

REFERENCES

- Amatruda, J. F., Shepard, J. L., Stern, H. M. and Zon, L. I. 2002. Zebrafish as a cancer model system. *Cancer Cell* **1**: 229-231.
- Ambros, V., Bartel, B, Bartel, D. P., Burge, C. B., Carrington, J. C., Chen, X., Dreyfuss, G., Eddy, S. R., Griffiths-Jones, S., Marshall, M., Matzke, M., Ruvkun, G. and Tuschl, T. 2003^a. A uniform system for microRNA annotation. *RNA* **9**: 277-279.
- Ambros, V., Lee, R. C., Lavanway, A., Williams, P. T. and Jewel, D. 2003^b. MicroRNAs and other tiny endogenous RNAs in *C. elegans*. *Current Biology* **13**: 807-818.
- Aravin, A. A., Lagos-Quintana, M., Yalcin, A., Zavolan, M., Marks, D., Snyder, B., Gaasterland, T. and Meyer, J. 2003. The small RNA profile during *Drosophila melanogaster* development. *Developmental Cell* **5**:337–350.
- Bagga, S., Bracht, J., Hunter, S., Massirer, K., Holtz, J., Eachus, R. and Pasquinelli, A. E. 2005. Regulation by *let-7* and *lin-4* miRNAs results in target mRNA degradation. *Cell* **122**: 553–563.
- Bartel, D. P. 2004. MicroRNAs: genomics, biogenesis, mechanism and function. *Cell* **116**: 281-297.
- Bentwich, I. 2005. Minireview: Prediction and validation of microRNAs and their targets. *FEBS Letters* **579**: 5904-5910.
- Berezikov, E., Guryev, V., van de Belt, J., Wienholds, E., Plasterk, R.H. and Cuppen, E. 2005. Phylogenetic shadowing and computational identification of human microRNA genes. *Cell* **120**: 21–24.
- Bernstein, E., Caudy, A. A., Hammond, S. M. and Hannon, G. J. 2001. Role for a bidentate ribonuclease in the initiation step of RNA interference. *Nature* **409**: 363-366.

- Beuvink, I., Kolb, F. A., Budach, W., Garnier, A., Lange, J., Natt, F., Dengler, U., Hall, J., Filipowicz, W. and Weiler, J. 2007. A novel microarray approach reveals new tissue-specific signatures of known and predicted mammalian microRNAs. *Nucleic Acids Research* **35**(7): e52 (1-11).
- Borth, W. 1992. α 2-Macroglobulin, a multifunctional binding protein with targeting characteristics. *The FASEB Journal* **6**(15): 3345-3353.
- Brameier, M. and Wiuf, C. 2006. Ab initio identification of human microRNAs based on structure motifs. *BMC Bioinformatics* **8**:478 (1-11).
- Brennecke, J., Hipfner, D. R., Stark, A., Russell, R. B. and Cohen, S. M. 2003. *Bantam* encodes a developmentally regulated microRNA that controls cell proliferation and regulates the proapoptotic gene *hid* in *Drosophila*. *Cell* **113**(1):25-36.
- Carthew, R. W. and Sontheimer, E. J. 2009. Origins and mechanisms of miRNAs and siRNAs. *Cell* **136**: 642–655.
- Cerenius, L. and Söderhäll, K. 2004. The prophenoloxidase-activating system in invertebrates. *Immunological Reviews* **198**: 116–126.
- Chakraborty, P., Wang, Y., Wei, J., Deursen, J. Yu, H., Malureanu, L., Dasso, M., Forbes, D., Levy, D. and Seemann, J. 2008. Nucleoporin levels regulate cell cycle progression and phase-specific gene expression. *Developmental Cell* **15**(5): 657-667.
- Chen, P. Y., Manninga, H., Slanchev, K., Chien, M., Russo, J. J., Ju, J. Sheridan, R., John, B., Marks, D. S., Gaidatzis, D., Sander, C., Zavolan, M. and Tuschl, T. 2005. The developmental miRNA profiles of zebrafish as determined by small RNA cloning. *Genes and Development* **19**: 1288-1293.
- Chen, J., Lozach, J., Garcia, E. W., Barnes, B., Luo, S., Mikoulitch, I., Zhou, L., Schroth, G. and Fan, J. B. 2008. Highly sensitive and specific microRNA expression profiling using BeadArray technology. *Nucleic Acids Research* **36**(14) : e87 (1-9).

