

Technical Note

Publications on *in vivo* delivery of nucleic acid with Polyplus reagents by target organs/tissue

Reagent used: *in vivo*-jetPEI®, unless specified

Target organ	DNA, oligonucleotides and plasmid-based shRNA	siRNA and RNA
Adipose tissue		siRNA delivery Kim <i>et al.</i> (2017). <i>J Hepatol</i> , 67, 349-59 Rat, intravenous injection miRNA, mimic miRNA delivery Giroud <i>et al.</i> , (2016) <i>Sci Rep</i> 6 :28613 Cioffi <i>et al.</i> (2015). <i>Cell Rep</i> , 12, 1594-605 Mouse, local injection (Fat Pad)
Airway tract		siRNA delivery Aguilera-Aguirre <i>et al.</i> , (2014) <i>J Immunol</i> 193, 4643.
Blood Brain Barrier		siRNA delivery Keaney <i>et al.</i> , (2015) <i>Sci Adv</i> 1(8):e1500472 Campbell <i>et al.</i> , (2012) <i>Nat Commun</i> 3:849
Blood cells		siRNA delivery Dalli <i>et al.</i> , (2014) <i>EMBO Mol Med</i> 6(1), 27.
Blood vessel	shRNA plasmid delivery Tseng <i>et al.</i> , (2015) <i>J Vasc Surg</i> Poly(I:C) delivery Asdonk <i>et al.</i> , (2016) <i>J Cell Mol Med</i> 20(9):1696-705	siRNA delivery Paneni <i>et al.</i> , (2014) <i>Atherosclerosis</i> 136(2), 426. Liu <i>et al.</i> , (2013) <i>J Cell Biol</i> 201, 863. Shin <i>et al.</i> , (2013) <i>J Hypertens</i> 31, 1575. Paneni <i>et al.</i> , (2012) <i>Circ Res</i> 111, 278-8. Choi <i>et al.</i> , (2008) <i>J Biol Chem</i> 283, 20186 Wang <i>et al.</i> , (2008) <i>Hypertension</i> 52, 484 Kudo <i>et al.</i> , (2007) <i>Arterioscler Thromb Vasc Biol</i> 27, 1562 Song <i>et al.</i> , (2007) <i>Circulation</i> 116, 1585 Lee <i>et al.</i> (2017). <i>Sci Rep</i> , 7, 8207 Rat, intravenous injection miRNA delivery Chang <i>et al.</i> (2017). <i>Int J Mol Sci</i> , 18 Rat, subdermal injection
Bladder	DNA delivery by bladder instillation Matouk <i>et al.</i> , (2013) <i>Int J Mol Sci</i> 14, 4298 Amit <i>et al.</i> , (2011) <i>Int J Clin Exp Med</i> 4, 91 Amit and Hochberg (2010) <i>J Transl Med</i> 8, 134 Sidi <i>et al.</i> , (2008) <i>J Urology Supplement</i> 179 Ohana <i>et al.</i> , (2004) <i>Gene Ther Mol Bio</i> 8, 182	miRNA mimic, miRNA inhibitors, antagomiR Sadio <i>et al.</i> (2018). <i>J Innate Immun</i> , 10, 14-29 Mouse, intraperitoneal injection

