

miRCURY LNA™ Detection Probes for *In Situ* Hybridization

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Tip: You can also search for your tissue/organism or microRNA of interest

Selected publications — FFPE

Chang *et al.* HIV-1 Tat promotes neuronal dysfunction through disruption of microRNAs. *J. Biol. Chem.* 2011. [Ahead of print]. [PMID: 21956116](#)
Source: Human & mouse brain tissue
Targets: miR-34a

Donnem *et al.* Independent and tissue-specific prognostic impact of miR-126 in non small cell lung cancer: co-expression with vascular endothelial growth factor-A predicts poor survival. *Cancer.* 2011. 117: 3193-200. [PMID: 21264844](#)
Source: Human primary lung tumor tissue
Targets: miR-126

Fassina *et al.* Epithelial-mesenchymal transition in malignant mesothelioma. *Mod. Pathol.* 2011. [Epub ahead of print]. [PMID: 21983934](#)
Source: Human malignant mesotheliomas
Targets: miR-205

Ichii *et al.* Altered expression of microRNA miR-146a correlates with the development of chronic renal inflammation. *Kidney Int.* 2011. [Ahead of print]. [PMID: 21975861](#)
Source: Paraformaldehyde fixed mouse kidney
Targets: miR-146a

Kang *et al.* Kaposi's sarcoma-associated herpesviral IL-6 and human IL-6 open reading frames contain miRNA binding sites and are subject to cellular miRNA regulation. *J. Pathol.* 2011. 225: 378-289. [PMID: 21984125](#)
Source: Human lymph node (FFPE?)
Targets: miR-155, miR-1293

Larsen *et al.* Expression and Localization of microRNAs in Perinatal Rat Pancreas: Role of miR-21 in Regulation of Cholesterol Metabolism. *PLoS One.* 2011. 6: e25997. [PMID: 22022489](#)
Source: Rat pancreas
Targets: miR-21, miR-23a, miR-29a, miR-125b-5p, miR-141, miR-376a, miR-376b-3p, miR-451



Nielsen *et al.* High levels of microRNA-21 in the stroma of colorectal cancers predict short disease-free survival in stage II colon cancer patients. *Clin Exp Metastasis*. 2011, 28:27-38. [PMID: 21069438](#).

Source: Human colon (colorectal cancer)

Target: miR-21

Park *et al.* miR-221 silencing blocks hepatocellular carcinoma and promotes survival. *Cancer Res*. 2011. [Epub ahead of print]. [PMID: 22009537](#)

Source: Mouse liver

Targets: miR-221, anti-miR-221

Song *et al.* MicroRNA-148b suppresses cell growth by targeting cholecystokinin-2 receptor in colorectal cancer. *Int. J. Cancer*. 2011. [Ahead of print]. [PMID: 22020560](#)

Source: Paraffin human colorectal cancer tissue

Targets: miR-148b

Wach *et al.* MicroRNA profiles of prostate carcinoma detected by multiplatform microRNA screening. *Int. J. Cancer*. 2011. [Ahead of print]. [PMID: 21400514](#)

Source: Human prostate

Targets: miR-143, miR-145, miR-200c, miR-375

Ryu *et al.* Aberrant MicroRNA-155 expression is an early event in the multistep progression of pancreatic adenocarcinoma. *Pancreatology*. 2010;10:66-73. [PMID: 20332664](#)

Source: Human pancreas

Targets: miR-155

Cittelly *et al.* Downregulation of miR-342 is associated with tamoxifen resistant breast tumors. *Mol Cancer*. 2010 Dec 20;9:317. [PMID: 21172025](#).

Source: Human breast tumors

Target: miR-342

Yelamanchili *et al.* MicroRNA-21 dysregulates the expression of MEF2C in neurons in monkey and human SIV/HIV neurological disease. *Cell Death Dis*. 2010;1:e77. [PMID: 21170291](#).

Source: Human and monkey (rhesus macaques) brain

Targets: miR-21

Voortman *et al.* MicroRNA expression and clinical outcomes in patients treated with adjuvant chemotherapy after complete resection of non-small cell lung carcinoma. *Cancer Res*. 2010, 70:8288-98. [PMID: 20978195](#)

Source: Human lung (non-small cell lung carcinoma)

Targets: miR-21, miR-34a, miR-155, let-7a

Wu *et al.* MiR-339-5p inhibits breast cancer cell migration and invasion in vitro and may be a potential biomarker for breast cancer prognosis. *BMC Cancer* 2010, 10: 542. [PMID: 20932331](#)

Source: Human breast tissue

Targets: miR-339-5p

Nuovo. In situ detection of microRNAs in paraffin embedded, formalin fixed tissues and the co-localization of their putative targets. *Methods*. 2010, 52:307-15. [PMID: 20723602](#)