- Copf, T., Rabet, N. and Averof, M. 2006. Knockdown of *spalt* function by RNAi causes de-repression of *Hox* genes and homeotic transformations in crustacean *Artemia franciscana*. *Developmental Biology* **298**: 87-94.
- Covi, J.A., Chang, E. S. and Mykles, D. L. 2009. Conserved role of cyclic nucleotides in the regulation of ecdysteroidogenesis by the crustacean molting gland. *Comparative Biochemistry and Physiology* **152(4)**: 470-477.
- Destoumieux, D., Bulet, P., Loew, D., Dorselaer, A. V., Rodriguez, J. and Bachère, E. 1997. Penaeidins, a new family of antimicrobial peptides isolated from the shrimp *Penaeus vannamei* (Decapoda). *Journal of Biological Chemistry* **272(45)**: 28398-28406.
- Dezulian, T., Remmert, M. and Palatnik, J. F. 2005. Identification of plant microRNA homologs. *Bioinformatics Advance Access* **29**: 1-2.
- Doumas, S., Kolokotronis, A. and Stefanopoulos, P. 2005. Anti-inflammatory and antimicrobial roles of secretory leukocyte protease inhibitor. *Infection and Immunity* **73(3)**: 1271-1274.
- Esau, C. C., Davis, S., Murray, S. F., Yu, X. X., Pandey, S. K., Pear, M., Watts, L., Booten, S. L., Graham, M., McKay, R., Subramaniam, A., Propp, S., Lollo, B. A. , Freier, S., Bennett, C. F., Bhanot, S. and Monia, B.P. 2006. miR-122 regulation of lipid metabolism revealed by in vivo antisense targeting. *Cell Metabolic* **3**: 87–98.
- Esau, C. C. and Monia, B. P. 2007. Therapeutic potential for microRNAs. *Advanced Drug Delivery Reviews* **59**: 101–114.
- Elbashir, S. M., Harborth, J., Lendeckel, W., Yalcin, A., Weber, K. and Tuschl, T. 2001. Duplexes of 21-nucleotide RNAs mediate RNA interference in cultured mammalian cells. *Nature* **411**: 494-498.

- Fire, A., Xu, S., Montgomery, M. K., Kostas, S. A., Driver, S. E. and Mello, C. C. 1998. Potent and specific genetic interference by double-stranded RNA in *Caenorhabditis elegans*. *Nature* **391**: 806–811.
- Friedman, R. C., Farh, K. K. H., Burge, C. B. and Bartel, D. P. 2009. Most mammalian mRNAs are conserved targets of microRNAs. *Genome Research* **19**: 92-105.
- Fu, X., Adamski, M. and Thompson, E. M. 2008. Altered miRNA repertoire in the simplified chordate, *Oikopleura dioica*. *Molecular Biology and Evolution* **25**(6): 1067-1080.
- Ghosh, Z., Chakrabarti, J. and Mallick, B. 2007. miRNomics: The bioinformatics of microRNA genes. *Biochemical and Biophysical Research Communications* **363**: 6-11.
- Gilad, S. Meiri, E. , Yigev, Y., Benjamin, S., Lebanony, D., Yerushalmi, N., Benjamin, H., Kushnir, M., Cholak, H., Melamed, N., Bentwich, Z., Hod, M. and Goren, Y. 2008. Serum microRNAs are promising novel biomarkers. *PLoS ONE* **3**(9): 1-7.
- Giraldez, A. J., Cinalli, R. M., Glasner, M. E., Enright, A. J., Thomson, J. M., Baskerville, S., Hammond, S. M., Bartel, D. P. and Schier, A. F. 2005. MicroRNAs regulate brain morphogenesis in zebrafish. *Science* **308**: 833-838.
- Giraldez, A. J., Cinalli, Mishima, Y., Rihel, J., Grocock, R. J., Dongen, S. V., Inoue, K., Enright, A. J. and Schier, A. F. 2006. Zebrafish MiR-430 promotes deadenylation and clearance of maternal mRNAs. *Science* **312**: 75-79.
- Glazov, E. A., Cottee, P. A., Barris, W. C., Moore, R. J., Dalrymple, B. P. and Tizard, M. L. 2008. A microRNA catalog of the developing chicken embryo identified by a deep sequencing approach. *Genome Research* **18**(6): 957–964.