Bone		miRNA mimic, miRNA inhibitors, antagomiR Zhao <i>et al.</i>, (2016) <i>Sci Rep</i> 6 :26611 John <i>et al.</i> (2018). <i>J Mol Med (Berl)</i>,96, 427-44 Mouse, subcutaneous siRNA and STICKY SIRNA delivery Zheng <i>et al.</i>, (2015) <i>Bone</i> 83. 190-196. Capulli <i>et al.</i>, (2015) <i>Mol Ther Nucleic Acids</i> 4:e248 Maurizi <i>et al.</i> (2018). <i>Bone</i>,110, 343-54 Mouse, intraperitoneal, subcutaneous Meng <i>et al.</i> (2017). <i>Neurosci Res</i>,125, 37-45 Rat, intrathecal injection
Brain	DNA delivery Ran <i>et al.</i>, (2015) <i>Neural Regen Res</i> 10. 1258-64. Soroceanu <i>et al.</i>, (2015) <i>Cancer Res</i> 75, 3065-76. Zuckermann <i>et al.</i>, (2015) <i>Nature Commun</i> 6, 7391. Kosaka <i>et al.</i>, (2014) <i>Cancer Immunol Immunother</i> 63, 847-5. Oh <i>et al.</i>, (2013) <i>Eur J Nucl Med Mol Imaging</i> 40, 1607 Lopez-Juarez <i>et al.</i>, (2012) <i>Cell Stem Cell</i> 10, 531-4 Schaffer <i>et al.</i>, (2010) <i>Brain Res</i> 1362, 32 Uchida <i>et al.</i>, (2010) <i>J Neurosci</i> 30, 15007 Wiesner <i>et al.</i>, (2009) <i>Cancer Res</i> 69, 431 Jouvert <i>et al.</i>, (2004) <i>J Neurosci</i> 24, 10716 Wu <i>et al.</i>, (2004) <i>Brain Res</i> 1008, 284 Bacq <i>et al.</i> (2018). <i>Mol Psychiatry</i> Mouse, stereotaxic injection shRNA delivery Cruz <i>et al.</i>, (2015) <i>J Neurosci</i> 35(36) :12394-403 Sedbazar <i>et al.</i>, (2013) <i>Biochem Biophys Res Commun</i> 434, 434 Karatas <i>et al.</i>, (2013) <i>Science</i> 339, 1092 Hassani <i>et al.</i>, (2007) <i>Nucl Acid Res</i> 35, e65 Criado-Marrero <i>et al.</i> (2017). <i>Learn Mem</i>,24, 145-52 Rat, stereotaxic injection	siRNA delivery Karatas <i>et al.</i>, (2013) <i>Science</i> 339, 1092 Using jetSI® 10 mM Bender <i>et al.</i>, (2013). <i>Neurobiol Dis</i> 54, 297 Using jetSI™ 10 mM Griggs <i>et al.</i>, (2013). <i>J Neurosci</i> 33, 1734. Using jetSI™ 10mM Smith <i>et al.</i>, (2012) <i>J Neurosci Methods</i> 203, 398 Using jetSI® 10 mM Li <i>et al.</i>, (2012). <i>Addict Biol</i> 17, 392-4. Using jetSI™ 10 mM Chauvier <i>et al.</i>, (2011) <i>Cell Death Dis</i> 2, e203 Using jetSI® 10 mM Carlsson <i>et al.</i>, (2011) <i>Ann Neurol</i> 70, 781 Using jetSI® 10 mM Tai <i>et al.</i>, (2011) <i>Embo J</i> 30, 205-2 Using jetSI® 10 mM Zhang <i>et al.</i>, (2011). <i>Am J Phys Heart Circ Phys</i> 302. Using jetSI™ 10mM Badaut <i>et al.</i>, (2011) <i>J Cereb Blood Flow Metab</i> 31, 819 Using INTERFERin® Batassa <i>et al.</i>, (2010) <i>Neurosci Lett</i> 471, 185 Using <i>in vivo</i>-jetPEI® Cakir <i>et al.</i>, (2009) <i>PLoS One</i> 4, e8322 Using jetSI® 10 mM Dominska <i>et al.</i>, (2010) <i>J Cell Sci</i> 123, 1183 Using jetSI® 10 mM Cheret <i>et al.</i>, (2008) <i>J Neurosci</i> 28, 12039 Using jetSI® 10 mM Froidevaux <i>et al.</i>, (2006) <i>EMBO Rep.</i> 7, 1035 Using jetSI® 10 mM Guissouma <i>et al.</i>, (2006) <i>Neuroscience Letters</i>, 406, 240 Using jetSI® 10 mM Kumar <i>et al.</i>, (2006) <i>PLoS Med</i> 3, e96 0505 Using jetSI® 10 mM Hassani <i>et al.</i>, (2005). <i>J Gene Med</i> 7, 198 Using jetSI® 10 mM

	Remaud <i>et al.</i> (2017). <i>Elife</i>,6 Mouse, stereotaxic injection Oligonucleotides delivery Teplyuk <i>et al.</i>, (2016) <i>EMBO Mol Med</i> 8(3) :268 De Rivero Vaccari <i>et al.</i>, (2015), <i>J Neurochem</i> Zhang <i>et al.</i>, (2009), <i>J Neurosci</i> 29, 13823	Yamazaki <i>et al.</i> (2018). <i>Neurochem Res</i>,43, 195-204 Using jetSi 10mM Mouse, stereotaxic injection Hashikawa <i>et al.</i> (2017). <i>Sci Adv</i> Mouse, intracerebroventricular Yamazaki <i>et al.</i> (2017). <i>Eur J Pharmacol</i>,799, 103-10 Mouse, intracerebroventricular Gospocic <i>et al.</i> (2017). <i>Cell</i>,170, 748-59 e12 Ant, local injection Rodriguez <i>et al.</i> (2017). <i>Sci Rep</i>,7, 1862 Mouse, intranasal injection Saha <i>et al.</i> (2018). <i>Neurobiol Dis</i>,118, 108-16 Mouse, intranasal injection miRNA delivery Smith <i>et al.</i>, (2015), <i>Hum Mol Genet</i> 24, 6721-35
Eye	DNA delivery Yuan <i>et al.</i>, (2013) <i>PLoS ONE</i> 8, e6071 shRNA delivery by intravitreal injection Zhang <i>et al.</i>, (2012) <i>Cell Rep</i> 2(5), 1272 Liao and Yau (2007) <i>Biotechniques</i> 42, 285	siRNA delivery Alarcon-Martinez <i>et al.</i> (2018). <i>Elife</i>,7 Mouse, intravitreal injection
Gallbladder/Biliary system	DNA delivery Yamada <i>et al.</i>, (2015) <i>Hepatology</i> 61.1627-42	
Gastrointestinal tract	DNA delivery He <i>et al.</i>, (2016) <i>PLoS Pathog</i> 12(7) :e1005743 Wirtz <i>et al.</i>, (2011) <i>Gastroenterology</i> 141, 1875 Shi <i>et al.</i> (2018). <i>Mucosal Immunol</i>,11, 835-45 Mouse, intraperitoneal injection Oligonucleotides delivery Dabertrand <i>et al.</i>, (2010) <i>Eur J Pharmacol</i> 628, 36	siRNA delivery Feng <i>et al.</i>, (2011) <i>PLoS ONE</i> 6, e2365 miRNA mimic, miRNA inhibitors, antagomiR Nezami <i>et al.</i>, (2014) <i>Gastroenterology</i> 146(2), 473.
Heart	DNA delivery Zhou <i>et al.</i> (2018). <i>Exp Cell Res</i> Rat, direct injection into the heart Li <i>et al.</i>, (2015) <i>Antiviral Res</i> 123 :50-61 Dallabrida <i>et al.</i>, (2008) <i>Faseb J</i> 22, 3010	siRNA delivery Pei <i>et al.</i>, (2016) <i>Free Radic Biol Med</i> 97:408-17 Pei <i>et al.</i>, (2015) <i>Free Radic Biol Med</i> 82, 114-21 Cilenti <i>et al.</i>, (2011) <i>J Mol Cell Cardiol</i> 50, 652