Source: FFPE general

Targets: general



Balaguer *et al.* Epigenetic silencing of miR-137 is an early event in colorectal carcinogenesis. *Cancer Res.* 2010, 70:6609-18. [PMID: 20682795](#)

Source: Human colon and CRC

Target: miR-137

Bandres *et al.* MicroRNA-451 regulates macrophage migration inhibitory factor production and proliferation of gastrointestinal cancer cells. *Clin. Cancer Res.* 2009, 15: 2281-90. [PMID: 19318487](#)

Source: Human gastric mucous glands

Targets: miR-451

Foshay & Gallicano. miR-17 family miRNAs are expressed during early mammalian development and regulate stem cell differentiation. *Dev. Biol.* 2009, 326: 431-43. [PMID: 19073166](#)

Source: Paraformaldehyde fixed mouse blastocysts. Immunostaining.

Targets: miR-17-5p, miR-20a, miR-93 and miR-106

Hiyoshi *et al.* MicroRNA-21 regulates the proliferation and invasion in esophageal squamous cell carcinoma. *Clin. Cancer Res.* 2009, 15: 1915-22. [PMID: 19276261](#)

Source: Human esophageal tissue

Targets: miR-21

Liu *et al.* Uncovering growth-suppressive MicroRNAs in lung cancer. *Clin. Cancer Res.* 2009, 15: 1177-83. [PMID: 19228723](#)

Source: Mouse FFPE lung sections.

Targets: miR-21, miR-34c, miR-145

Nuovo *et al.* A methodology for the combined in situ analyses of the precursor and mature forms of microRNAs and correlation with their putative targets. *Nat. Protoc.* 2009, 4: 107-15. [PMID: 19131963](#)

Source: FFPE samples

Pena *et al.* miRNA in situ hybridization in formaldehyde and EDC-fixed tissues. *Nat. Methods.* 2009, 6: 139-41. [PMID: 19137005](#)

Source: Formaldehyde and EDC-fixed tissues

Robertus *et al.* Specific expression of miR-17-5p and miR-127 in testicular and central nervous system diffuse large B-cell lymphoma. *Mod. Pathol.* 2009, 22: 547-55. [PMID: 19287466](#)

Source: Human B-cell lymphoma

Targets: miR-17-5p, miR-127-3p

Yamamichi *et al.* Locked nucleic acid in situ hybridization analysis of miR-21 expression during colorectal cancer development. *Clin. Cancer Res.* 2009, 15: 4009-16. [PMID: 19509156](#)

Source: human colorectal tissue

Targets: miR-21

Zhao *et al.* Identification of miRNAs associated with tumorigenesis of retinoblastoma by miRNA microarray analysis. *Childs. Nerv. Syst.* 2009, 25: 13-20. [PMID: 18818933](#)

Source: FFPE human retinal tissue sections

Targets: miR-9, miR-21, miR-124a, miR-125b, miR-26a, miR-320

Kong *et al.* MicroRNA-155 is regulated by the transforming growth factor beta/Smad pathway and contributes to epithelial cell plasticity by targeting RhoA. *Mol. Cell Biol.* 2008, 28: 6773-84. [PMID: 18794355](#)

Source: FFPE human breast tissue sections

Targets: miR-155



Monzo *et al.* Overlapping expression of microRNAs in human embryonic colon and colorectal cancer. *Cell Res.* 2008, 18: 823-33. [PMID: 18607389](#)

Source: FFPE human colon tissue sections
Targets: miR-17-5p

Navarro *et al.* MicroRNA expression profiling in classic Hodgkin lymphoma. *Blood* 2008, 111: 2825-32. [PMID: 18089852](#)

Source: FFPE human lymph node tissue
Targets: miR-21, miR-134, miR-138, miR-155

Nuovo. In situ detection of precursor and mature microRNAs in paraffin embedded, formalin fixed tissues and cell preparations. *Methods.* 2008, 44: 39-46. [PMID: 18158131](#)

Source: FFPE tissues and cells

Yang *et al.* MicroRNA expression profiling in human ovarian cancer: miR-214 induces cell survival and cisplatin resistance by targeting PTEN. *Cancer Res.* 2008, 68: 425-33. [PMID: 18199536](#)

Source: FFPE human ovarian tissue sections
Targets: miR-214

Zhao *et al.* MicroRNA-221/222 negatively regulates estrogen receptor alpha and is associated with tamoxifen resistance in breast cancer. *J. Biol. Chem.* 2008, 283: 31079-86. [PMID: 18790736](#)

Source: FFPE human breast tissue sections
Targets: miR-221, miR-222

Sempere *et al.* Altered MicroRNA expression confined to specific epithelial cell subpopulations in breast cancer. *Cancer Res.* 2007, 67: 11612-20. [PMID: 18089790](#)

Source: FFPE human breast tissue
Targets: let7-a, miR-21, miR-141, miR-145, miR-205, miR-214