- Grad, Y., Aach, J., Hayes, G. D., Reinhart, B. J., Church, G. M., Ruvkun, G. and Kim, J. 2003. Computational and experimental identification of *C. elegans* microRNAs. *Molecular Cell* **11**: 1253–1263.
- Gregory, R.I., Chendrimada, T.P. and Shiekhattar, R. 2006. MicroRNA biogenesis: isolation and characterization of the microprocessor complex. *Methods in Molecular Biology* **342**: 33-47.
- Griffiths-Jones, S., Grocock, R. J., van Dongen, S., Bateman, A. and Enright, A. J. 2006. miRBase: microRNA sequences, targets and gene nomenclature. *Nucleic Acids Research* **1(34)**: D140-4.
- Grishok, A., Pasquinelli, A. E., Conte, D., Li, N., Parrish, S., Ha, I., Baillie, D. L., Fire, A., Ruvkun, G. and Mello, C. C. 2001. Genes and mechanisms related to RNA interference regulate expression of the small temporal RNAs that control *C. elegans* developmental timing. *Cell* **106**: 23–34.
- Grün, D., Wang, Y. L., Langenberger, D., Gunsalus, K. C. and Rajewsky, N. 2005. microRNA target predictions across seven *Drosophila* species and comparison to mammalian targets. *PLoS Computational Biology* **1(1)**: 51-66.
- Grundhoff, A., Sullivan, C. S. and Ganem, D. 2006. A combined computational and microarray-based approach identifies novel microRNAs encoded by human gamma-herpesviruses. *RNA* **12**: 733-750.
- Grunwald, D. J. and Eisen, J. S. 2002. Headwaters of the zebrafish- emergence of a new model vertebrate. *Nature Review Genetics* **3(9)**: 717-724.
- Gu, J., Fu, H., Zhang, H. and Li, Y. 2007. Identifications of conserved 7-mers in 3'-UTRs and microRNAs in *Drosophila*. *BMC Bioinformatics* **8**: 432.

- Gwizdek, C., Ossareh-Nazari, B., Brownawell, A. M., Doglio, A., Bertrand, E., Macara, I. G. and Dargemont, C. 2003. Exportin-5 mediates nuclear export of minihelix-containing RNAs. *The Journal of Biological Chemistry* **278(8)**: 5505–5508.
- Hammond, S. M. 2006. MicroRNAs as oncogenes. *Current Opinion in Genetics and Development* **16(1)**: 4-9.
- Hafner, M., Landgraf, P., Ludwing, J., Rice, A., Ojo, T., Lin, C., Holoch, D., Lim, C. and Tuschl, T. 2007. Identification of microRNAs and other small regularoty RNAs using cDNA library sequencing. *Methods* **44**: 3-12.
- Holt, R. A. and Jones, S. J. M. 2008. The new paradigm of flow cell sequencing. *Genome Research* **18**: 839-846.
- Houbaviy, H. B., Murray, M. F. and Sharp, P. A. 2003. Embryonic stem cell-specific microRNAs. *Developmental Cell* **5**: 351–358.
- Hu, Z., Chen, J., Tian, T., Zhou, X., Gu, H., Xu, L., Zeng, Y., Miao, R., Jin, G., Ma, H., Chen, Y. and Shen, H. 2008. Genetic variants of miRNA sequences and non-small cell lung cancer survival. *The Journal of Clinical Investigation* **118(7)**: 2600- 2608.
- Humphreys, D. T., Westman, B. J., Martin, D. I. and Preiss, T. 2005. MicroRNAs control translation initiation by inhibiting eukaryotic initiation factor 4E/cap and poly(A) tail function. *Proceeding of the National Academic of Science* **102**: 16961–16966.
- Johnston, R. J. Jr. and Hobert, O. 2003. A microRNA controlling left/right neuronal asymmetry in *Caenorhabditis elegans*. *Nature* **426**: 845-849.
- Kibbe, W. A. 2007. OligoCalc: an online oligonucleotide properties calculator. *Nucleic Acid Research* **35(Web Server issue)**: 43-46.
- Kim, V. N. 2004. MicroRNA precursors in motion: exportin-5 mediates their nuclear export. *Trends in Cell Biology* **14(4)**: 156-159.