	Kurrikoff et al. (2017). <i>Sci Rep</i>,7, 17056 Mouse, tail-vein injection Dong et al. (2017). <i>Arch Biochem Biophys</i>,634, 47-56 Mouse, tail-vein injection DNA oligonucleotide Sarett et al. (2017). <i>Proc Natl Acad Sci U S A</i>,114, E6490-E97 Mouse, intravenous injection mRNA delivery Huang et al., (2015) <i>Mol Pharm</i> 12(3):991-6	Ye et al., (2010). <i>Methods Find Exp Clin Pharmacol</i> 32, 391 Kim et al., (2010) <i>Cardiovasc Res</i> 87, 119 Xu et al. (2017). <i>Oxid Med Cell Longev</i>,2017, 6109061 Rat, intramyocardial injection Sabirov et al. (2017). <i>EMBO J</i>,36, 3309-24 Mouse, intravenous injection Hwang et al. (2018). <i>Mediators Inflamm</i>,2018, 6209140 Mouse, direct injection, intraperitoneal injection Kim et al. (2018). <i>J Hum Genet</i>,63, 297-307 Mouse, tail-vein injection miRNA mimic, miRNA inhibitors, antagomiR Du et al., (2016) <i>Free Radic Biol Med</i> 96 :406-17 Jeong et al. (2018). <i>Mol Ther</i>,26, 718-29 Mouse, intravenous injection Lucas et al. (2018). <i>Circ Res</i>,123, 205-20 Mouse, Rat Veliceasa et al., (2015) <i>Vasc Cell</i> 7. 6 Wahlquist et al., (2014) <i>Nature</i> 508(7497), 531
Immune cells	DNA delivery Robbins et al., (2008) <i>Hum Gene Ther</i> 19, 991 Lisziewicz et al., (2006) <i>Curr Drug Deliv</i> 3, 83 Fischer et al. (2017). <i>Sci Transl Med</i> Mouse, intravenous injection O'Neil et al. (2018). <i>Nat Commun</i>,9, 1325 Mouse, subdermal injection shRNA delivery Nalamolu et al. (2018). <i>Neuroscience</i>,373, 82-91 Rat, intravenous injection Oligonucleotides delivery Matsumoto et al., (2015) <i>Nature Commun</i> 6, 6280 Takagi et al., (2011) <i>Immunity</i> 35, 958 Lee et al. (2018). <i>Nucleic Acids Res</i>,46, 1635-47 Mouse, intranasal injection miRNA delivery	siRNA delivery Zhang et al., (2015) <i>Int J Clin Exp Med</i> 8, 15146-54. Liu et al., (2014) <i>J Virol</i> 88, 4229. Ellermeier et al., (2013) <i>Cancer Res</i> 73(6), 1709. Mostafa Anower et al., (2012) <i>Eur J Pharmacol</i> 688, 76-83 Kim et al., (2012) <i>Free Radic Biol Med</i> 53, 629-4 Lee et al., (2010) <i>J Inflamm (Lond)</i> 7, 31 Besch et al., (2009) <i>J Clin Invest</i> 119, 2399 Poeck (2008) <i>Nature Med</i> 14, 1256 Cubillos-Ruiz (2009) <i>J Clin Invest</i> 119, 2231 Furuya et al. (2017). <i>Carcinogenesis</i>,38, 1218-27 Mouse, intraperitoneal injection Lee et al. (2018). <i>FASEB J</i>,32, 4585-99 Mouse, intravenous injection Poly(I:C) delivery Wu et al., (2011) <i>Cancer Immunol Immunother</i> 60, 1085 Tormo et al., (2009) <i>Cancer Cell</i> 16, 103 Besch et al., (2009) <i>J Clin Invest</i> 119, 2399