Shi *et al.* An androgen-regulated miRNA suppresses Bak1 expression and induces androgen-independent growth of prostate cancer cells. *Proc. Natl. Acad. Sci. USA* 2007, 104: 19983-8. [PMID: 18056640](#)

Source: Human prostatic cell lines: Cds1, LNCaP, pRNS-1-1-ARWT / Human FFPE CaP tissue
Targets: miR-125b

Nelson *et al.* RAKE and LNA-ISH reveal microRNA expression and localization in archival human brain. *RNA* 2006, 12: 187-91. [PMID: 16373485](#)

Source: FFPE human brain tissue
Targets: miR-9, miR-122a, miR-124a, miR-125b

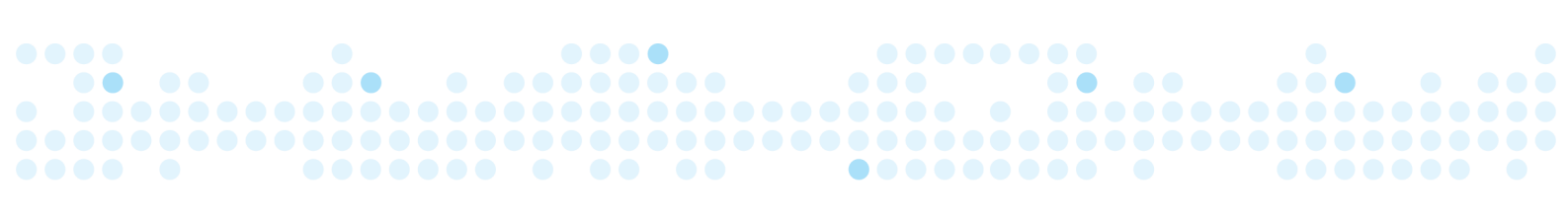
Selected publications — cryosections

Ahmed *et al.* MicroRNA-21 is an important downstream component of BMP signalling in epidermal keratinocytes. *J. Cell Sci.* 2011. [Epub ahead of print]. [PMID: 21984808](#)

Source: Human skin
Targets: miR-21

Kuwabara *et al.* Increased microRNA-1 and microRNA-133a levels in serum of patients with cardiovascular disease indicate myocardial damage. *Circ. Cardiovasc. Genet.* 2011. 4: 446-54. [PMID: 21642241](#)

Source: Mouse hearts
Targets: miR-133a



Noorbakhsh *et al.* Impaired neurosteroid synthesis in multiple sclerosis. *Brain*. 2011. 134: 2703-21.

[PMID: 21908875](#)

Source: Human white matter blocks

Targets: miR-338, miR-159, U6snRNA

Schneider *et al.* Cell-specific detection of microRNA expression during cardiomyogenesis by combined in situ hybridization and immunohistochemistry. *J. Mol. Histol.* 2011. 42: 289-99. [PMID: 21643937](#)

Source: Mouse hearts and embryoid bodies

Targets: miR-1, miR-30b, miR-106b, miR-125b, miR-127, miR-193, miR-199a, miR-302d, miR-324-5p

Song *et al.* In situ hybridization detection of microRNAs. *Methods Mol Biol.* 2010;629:287-94. [PMID: 20387156](#)

Source: Mouse testis

Target: miR-92a-3p

Karali *et al.* miRNeve: a microRNA expression atlas of the mouse eye. *BMC Genomics.* 2010, 11:715. [PMID: 21171988](#).

Source: Mouse eye (embryonic , postnatal and adult)

Targets: Over 220 miRs (see <http://mirneve.tigem.it>.)

Correa-Medina *et al.* MicroRNA miR-7 is preferentially expressed in endocrine cells of the developing and adult human pancreas. *Gene Expr. Patterns* 2009, 9: 193-9. [PMID: 19135553](#)

Source: Human (adult and fetal) pancreatic tissue sections.

Targets: miR-7, sense miR-159 (control)

Dharap *et al.* Transient focal ischemia induces extensive temporal changes in rat cerebral MicroRNAome. *J. Cereb. Blood Flow Metab.* 2009, 29: 675-87. [PMID: 19142192](#)

Source: Rat brain sections

Targets: miR-137, miR-145

Duisters *et al.* miR-133 and miR-30 regulate connective tissue growth factor: implications for a role of microRNAs in myocardial matrix remodeling. *Circ. Res.* 2009, 104: 170-8. [PMID: 19096030](#)

Source: Frozen sections from normal rat heart

Targets: miR-133

Dyrskjøt *et al.* Genomic profiling of microRNAs in bladder cancer: miR-129 is associated with poor outcome and promotes cell death in vitro. *Cancer Res.* 2009, 69: 4851-60. [PMID: 19487295](#)