- Kim, V. N. 2005. MicroRNA biogenesis: coordinated cropping and dicing. *Nature* **6**: 376-385.
- Kim, V. N. and Nam, J.W. 2006. Genomics of microRNA. *Trends in Genetics* **22**:165–173.
- Kloosterman, W. P., Steiner, F. A., Berezikov, E., Ewart, de B., Jose, van de B., Verheul, M., Cuppen, E. and Plasterk, R. H. A. 2006. Cloning and expression of new microRNAs from zebrafish. *Nucleic Acid Research* **34(9)**: 2558-2569.
- Krol, J., Sobczak, K., Wilczynska, U., Drath, M., Jasinska, A., Kaczynska, D. and Krzyzosiak, D. J. 2004. Structural features of microRNA (miRNA) precursors and their relevance to miRNA biogenesis and small interfering RNA/short hairpin RNA design. *The Journal of Biological Chemistry* **279(40)**: 42230–42239.
- Lagos-quintana, M., Rauhut, R., Meyer, J., Borkhardt, A. and Tuschl, T. 2003. New microRNAs from mouse and human. *RNA* **9**: 175–179.
- Lai, E. C., Tam, B. and Rubin, G. M. 2005^a. Pervasive regulation of *Drosophila* Notch target genes by GY-box-, Brd-box-, and K-box-class microRNAs. *Genes and Development* **19**: 1067–1080.
- Lai, C. Y., Chenga, W. and Kuo, C. M. 2005^b. Molecular cloning and characterisation of prophenoloxidase from haemocytes of the white shrimp, *Litopenaeus vannamei*. *Fish and Shellfish Immunology* **18**: 417-430.
- Lee, R. C., Feinbaum, R. L. and Ambros, V. 1993. The *C. elegans* heterochronic gene *lin-4* encodes small RNAs with antisense complementarity to *lin-14*. *Cell* **75(5)**: 843-854.
- Lee, Y., Han, J., Yeom, K. H., Jin, H. and Kim, V. N. 2006. Drosha in primary microRNA processing. *Cold Spring Harbor Symposia on Quantitative Biology* **71**: 51-57.
- Legendre, M., Lambert, A. and Gautheret, D. 2005. Profile-based detection of microRNA precursors in animal genome. *Bioinformatics* **21(7)**: 841-845.

- Lewis, B. P., Burge, C. B. and Bartel, D. P. 2005. Conserved seed pairing, often flanked by adenosines, indicates that thousands of human genes are microRNA targets. *Cell* **120**: 15-20.
- Lim, L. P., Glasner, M. E., Yekta, S., Burge, C. B. and Bartel, D. P. 2003^a. Vertebrate microRNA genes. *Science* **299**: 1540.
- Lim, L. P., Lau, N. C., Weinstein, E. G., Abdelhakim, A., Yekta, S., Rhoades, M. W., Burge, C. B. and Bartel, D. P. 2003^b. The microRNAs of *Caenorhabditis elegans*. *Genes and Development* **17**: 991-1008.
- Lim, L. P., Lau, N. C., Garrett-Engele, P., Grimson, A., Schelter, J. M., Castle, J., Bartel, D. P., Linsley, P. S. and Johnson, J. M. 2005. Microarray analysis shows that some microRNAs downregulate large numbers of target mRNAs. *Nature* **433**: 769-773.
- Lin, S. L., Miller, J. D. and Ying, S. Y. 2006. Review article: Intronic microRNA (miRNA). *Journal of Biomedicine and Biotechnology* **2006**: 1-13.
- Lindow, M. and Gorodkin, J. 2007. Principles and limitations of computational microRNA gene and target finding. *DNA and Cell Biology* **26(5)**: 339-351.
- Lua, T. D., Hidehiro K., Ikuo H. and Takashi A. 2008. Inhibition of red seabream iridovirus (RSIV) replication by small interfering RNA (siRNA) in a cell culture system. *Antiviral Research* **77**: 142-149.
- Lu, J., Getz, G., Miska, E. A., Alvarez-Saavedra, E., Lamb, J., Peck, D., Sweet-Cordero, A., Ebert, B. L., Mak, R. H., Ferrando, A. A., Downing, J. R., Jacks, T., Horvitz, H. R. and Golub, T. R. 2005. MicroRNA expression profiles classify human cancers. *Nature* **435(7043)**: 834-838.
- Lund, E., Guttinger, S., Calado, A., Dahlberg, J. E. and Kutay, U. 2004. Nuclear export of microRNA precursors. *Science* **303**: 95-98.