	Stickel et al., (2014) <i>Blood</i> 124, 2586-95. Cubillos-Ruiz et al., (2012) <i>Cancer Res</i> 72, 1683. 5'-PPP-dsRNA Chiang et al., (2015) <i>J Virol</i> 89, 8011-25 Beljanski et al., (2015) <i>J Virol</i> 89, 10612-24 Coch et al. (2017). <i>Mol Ther</i>,25, 2093-103 Mouse, intravenous Fischer et al. (2017). <i>Sci Transl Med</i> Mouse, intravenous	Sultan et al. (2018). <i>Cancer Immunol Immunother</i>,67, 1091-103 Mouse, intravenous injection
Immunization	Yu et al., (2016) <i>Vaccine</i> 34(37):4399 Chiang et al., (2015) <i>J Virol</i> 89, 8011 Beljanski et al., (2015) <i>J Virol</i> 89, 10612 Bivas-Benita et al., (2013) <i>Mucosal Immunol</i> 6(1), 156 Ochoa-Callejero et al., (2010) <i>Vaccine</i> 28, 5323 Bivas-Benita et al., (2010) <i>J Virol</i> 84, 5764 Serba et al., (2008) <i>Gut</i> 57, 344 Cid-Arregui et al., (2003) <i>J Virol</i> 77, 4928	
Joints and articulations	siRNA delivery Kramer et al., (2010). <i>Arthritis Rheum</i> 62, 3109. (temporomandibular joint)	Poly(I:C) delivery Magnusson et al., (2006) <i>Arthritis Rheum</i> 54, 148 Zare et al.,(2006) <i>J Leukoc Biol</i> 79, 482
Kidney	DNA delivery Zhu et al., (2012).<i>Biochim Biophys Acta</i> 1822, 936-4 Intramedullar injection Wang et al., (2010) <i>Hypertension</i> 55, 1129-1136 Intramedullar injection Yamada et al., (2005) <i>PNAS</i> 102, 7736 Intracortical injection Kurrikoff et al. (2017). <i>Sci Rep</i>,7, 17056 Mouse, tail-vein injection Oligonucleotides delivery Yamada et al., (2005) <i>PNAS</i> 102, 7736 Intracortical injection Hernandez-Vargas et al., (2005) <i>J Am Soc Nephrol</i> 16, 1673 via the renal vein	siRNA delivery Li et al., (2012) <i>Ren Fail</i> 34(10), 1288 Injection into renal capsule Ji et al., (2012) <i>Genomics Inform</i> 10, 40-3. Tail-vein injection Sarett et al. (2017). <i>Proc Natl Acad Sci U S A</i>,114, E6490-E97 Mouse, intravenous injection miRNA delivery Morishita et al., (2015) <i>Int J Nanomedicine</i> 10, 3475-88 Sadio et al. (2018). <i>J Innate Immun</i>,10, 14-29 Mouse, intraperitoneal injection