Source: Frozen human bladder tissue sections

Targets: miR-21, miR-145, miR-129

Friedman *et al.* MicroRNAs are essential for development and function of inner ear hair cells in vertebrates. *Proc. Natl. Acad. Sci. USA* 2009, 106: 7915-20. [PMID: 19416898](#)

Source: Mouse and zebrafish inner ear

Targets: Mouse: miR-15a, miR-18a, miR-30b, miR-99a, miR-199a, zebrafish: miR-15a, miR-18a

Huse *et al.* The PTEN-regulating microRNA miR-26a is amplified in high-grade glioma and facilitates gliomagenesis in vivo. *Genes Dev.* 2009, 23: 1327-37. [PMID: 19487573](#)

Source: Frozen mouse brain sections

Targets: miR-26a

Lian *et al.* Altered microRNA expression in patients with non-obstructive azoospermia. *Reprod. Biol. Endocrinol.* 2009, 7: 13. [PMID: 19210773](#)

Source: Frozen sections of human testis

Targets: miR-383



Liu *et al.* A Necessary Role of miR-221 and miR-222 in Vascular Smooth Muscle Cell Proliferation and Neointimal Hyperplasia. *Circ. Res.* 2009, 104: 476-87. [PMID: 19150885](#)

Source: Frozen rat vessel (carotid arteries) sections

Targets: miR-221, miR-222

Segura *et al.* Aberrant miR-182 expression promotes melanoma metastasis by repressing FOXO3 and microphthalmia-associated transcription factor. *Proc. Natl. Acad. Sci. USA* 2009, 106: 1814-9. [PMID: 19188590](#)

Source: Human skin sections (tissue microarray slides)

Targets: miR-182

Siegel *et al.* A functional screen implicates microRNA-138-dependent regulation of the dephalmitoylation enzyme APT1 in dendritic spine morphogenesis. *Nat. Cell Biol.* 2009, 11: 705-16. [PMID: 19465924](#)

Source: Frozen mouse brain sections

Targets: miR-9, miR-138, miR-218

Silahtaroglu *et al.* Detection of microRNAs in frozen tissue sections by fluorescence in situ hybridization using locked nucleic acid probes and tyramide signal amplification. *Nat. Protoc.* 2007, 2: 2520-8. [PMID: 17947994](#)

Source: Animal tissue cryosections, human tumor biopsies

Song *et al.* Many X-linked microRNAs escape meiotic sex chromosome inactivation. *Nat. Genet.* 2009, 41: 488-93. [PMID: 19305411](#)

Source: Mouse testis

Targets: miR-883-3p, miR-833-5p, miR-718

Choi *et al.* Members of the miRNA-200 family regulate olfactory neurogenesis. *Neuron* 2008, 57: 41-55. [PMID: 18184563](#)

Source: Mouse main olfactory epithelium (MOE) tissue sections / Whole mount zebrafish

Targets: miR-34b, c, miR-96, miR-125b, miR-139, miR-140*, miR-141, miR-182, miR-183, miR-191, miR-199a, a*, miR-199b, miR-200a, b, miR-205, miR-429, miR-449 / miR-200 family members

Elmén *et al.* LNA-mediated microRNA silencing in non-human primates. *Nature* 2008, 452: 896-9. [PMID: 18368051](#)

Source: Frozen liver sections from African green monkeys

Targets: miR-122

Hébert *et al.* Loss of microRNA cluster miR-29a/b-1 in sporadic Alzheimer's disease correlates with increased BACE1/beta-secretase expression. *Proc. Natl. Acad. Sci. USA* 2008, 105: 6415-20. [PMID: 18434550](#)

Source: Frozen mouse brain sections

Targets: miR-29a, b-1

Yi *et al.* A skin microRNA promotes differentiation by repressing 'stemness'. *Nature* 2008, 452: 225-9. [PMID: 18311128](#)

Source: Mouse (K14-miR-203) skin sections

Targets: miR-203

Chakrabarty *et al.* MicroRNA regulation of cyclooxygenase-2 during embryo implantation. *Proc. Natl. Acad. Sci. USA* 2007, 104: 15144-9. [PMID: 17848513](#)

Source: Frozen mouse uterine sections

Targets: miR-101a, miR-199a*



Christoffersen *et al.* miR-200b mediates post-transcriptional repression of ZFHX1B. RNA 2007, 13: 1172-8. [PMID: 17585049](#)

Source: Frozen tissue sections from adult mouse brain
Targets: miR-200b

Obernosterer *et al.* Locked nucleic acid-based in situ detection of microRNAs in mouse tissue sections. Nat. Protoc. 2007, 2: 1508-14. [PMID: 17571058](#)

Source: Mouse tissue sections

Wulczyn *et al.* Post-transcriptional regulation of the let-7 microRNA during neural cell specification. FASEB J. 2007, 21: 415-26. [PMID: 17167072](#)