- Lungren, R., Staples, D., Funge-Smith, S. and Clausen, J. 2006. *Status and potential of fisheries and aquaculture in Asia and the Pacific 2006*. FAO Regional Office for Asia and the Pacific. RAP PUBLICATION 2006/22. 1-72.
- Madigan, M. T. and Martinko, J. M. 2006. *Brock Biology of Microorganisms*. 11th Edition. Pearson Education Inc, USA. 243-821.
- Mardis, E. R. 2008. The impact of next generation sequencing technology on genetics. *Trends in Genetics* **24(3)**: 133-141.
- Massé, E., Majdalani, N. and Gottesman, S. 2003. Regulatory roles for small RNAs in bacteria. *Current Opinion in Microbiology* **6**: 120-124.
- Mathieu, O. and Bender, J. 2004. RNA-directed DNA methylation. *Journal of Cell Science* **117**: 4881-4888.
- Matzke, M. A. and Birchler, J. A. 2005. RNAi-mediated pathways in the nucleus. *Nature* **6**: 24-35.
- McManus, M. T., Haines, B. B., Dillon, C. P., Whitehurst, C. E., Parijs, v. L. and Chen, J., 2002. Small interfering RNA-mediated gene silencing in T lymphocytes. *Journal of Immunology* **169**: 5754–5760.
- Medzhitov, R., Preston-Hurlburt, P. and Janeway Jr C. A. 1997. A human homologue of the *Drosophila* Toll protein signals activation of adaptive immunity. *Nature* **388**: 394-397.
- Megraw, M., Baev, V., Rusinov, V., Jensen, S. T., Kalantidis, K. and Hatzigeorgiou, A. G. 2006. MicroRNA promoter element discovery in *Arabidopsis*. *RNA* **12**: 1612–1619.
- Mette, M. F., Aufsatz, W., van der Winden, J., Matzke, M. A. and Matzke, A. J. M. 2000. Transcriptional silencing and promoter methylation triggered by double stranded RNA. *EMBO Journal* **19**: 5194–5201.

- Miranda, K. C., Huynh, T., Tay, Y., Ang, Y. S., Tam, W. L., Thomson, A. M., Lim, B. and Rigoutsos, I. 2006. A pattern-based method for the identification of microRNA binding sites and their corresponding heteroduplexes. *Cell* **126(6)**: 1203-1217.
- Morin, R. D., O'Connor, M. D., Griffith, M., Kuchenbauer, F., Delaney, A., Prabhu, A., Zhao, Y., McDonald, H., Zeng, T., Hirst, M., Eaves, C. J. and Marra, M. A. 2008. Application of massively parallel sequencing to microRNA profiling and discovery in human embryonic stem cells. *Genome Research* **18 (4)**: 610-621.
- Möritz, Th., Edström, J. E. and Pongs, O. 1984. Cloning of a gene localized and expressed at the ecdysteroid regulated puff 74EF in salivary glands of *Drosophila* larvae. *EMBO Journal* **3(2)**: 289–295.
- Muhonen, P. and Holthofer, H. 2009. Epigenetic and microRNA-mediated regulation in diabetes. *Nephrology Dialysis Transplantation*: 1-9.
- Nakamoto, M., Jin, P., O'Donnell, W. T. and Warren, S. T. 2005. Physiological identification of human transcripts translationally regulated by a specific microRNA. *Human Molecular Genetics* **14(24)**: 3813-3821.
- Norden-Krichmar, T. M., Holtz, J., Pasquinelli, A. E. and Gaasterland, T. 2007. Computational prediction and experimental validation of *Ciona intestinalis* microRNA genes. *BMC Genomics* **8**: 445-457.
- Nilsen, T. W. 2007. Mechanisms of microRNA-mediated gene regulation in animal cells. *Trends in Genetics* **23(5)**: 243-249.
- O'leary, N. A., Trent, H. F., Robalino, J., Peck, M. E. T., McKillen, D. J. and Gross, P. S. 2006. Analysis of multiple tissue-specific cDNA libraries from the pacific whiteleg shrimp, *Litopenaeus vannamei*. *Intergrative and Comparative Biology* **46(6)**: 931-939.