	shRNA delivery Wang <i>et al.</i>, (2014) <i>Am J Physiol Renal Physiol</i> 306, F1236. Injection into kidney West <i>et al.</i>, (2014) <i>Exp Physiol</i> 99, 816-2. Injection into renal artery Zhu <i>et al.</i>, (2014) <i>Am J Hypertens</i> 27, 107-1. Infusion into the renal medulla Liu <i>et al.</i>, (2008) <i>Physiological genomics</i> 36, 52 Renal infusion	
Liver	DNA delivery Li <i>et al.</i>, (2014) <i>J Clin Invest</i> 124, 3241. Intrabiliary injection Nakamura <i>et al.</i>, (2013) <i>Biomed Res Int</i> 2013, 92879. Tail-vein injection Wong <i>et al.</i>, (2011) <i>J Control Release</i> 150, 298 via the superior temporal vein Nishikawa <i>et al.</i>, (2008) <i>Hum Gene Ther</i> 19, 1009 via the mesenteric vein Timchenko <i>et al.</i>, (2006) <i>J Biol Chem</i> 281, 32806. Tail-vein injection Kurrikoff <i>et al.</i> (2017). <i>Sci Rep</i>,7, 17056 Mouse, tail-vein injection Han <i>et al.</i> (2018). <i>J Physiol</i>,596, 3603-16 Rat, intravenous injection Gobbetti <i>et al.</i> (2017). <i>Proc Natl Acad Sci U S A</i>,114, 3963-68 Mouse, intravenous injection Dong <i>et al.</i> (2017). <i>Arch Biochem Biophys</i>,634, 47-56 Mouse, tail-vein injection shRNA delivery Paranjpe <i>et al.</i>, (2010) <i>Am J Pathol</i> 176, 2669 Via the mesenteric vein Williams <i>et al.</i>, (2010) <i>Am J Pathol</i> 176, 2732 Via the femoral vein	siRNA delivery Kim <i>et al.</i>, (2016) <i>Br J Pharmacol</i> 173(6) : 1045-57 Kang <i>et al.</i>, (2016) <i>Biochim Biophys Acta</i> 1861 :1025-35 Lee <i>et al.</i>, (2015) <i>Nat Commun</i> 6 :10154 Kim <i>et al.</i>, (2014) <i>FEBS J</i> doi :10.1111. Kim <i>et al.</i>, (2014) <i>J Biol Chem</i> 189(39), 27065. Chang <i>et al.</i>, (2014) <i>Hepatology</i> 60(4), 1251. Jin <i>et al.</i>, (2013) <i>Cell Reports</i> 3, 1-13 Xia <i>et al.</i>, (2012) <i>J Viral Hepat</i> 19, 509 Using <i>in vivo</i>-jetPEI-Gal Ebert <i>et al.</i>, (2011) <i>Gastroenterology</i> 141, 696 Sarett <i>et al.</i> (2017). <i>Proc Natl Acad Sci U S A</i>,114, E6490-E97 Mouse, intravenous injection Zhao <i>et al.</i> (2017). <i>Sci Rep</i>,7, 46272 Mouse, intravenous injection Kim <i>et al.</i> (2017). <i>J Hepatol</i>,67, 349-59 Rat, intravenous injection Stein <i>et al.</i> (2017). <i>J Clin Invest</i>,127, 583-92 Mouse, intravenous injection Jung <i>et al.</i> (2018). <i>Mol Cell Endocrinol</i>,470, 26-33 Mouse, intravenous injection Zhang <i>et al.</i> (2018). <i>Int J Pharm</i>,547, 537-44 Mouse, intravenous injection Non coding RNA delivery Chen <i>et al.</i>, (2015) <i>Nucleic Acids Res.</i> 43(7):3857-69

	George and Tsutsumi (2007), <i>Gene Ther</i> 14, 890 IP injection Paranjpe et al., (2007) <i>Hepatology</i>, 45, 1471 via the mesenteric vein Mini-circle expressing miRNA Wu et al. (2017). <i>J Hepatol</i>, 66, 816-24 Mouse, intravenous injection Zhang et al. (2018). <i>Metabolism</i>, 85, 183-91 Mouse, intravenous injection	miRNA mimic, miRNA delivery Guan et al., (2015) <i>Int J Biol Sci.</i> 11(11) :1257-68 Using <i>in vivo</i>-jetPEI-Gal Jilek et al. (2017). <i>Drug Metab Dispos</i>, 45, 512-22 Mouse, intravenous injection Kim et al. (2018). <i>Cell Death Dis</i>, 9, 721 Mouse, intraperitoneal injection Zhang et al. (2018). <i>J Hepatol</i>, 10.1016/j.jhep.2018.08.026 Mouse, intravenous injection 5'pppRNA delivery Liu et al., (2016) <i>J Virol</i> 90, 9406
Lung	DNA delivery Stellari et al., (2016) <i>J Transl Med</i> 14(1) :226 Elias et al., (2016) <i>Sci Rep</i> 6 :24971 Stellari et al., (2015) <i>J Transl Med</i> 13, 251 Osorio et al., (2013) <i>Cell Commun Signal</i> 11, 19. Stefanov et al., (2013) <i>PLoS Genetics</i> 8, e1003203 Aich et al., (2012) <i>Nat Commun</i> 3, 877 Stellari et al., (2012) <i>PLoS ONE</i> 7, e3971 Ansaldi et al., (2011) <i>PLoS ONE</i> 6, e2509 Lin et al., (2011) <i>Biomaterials</i> 32, 1978 Hu et al., (2010) <i>J Gene Med</i> 12, 276 Gregory et al., (2009) <i>Vaccine</i> 27, 5299 Poeck et al., (2008) <i>Nature Med</i> 14, 1256 Liu et al., (2006) <i>Mol Ther.</i> 13, 1006 Liu et al., (2006) <i>Am J Respir Crit Care Med</i> 173, 566 Liu et al., (2006) <i>Faseb J</i> 20, 2384 Ge et al., (2004) <i>PNAS.</i> 101, 8676 Kurrikoff et al. (2017). <i>Sci Rep</i>, 7, 17056 Mouse, tail-vein injection Chen et al. (2017). <i>Int Immunopharmacol</i>, 44, 9-15 Mouse, intranasal injection Dong et al. (2017). <i>Arch Biochem Biophys</i>, 634, 47-56 Mouse, tail-vein injection	siRNA delivery Frye et al., (2015) <i>J Exp Med</i> 212. 2267-87 Long et al., (2015) <i>Respir Res</i> 16. 11. Zhang et al., (2015) <i>Int J Clin Exp Med</i> 8, 15146-54. Zhou et al., (2014) <i>Nat Commun</i> 5, 3619. Kim et al., (2014) <i>J Biol Chem</i> 189(39), 27065. Chang et al., (2014) <i>Hepatology</i> 60(4), 1251. Lin et al., (2012) <i>J Virol</i> 86, 10359. Lively et al., (2008) <i>J Allergy Clin immunol</i> 121, 88 Liu et al., (2006) <i>Faseb J</i> 20, 2384 Sarett et al. (2017). <i>Proc Natl Acad Sci U S A</i>, 114, E6490-E97 Mouse, intravenous injection Zha et al. (2017). <i>PLoS One</i>, 12, e0177964 Mouse, intravenous injection Kim et al. (2018). <i>Exp Mol Med</i>, 50, e444 Nude mice, intranasal injection Chen et al. (2018). <i>FASEB J</i>, fj201701506RR Mouse, tail-vein injection Sisti et al. (2018). <i>Sci Signal</i> Mouse Zhang et al. (2018). <i>Int J Pharm</i>, 547, 537-44 Mouse, intravenous injection RNA delivery Ranjan et al., (2010) <i>Virol J</i>, 7, 102 Kaczmarek et al. (2016). <i>Angew Chem Int Ed Engl</i>, 55, 13808-12 Mouse, intravenous injection