Source: Whole mount mouse embryos. Sections of third ventricles, cortex, striatum and midbrain, anterior spinal cord and dorsal root ganglia, jaw primordia and tongue, left ventricle, lung and pleural cavity, liver, stomach, and hind limb

Targets: miR-1, miR-124, miR-125, miR-128, miR-140, let-7

Selected publications — cells

Barrey *et al.* Pre-miRNA and Mature microRNA in Human Mitochondria. PLoS One. 2011. 6: e20220. [PMID: 21637849](#)

Source: Human skeletal muscle myoblast
Targets: miR-let-7b, miR-365, pre-miR-let-7b, pre-miR-302a

Ugras *et al.* Small RNA sequencing and functional characterization reveals MicroRNA-143 tumor suppressor activity in liposarcoma. Cancer Res. 2011. 71: 5659-69. [PMID: 21693658](#)

Source: Liposarcoma cells (DDLs & ASC)
Targets: miR-143, miR-124

Collino *et al.* Microvesicles derived from adult human bone marrow and tissue specific mesenchymal stem cells shuttle selected pattern of miRNAs. PLoS One. 2010, 5:e11803. [PMID: 20668554](#)

Source: Human stem cells (MSCs and HLSCs) and microvesicles
Target: miR-24

Debernardi and Dixon-Mclver. MicroRNA detection in bone marrow cells by LNA-FISH. Methods Mol Biol. 2010;667:33-45. [PMID: 20827525](#)

Source: Human bone marrow cells (AML)
Targets: miR-127 and miR-154

Katakowski *et al.* Functional microRNA is transferred between glioma cells. Cancer Res. 2010, 70:8259-63. [PMID: 20841486](#)

Source: Rat 9L gliosarcoma cells
Target: cel-miR-67, miR-21

Fiore *et al.* Mef2-mediated transcription of the miR379-410 cluster regulates activity-dependent dendritogenesis by fine-tuning Pumilio2 protein levels. EMBO J. 2009, 28: 697-710. [PMID: 19197241](#)

Source: Rat brain (hippocampal neuron) cells
Targets: miR-134



Kocerha *et al.* MicroRNA-219 modulates NMDA receptor-mediated neurobehavioral dysfunction. Proc. Natl. Acad. Sci. USA 2009, 106: 3507-12. [PMID: 19196972](#)

Source: Fixed P19 (mouse embryonic carcinoma) cells.
Targets: miR-219

Nathans *et al.* Cellular microRNA and P bodies modulate host-HIV-1 interactions. Mol. Cell 2009, 34: 696-709. [PMID: 19560422](#)

Source: 293T cells
Targets: miR-18a, HIV-1 nef RNA

Xu *et al.* MicroRNA-145 regulates OCT4, SOX2, and KLF4 and represses pluripotency in human embryonic stem cells. Cell 2009, 137: 647-58. [PMID: 19409607](#)

Source: Human embryonic stem (hESC) cells
targets: miR-145

Dixon-Mclver *et al.* Distinctive patterns of microRNA expression associated with karyotype in acute myeloid leukaemia. PLoS ONE 2008, 3: e2141. [PMID: 18478077](#)

Source: Cryopreserved human bone marrow cells
Targets: miR-127, miR-154

Nuovo. In situ detection of precursor and mature microRNAs in paraffin embedded, formalin fixed tissues and cell preparations. Methods. 2008, 44: 39-46. [PMID: 18158131](#)

Source: FFPE tissues and cells

Rybak *et al.* A feedback loop comprising lin-28 and let-7 controls pre-let-7 maturation during neural stem-cell commitment. Nat. Cell Biol. 2008, 10: 987-93. [PMID: 18604195](#)

Source: p19 EC (embryonic carcinoma) cells
Targets: let-7a, pre-let-7a

Shi *et al.* An androgen-regulated miRNA suppresses Bak1 expression and induces androgen-independent growth of prostate cancer cells. Proc. Natl. Acad. Sci. USA 2007, 104: 19983-8. [PMID: 18056640](#)

Source: Human prostatic cell lines: Cds1, LNCaP, pRNS-1-1-ARWT / Human FFPE CaP tissue
Targets: miR-125b

Politz *et al.* MicroRNA-206 colocalizes with ribosome-rich regions in both the nucleolus and cytoplasm of rat myogenic cells. Proc. Natl. Acad. Sci. USA 2006, 103: 18957-62. [PMID: 17135348](#)

