , 373, 345-349 (2008).	18588856	
8	P E.Lund <i>et al.</i>	<i>Pharm. Res.</i> , 27(3), 400-420 (2010).	19998056	
9	Y. Kondo <i>et al.</i>	<i>Curr. Protoc. Immunol.</i> , 2, Unit 2.16.1-12 (2010).	20376843	
10	Y. Kondo <i>et al.</i>	<i>Curr. Protoc. Immunol.</i> , 10, Unit 10.17D.1-9 (2010).	20376840	
11	T. Amatsubo <i>et al.</i>	<i>Magn. Reson. Med. Sci.</i> , 9(3), 95-99 (2010)	20885081	
12	Y. Kaneda	<i>Expert. Opin. Drug Deliv.</i> , (9), 1079-1093 (2010)	20716020	
13	A. Kitani <i>et al.</i>	<i>Curr. Protoc. Immunol.</i> , 10, Unit 10.17E.1-9 (2010).	21053301	
14	Y. Kaneda	<i>BMB Rep.</i> , 43(12), 773-780 (2010).	21189152	
15	Y. Kaneda	<i>Adv. Drug Deliv. Rev.</i> , 64(8), 730-738 (2012).	21443915	
16	F. Kato <i>et al.</i>	<i>J. Genet. Syndr. Gene Ther.</i> , 4, 178 (2013).		siRNA/miRNA transfection

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