	Kim <i>et al.</i> (2018). <i>Appl Microbiol Biotechnol</i>,102, 105-15 Mouse, intranasal injection Chen <i>et al.</i> (2018). <i>FASEB J</i>, fj201701506RR Mouse, tail-vein injection shRNA delivery Jiao <i>et al.</i>, (2015) <i>Nat Immunol</i> 16(3) :246-57 Andre <i>et al.</i>, (2015) <i>Mol Med Rep</i> 12(6) :8320-6 Wang <i>et al.</i>, (2011) <i>Arch Biochem Biophys</i> 508, 93 Zeng <i>et al.</i>, (2010) <i>Microvasc Res</i> 80, 116 Jain <i>et al.</i> (2018). <i>Allergy</i> Mouse, intratracheal injection, tail-vein injection	miRNA mimic, miRNA inhibitors, antagomiR Chen <i>et al.</i>, (2016) <i>J Cell Physiol</i> 231(10) :2236 Li <i>et al.</i>, (2016) <i>Nat Microbiol</i> 1(10) :16132 Li <i>et al.</i> (2018). <i>Sci Signal</i> Mouse, intravenous injection 5'pppRNA delivery Liu <i>et al.</i>, (2016) <i>J Virol</i> 90, 9406
Mammary Gland		siRNA delivery Arnandis <i>et al.</i>, (2014) <i>Biochem J</i> 459, 355-6.
Muscle	shRNA delivery Lin <i>et al.</i> (2018). <i>Mol Neurobiol</i> Mouse, intramuscular injection	siRNA delivery Kim <i>et al.</i> (2017). <i>J Hepatol</i>,67, 349-59 Rat, intravenous injection Jung <i>et al.</i> (2018). <i>Exp Mol Med</i>, 50(9):122 Mouse, intravenous injection miRNA delivery Hsu <i>et al.</i>, (2016) <i>J Cell Mol Med</i> 21(3):519
Lymph node	shRNA delivery Jiao <i>et al.</i>, (2015) <i>Nat Immunol</i> 16(3) :246-57	
Nerve/Spinal cord	DNA delivery Cabrera <i>et al.</i>, (2015), <i>PLoS Pathog</i> 11(1):e1004571 shRNA delivery Cheng <i>et al.</i>, (2015) <i>Pain</i> 156(11):2295-309 Almutiri <i>et al.</i> (2018). <i>Sci Rep</i>,8, 10707 Rat, injection into the Dorsal Root Ganglion Fujita <i>et al.</i> (2018). <i>Nat Commun</i>,9, 433 Mouse, injection into the intra-subarachnoid space	siRNA delivery Xie <i>et al.</i>, (2015) <i>Neuroscience</i> 291. 317-30 Barbosa <i>et al.</i>, (2015) <i>Mol Pain</i> 11 :60 Intrathecal injection Jin <i>et al.</i>, (2014) <i>J Neurosci Res</i> 92, 1690. Intrathecal injection Kramer <i>et al.</i>, (2014) <i>Neuroscience</i> 278, 144-5. Infusion into trigeminal ganglion Acosta <i>et al.</i>, (2014) <i>J Neurosci</i> 34, 1494. Intradermal injection Kramer <i>et al.</i>, (2013). <i>Neuroscience</i> 245, 1-11. Infusion into Trigeminal Ganglia Xie <i>et al.</i>, (2013). <i>Pain</i> 154, 1170. Injection into Dorsal Root Ganglion