Source: L6 rat myogenic cells
Targets: let-7a, miR-206, pre-miR-206

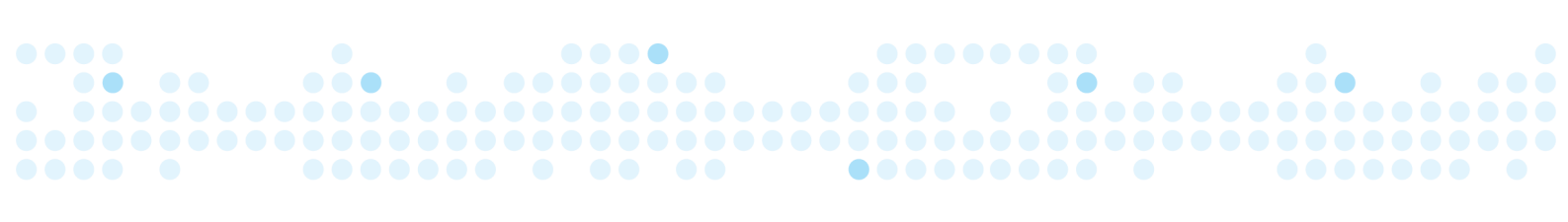
Schratt *et al.* A brain-specific microRNA regulates dendritic spine development. Nature 2006, 439: 283-9. [PMID: 16421561](#)

Source: Rat hippocampal neuron cells
Targets: miR-134

Selected publications — whole mount

Sweetman. In situ detection of microRNAs in animals. Methods Mol. Biol. 2011. 732: 1-8. [PMID: 21431701](#)

Source: Mouse, Chicken, Zebrafish, Xenopus
Targets: general



Hinits *et al.* Defective cranial skeletal development, larval lethality and haploinsufficiency in Myod mutant zebrafish. *Dev. Bio.* 2011. 358: 102-12. [PMID: 21798255](#)

Source: Zebrafish

Targets: miR-206

Goljanek-Whysall *et al.* MicroRNA regulation of the paired-box transcription factor Pax3 confers robustness to developmental timing of myogenesis. *Proc. Natl. Acad. Sci. U S A.* 2011. 108: 11936-46. [PMID: 21730146](#)

Source: Mouse skeletal muscle

Targets: miR-1, miR-206

Daubas *et al.* The regulatory mechanisms that underlie inappropriate transcription of the myogenic determination gene Myf5 in the central nervous system. *Dev. Biol.* 2009, 327: 71-82. [PMID: 18593903](#)

Source: Mouse embryos

Targets: miR-31

Du *et al.* Experimental validation and complexity of miRNA-mRNA target interaction during zebrafish primitive erythropoiesis. *Biochem. Biophys. Res. Commun.* 2009, 381: 688-93. [PMID: 19254693](#)

Source: Whole mount zebrafish

Targets: miR-451

Flynt *et al.* miR-8 microRNAs regulate the response to osmotic stress in zebrafish embryos. *J. Cell Biol.* 2009, 185: 115-27. [PMID: 19332888](#)

Source: Whole mount zebrafish embryos

Targets: miR-200b

Fu *et al.* Mir-144 selectively regulates embryonic alpha-hemoglobin synthesis during primitive erythropoiesis. *Blood* 2009, 113: 1340-9. [PMID: 18941117](#)

Source: Whole mount zebrafish

Targets: miR-144

Kloosterman *et al.* In situ detection of miRNAs in animal embryos using LNA-modified oligonucleotide probes. *Nat. Methods* 2006, 3: 27-9. [PMID: 16369549](#)

Le *et al.* MicroRNA-125b is a novel negative regulator of p53. *Genes Dev.* 2009, 23: 862-76. [PMID: 19293287](#)

Source: Zebrafish embryos

Targets: miR-125b (double DIG labeled probes)

Lee *et al.* Twist-1 regulates the miR-199a/214 cluster during development. *Nucleic Acids Res.* 2009, 37: 123-8. [PMID: 19029138](#)

Source: Whole mount mouse embryos

Targets: miR-199a-5p, miR-199a-3p, miR-214

Pase *et al.* miR-451 regulates zebrafish erythroid maturation in vivo via its target gata2. *Blood* 2009, 113: 1794-804. [PMID: 18849488](#)

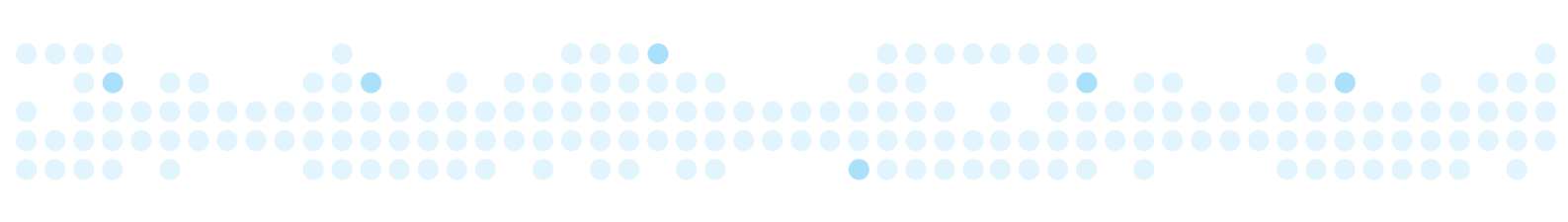
Source: Whole mount zebrafish embryos and adult tissues