Technical Note

Publications on *in vivo* delivery of nucleic acid with Polyplus reagents by target organs/tissue

Reagent used: *in vivo*-jetPEI®, unless specified

		Xie et al. (2017). <i>eNeuro</i>,4 Rat, Injection into Dorsal Root Ganglion Chang et al. (2016). <i>Sci Rep</i>,6, 35612 Rat, intrathecal injection, injection into Dorsal Root Ganglion Xie et al., (2012) <i>Neurosci Lett</i> 515, 61-5 Intrathecal injection Tulleuda et al., (2011) <i>Mol Pain</i> 7, 30 Intrathecal injection Kiguchi et al., (2010). <i>Pain</i> 149, 305 Perineural injection Patte-Mensah et al., (2010) <i>Pain</i> 150, 522 Paravertebral injection Liu, S., et al., (2010) <i>Brain Res</i> 1346, 213 Intrathecal injection Lan et al., (2010) <i>Molecular Pain</i> 6, 2 Intrathecal injection
Ovary	shRNA delivery Li et al., (2015) <i>Cell Physiol Biochem</i> 37(3) :911-20.	
Pancreas	DNA delivery Buscail et al., (2015) <i>Mol Ther</i> 23. 779-89. (Human)	siRNA delivery Kim et al., (2014) <i>J Biol Chem</i> 189(39), 27065. Kim et al., (2013) <i>Cell Signal</i> 25, 2348. Kuroda et al. (2017). <i>J Clin Invest</i>,127, 3496-509 Mouse, intrapancreatic injection
Skin	DNA delivery Zhang et al., (2014) <i>Free Radic Biol Med</i> 69, 96-10. SC injection Angelos et al., (2011) <i>Arch Facial Plast Surg</i> 13, 185-9 Topical application McKnight et al., (2008) <i>Otolaryngol Head Neck Surg</i> 139, 2459 Topical application DNA delivery by topical application to target dendritic cells Liszewicz et al., (2006) <i>Curr Drug Deliv</i> 3, 83 using <i>in vivo</i>-jetPEI®-Man Liszewicz et al., (2005) <i>J Invest Dermatol.</i> 124, 160 using <i>in vivo</i>-jetPEI®-Man Liszewicz et al., (2005) <i>Aids.</i> 19, 35 using <i>in vivo</i>-jetPEI®-Man	siRNA delivery Jin et al., (2012) <i>J Dermatol Sci</i> 67, 88-94 intravenous injection Murase et al., (2009) <i>J Biol Chem</i> 284, 4343 Subepidermal injection Haskins et al. (2017). <i>Mol Cell Neurosci</i>,83, 13-26 Rat, intradermal injection Yan et al. (2017). <i>Wound Repair Regen</i>,25, 933-43 Mouse, topical application
Spleen	DNA delivery	siRNA delivery

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	Lee et al., (2010) <i>J Inflamm (Lond)</i> 7, 31 Kurrikoff et al. (2017). <i>Sci Rep</i>, 7, 17056 Mouse, tail-vein injection Luo et al. (2017). <i>Nat Nanotechnol</i>, 12, 648-54 Mouse, subcutaneous injection shRNA delivery Jiao et al., (2015) <i>Nat Immunol</i> 16(3) :246-57 DNA oligonucleotide delivery Sarett et al. (2017). <i>Proc Natl Acad Sci U S A</i>, 114, E6490-E97 Mouse, intravenous injection	Xiao et al., (2016) <i>Nat Med</i> 22(8):906-14 Chen et al., (2011) <i>Mol Immunol</i> 48, 1532 Sarett et al. (2017). <i>Proc Natl Acad Sci U S A</i>, 114, E6490-E97 Mouse, intravenous injection 5'pppRNA delivery Liu et al., (2016) <i>J Virol</i> 90, 9406
Testis	DNA delivery Xia et al., (2013) <i>J Pediatr Surg</i> 48, 2140 Li et al. (2018). <i>Am J Physiol Endocrinol Metab</i> Rat, intratesticular injection shRNA delivery Rotgers et al., (2014) <i>Cell Death Dis</i> 5, e1274.	siRNA delivery Li et al., (2016) <i>Endocrinology</i> 157(7):2894 Gao et al., (2016) <i>Sci Rep</i> 6 :28589 Chen et al., (2016) <i>Endocrinology</i> 157(5):2140-59 Ma et al., (2015) <i>Sci Rep</i> 5. 8894. Wen et al. (2018). <i>Cell Death Dis</i>, 9, 208 Rat, intratesticular injection Wen et al. (2018). <i>Am J Physiol Endocrinol Metab</i> Rat, intratesticular injection Chen et al. (2018). <i>Cell Death Dis</i>, 9, 340 Rat, intratesticular injection
Tooth		antimiR delivery Khan et al., (2013) <i>Eur J Oral Sci</i> 121. 303-12.
Tumors	DNA delivery Kitano et al., (2016) <i>Onco Targets Ther</i> 9 :503-16 Gupta et al., (2016) <i>Tumor Biol</i> 37(9) :12089 Gupta et al., (2016) <i>Virus Res</i> 213:289-98 Rama et al., (2015) <i>Int J Mol Sci</i> 16. 12601-15. Li et al., (2015) <i>J Cancer Res Clin Oncol</i> 141. 1909-20. Ronald et al., (2015) <i>Proc Natl Acad Sci USA</i> 112. 3068-73. Zhong et al., (2015) <i>J Biol Chem</i> 290:8876-87. Hsieh et al., (2015) <i>Mol Imaging Biol</i> 17(6):802-10. Bhatnagar et al., (2014) <i>Cancer Res</i> 74(20), 5772.	siRNA delivery Hirahata et al., (2016) <i>Cancer Med</i> 5(5):892 Albino et al., (2016) <i>Cancer Res</i> 76,(12), 3629 Park et al., (2015) <i>Gene Ther</i> 22, 325-32. Wang et al., (2014) <i>Apoptosis</i> 19, 643-5. Kurioka et al., (2014) <i>Sci Rep</i> 4, 6111. Zhang et al., (2014) <i>BMC Cancer</i> 14, 310. Chen et al., (2014) <i>Br J Cancer</i> 110, 1014. Ellermeier et al., (2013) <i>Cancer Res</i> 73(6), 1709. Wang and Gartel (2011) <i>Oncotarget</i> 2, 1218

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 Rodriguez et al., (2013) *Biochem Pharmacol* 86, 1541.
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 Xu et al. (2017). *J Hematol Oncol*,10, 132 **Mouse, intratumoral injection**
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 Vial et al. (2018). *Cell Death Differ* **Mouse, intratumoral injection**

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shRNA delivery
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 Sarett et al. (2017). *Proc Natl Acad Sci U S A*,114, E6490-E97 **Mouse, intravenous injection**
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Poly(I:C) delivery
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 Lee et al. (2017). *Mol Ther*,25, 1295-305 **Mouse, intratumoral injection**

	Zhang et al., (2009) <i>Ann Surg Onc</i> 16, 2617 Niola et al., (2006) <i>Cancer Biol Ther</i> 5, 174 Hua et al., (2007) <i>Cancer Gene Ther</i> 14, 815 Decoy oligonucleotide delivery Canello et al., (2014) <i>PLoS One</i> 9(12) :e113854	miRNA, mimic miRNA, anti-miR and pre-miRNA delivery An et al., (2016) <i>Biochim Biophys Acta</i> 1862(10), 1926 Shi et al., (2015) <i>Cancer Res</i> 75, 5309-17 Wang et al., (2015) <i>J Pharmacol Exp Ther</i> 354, 131-41 Zhao et al., (2015) <i>Biochem Pharmacol</i> 98, 602-13 Hsu et al., (2014) <i>J Pathol</i> 232, 330. Kong et al., (2014) <i>Cancer Res</i> 74, 3764. Song et al., (2014) <i>Clin Cancer Res</i> 20, 878-8. Gabriely et al., (2011) <i>Cancer Res</i> 71(10), 3563-72 Naidu et al. (2017) <i>Sci Rep</i>,7, 15441 Li et al. (2017) <i>Oncogene</i>,36, 3986-4000 Mouse, intravenous injection He et al. (2017) <i>Oncol Lett</i>,13, 2442-48 Mouse, intratumoral injection Hsu et al. (2017) <i>Oncogene</i>,36, 4929-42 Mouse, intratumoral injection Koo et al. (2018) <i>Cell Death Dis</i>,9, 77 Mouse, intratumoral injection Gu et al. (2018) <i>J Exp Clin Cancer Res</i>,37, 164 Mouse, intravenous injection Choe et al. (2018) <i>Cell Death Dis</i>,9, 640 Nude mice, intratumoral injection Fesler et al. (2017). <i>Oncotarget</i> Mouse, tail-vein injection Lyu et al. (2018). <i>Cancer Lett</i>,420, 97-108 Mouse, intratumoral injection Bach et al. (2018). <i>Mol Ther Nucleic Acids</i>,11, 455-67 Mouse, intratumoral (multipoint) injection LNA delivery Cogoi et al., (2013) <i>Nucliec Acids res</i> 41(7):4049 RNA oligonucleotide delivery Lee et al. (2018). <i>Nucleic Acids Res</i>,46, 1635-47 Mouse, intratumoral injection
Uterus		miRNA, mimic miRNA delivery Sirohi et al. (2018). <i>J Steroid Biochem Mol Biol</i>,178, 272-82 Rat, intrauterine injection

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		Sahin <i>et al.</i> (2018). <i>J Cell Mol Med</i> Mouse, intraperitoneal injection
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