Targets: miR-144, miR-451, miR-206

Qiu *et al.* Misexpression of miR-196a induces eye anomaly in *Xenopus laevis*. *Brain Res. Bull.* 2009, 79: 26-31. [PMID: 19146930](#)

Source: Whole mount *Xenopus* embryo

Targets: miR-196a



Redshaw *et al.* microRNA-449 is a putative regulator of choroid plexus development and function. *Brain Res.* 2009, 1250: 20-6. [PMID: 19056356](#)

Source: Whole mount and mouse embryo sections
Targets: miR-449 (double DIG labeled probes)

Rosa *et al.* The miR-430/427/302 family controls mesendodermal fate specification via species-specific target selection. *Dev. Cell* 2009, 16: 517-27. [PMID: 19386261](#)

Source: Whole-mount *Xenopus* embryos
Target: miR-427

Roy *et al.* MicroRNA expression in response to murine myocardial infarction: miR-21 regulates fibroblast metalloprotease-2 via phosphatase and tensin homologue. *Cardiovasc. Res.* 2009, 82: 21-9. [PMID: 19147652](#)

Source: Mouse heart FFPE sections
Targets: miR-21

Shkumatava *et al.* Coherent but overlapping expression of microRNAs and their targets during vertebrate development. *Genes Dev.* 2009, 23: 466-81. [PMID: 19240133](#)

Source: Whole mount zebrafish embryos
Targets: mir-124, mir-206

Soukup *et al.* Residual microRNA expression dictates the extent of inner ear development in conditional Dicer knockout mice. *Dev. Biol.* 2009, 328: 328-41. [PMID: 19389351](#)

Source: Whole mount mouse embryos
Targets: miR-124, miR-183

Eberhart *et al.* MicroRNA Mirn140 modulates Pdgf signaling during palatogenesis. *Nat Genet.* 2008, 40: 290-8. [PMID: 18264099](#)

Source: Whole mount and frozen sections of zebrafish embryos
Targets: miR-140

Leucht *et al.* MicroRNA-9 directs late organizer activity of the midbrain-hindbrain boundary. *Nat. Neurosci.* 2008, 11: 641-8. [PMID: 18454145](#)

Source: Whole mount zebrafish embryos and sections
Targets: miR-9

Morton *et al.* microRNA-138 modulates cardiac patterning during embryonic development. *Proc. Natl. Acad. Sci. USA* 2008, 105: 17830-5. [PMID: 19004786](#)

Source: Whole mount zebrafish embryos
Targets: miR-138

Sweetman *et al.* Specific requirements of MRFs for the expression of muscle specific microRNAs, miR-1, miR-206 and miR-133. *Dev. Biol.* 2008, 321: 491-9. [PMID: 18619954](#)

Source: Whole mount chicken embryos
Targets: miR-1, miR-133, miR-206 (double DIG labeled probes)

Woltering & Durston. MiR-10 represses HoxB1a and HoxB3a in zebrafish. *PLoS ONE* 2008, 3: e1396. [PMID: 18167555](#)

Source: Whole mount zebrafish embryos
Targets: miR-10a, b, c, d



Kapsimali *et al.* MicroRNAs show a wide diversity of expression profiles in the developing and mature central nervous system. *Genome Biol.* 2007, 8: R173. [PMID: 17711588](#)

Source: Larval and adult zebrafish brain and retinal sections

Targets: let-7b, miR-9, miR-34, miR-92b, miR-96, miR-124, miR-125b, miR-132, miR-137, miR-138, miR-153a, miR-181a, b, miR-182, miR-183, miR-218a, miR-219, miR-222, miR-454a

Wulczyn *et al.* Post-transcriptional regulation of the let-7 microRNA during neural cell specification. *FASEB J.* 2007, 21: 415-26. [PMID: 17167072](#)

Source: Whole mount mouse embryos. Sections of third ventricles, cortex, striatum and midbrain, anterior spinal cord and dorsal root ganglia, jaw primordia and tongue, left ventricle, lung and pleural cavity, liver, stomach, and hind limb

Targets: miR-1, miR-124, miR-125, miR-128, miR-140, let-7

Kloosterman *et al.* Cloning and expression of new microRNAs from zebrafish. *Nucleic Acids Res.* 2006, 34: 2558-69. [PMID: 16698962](#)

Source: Whole mount zebrafish embryos and sections

Targets: miR-34c-5p, miR-92b, miR-135, miR-429, miR-451, miR-454a, miR-455, miR-459, miR-499, miR-733, miR-735-3p

Sweetman *et al.* FGF-4 signaling is involved in miR-206 expression in developing somites of chicken embryos. *Dev. Dyn.* 2006, 235: 2185-91. [PMID: 16804893](#)

Source: Whole mount chicken, mouse and *Xenopus* embryos

Targets: miR-124, miR-206

Ason *et al.* Differences in vertebrate microRNA expression. *Proc. Natl. Acad. Sci. USA* 2006, 103: 14385-9. [PMID: 16983084](#)

Source: Whole mount chicken, mouse, medaka, zebrafish

Targets: miR-1, miR-125b (all org.); let-7a, miR-107, miR-146, miR-199a (chick. & med.); miR-145, miR-205, miR-454a (zeb. & med.); miR-7, miR-34a, miR-140, miR-200b, miR-206 (med.)

Darnell *et al.* MicroRNA expression during chick embryo development. *Dev. Dyn.* 2006, 235: 3156-65. [PMID: 17013880](#)

Source: Whole mount chicken embryos

Targets: let-7a, b, k, miR-1, b, miR-9, miR-10b, miR-15a, miR-17-5p, miR-18b, miR-19a, miR-20a, b, miR-21, miR-30a, e, miR-34a, miR-106, miR-124a, b, miR-125b, miR-126, miR-128, miR-130b, miR-133a, miR-135, miR-140, miR-144, miR-153, miR-183, miR-184, miR-187, miR-199a, miR-200b, miR-204, miR-205a, b, miR-206, miR-218, miR-219, miR-222b, miR-307, miR-363, miR-367, miR-375, miR-449

Sokol & Ambros. Mesodermally expressed *Drosophila* microRNA-1 is regulated by Twist and is required in muscles during larval growth. *Genes Dev.* 2005, 19: 2343-54. [PMID: 16166373](#)

Source: Whole mount *Drosophila* embryos

Targets: miR-1

Wienholds *et al.* MicroRNA Expression in Zebrafish Embryonic Development. *Science* 2005, 309: 310-1. [PMID: 15919954](#)

Source: Whole mount zebrafish

Targets: miR-7, miR-30c, miR-122, miR-124a, miR-126, miR-140, miR-200a, miR-206, miR-217



Selected publications — plants

Wong et al. MicroRNAs in the shoot apical meristem of soybean. *J Exp Bot.* 2011, 62:2495-506. [PMID: 21504877](#)

Source: soybean shoot apices

Target: miR166a/b, miR166a/b*, miR159, miR4422a

Douglas et al. ragged seedling2 Encodes an ARGONAUTE7-like protein required for mediolateral expansion, but not dorsiventrality, of maize leaves. *Plant Cell.* 2010, 22:1441-51. [PMID: 20453116](#)

Source: Zea Mays (seedling sections)

Targets: miR166, miR390

Havelda. In situ detection of miRNAs using LNA probes. *Methods Mol Biol.* 2010;592:127-36. [PMID: 19802593](#)

Rodriguez et al. Control of cell proliferation in Arabidopsis thaliana by microRNA miR396. *Development.* 2010, 137(1):103-12. [PMID: 20023165](#)

Source: Arabidopsis (paraffin sections)

Target: miR396

Chitwood et al. Pattern formation via small RNA mobility. *Genes Dev.* 2009, 23: 549-54. [PMID: 19270155](#)

Source: Arabidopsis

Targets: miR-390, tasiR-ARFs (trans-acting siRNA)

Nogueira et al. Regulation of small RNA accumulation in the maize shoot apex. *PLoS Genet.* 2009, 5: e1000320.

[PMID: 19119413](#)

Source: Tissue sections from maize shoot apices

Targets: miR-166, miR-390

Wang et al. Dual effects of miR156-targeted SPL genes and CYP78A5/KLUH on plastochron length and organ size in Arabidopsis thaliana. *Plant Cell* 2008, 20: 1231-43. [PMID: 18492871](#)

Source: Arabidopsis thaliana leaf sections

Targets: miR-156

Kutter et al. MicroRNA-mediated regulation of stomatal development in Arabidopsis. *Plant J.* 2007, 19: 2417-29.

[PMID: 17704216](#)

Source: Whole mounts of leaves from Arabidopsis and Brassica rapa

Targets: miR-824, miR-824*

Sieber et al. Redundancy and specialization among plant microRNAs: role of the MIR164 family in developmental robustness. *Development* 2007, 134: 1051-60. [PMID: 17287247](#)

Source: Tissue sections of Arabidopsis inflorescences

Targets: miR-164

Válóczi et al. Spatio-temporal accumulation of microRNAs is highly coordinated in developing plant tissues. *Plant J.* 2006, 47: 140-51. [PMID: 16824182](#)

Source: FFPE Nicotiana benthamiana and Arabidopsis thaliana sections

Targets: miR-156a, miR-159a, miR-160, miR-164a, miR-167a, miR-171a, miR-319a