- Olsen, P. H. and Ambros, V. 1999. The lin-4 regulatory RNA controls developmental timing in *Caenorhabditis elegans* by blocking LIN-14 protein synthesis after the initiation of translation. *Developmental Biology* **216**(2): 671–680.
- Ørom, U. A. and Lund, A. H. 2007. Isolation of microRNA targets using biotinylated synthetic microRNAs. *Methods* **43**(2): 162-165.
- Palakodeti, D., Smielewska, M. and Gravelly, B. R. 2006. MicroRNAs from the Planarian *Schmidtea mediterranea*: A model system for stem cell biology. *RNA* **12**: 1640-1649.
- Parker, R. and Song, H. 2004. The enzymes and control of eukaryotic mRNA turnover. *Nature Structural & Molecular Biology* **11**: 121- 127.
- Phan, U. T., Arunachalam, B. and Cresswell, P. 2000. Gamma-interferon-inducible lysosomal thiol reductase (GILT): maturation, activity, and mechanism of action. *The Journal of Biological Chemistry* **275**(34): 25907–25914.
- Pillai, R. S. 2005. MicroRNA function: multiple mechanisms for a tiny RNA. *RNA* **11**: 753-1761.
- Potter, J. D., Sheng, Z., Pan, B. S. and Zhao, J. 1995. A direct regulatory role for troponin T and a dual role for troponin C in the Ca⁺ regulation of muscle contraction. *The Journal of Biological Chemistry* **270**(6): 2557-2562.
- Poy, M. N., Eliasson, L., Krutzfeldt, J., Kuwajima, S., Ma, X., MacDonald, P. E., Pfeffer, S., Tuschl, T., Rajewsky, N., Rorsman, P. and Stoffel, M. 2004. A pancreatic islet-specific microRNA regulates insulin secretion. *Nature* **432**: 226-230.
- Reinhart, B. J., Slack, F. J., Basson, M., Pasquinelli, J.C., Bettinger, M., Rougvie, A. E., Horvitz, H. R. and Ruvkun, G. 2000. The 21 nucleotide let-7 RNA regulates developmental timing in *Caenorhabditis elegans*. *Nature* **403**: 901-906.

- Reinhart, B. J., Weinstein, E. G., Rhoades, M. W., Bartel, B. and Bartel, D. P. 2002. MicroRNAs in plant. *Genes and Development* **16**: 1616-1626.
- Reddy, S. L., Sarojamma, V. and Ramakrishna, V. 2007. Future of RNAi in medicine: A review. *World Journal of Medical Science* **2(1)**: 1-14.
- Robalino, J., Browdy, C. L., Prior, S. Metz, A., Parnell, P., Gross, P. and Warr, G. 2004. Induction of antiviral immunity by double-stranded RNA in a marine invertebrate. *Journal of Virology* **78(19)**: 10442-10448.
- Rodriguez, A., Griffiths-Jones, S., Ashurst, J. L. and Bradley, A. 2004. Identification of mammalian microRNA host genes and transcription units. *Genome Research* **14**: 1902–1910.
- Rozen, S. and Skaletsky, H. J. 2000. Primer3 on the WWW for general users and for biologist programmers. In: Krawetz S, Misener S (eds) *Bioinformatics Methods and Protocols: Methods in Molecular Biology*. Humana Press, Totowa, NJ. 365-386.
- Russell, P. J. 2006. *iGenetics: A Molecular Approach*. Pearson Education, USA. 2-1006.
- Sethupathy, P. and Collins, F. S. 2008. MicroRNA target site polymorphisms and human disease. *Trends in Genetics* **24(10)**: 489-497.
- Sheth, U. and Parker, R. 2003. Decapping and decay of messenger RNA occur in cytoplasmic processing bodies. *Science* **300**: 805-808.
- Shivdasani, R. A. 2006. MicroRNAs: Regulators of gene expression and cell differentiation. *Blood* **108 (12)**: 3646-3653.
- Stark, A., Brennecke, J., Bushati, N., Russell, R. B. and Cohen, S. M. 2005. Animal microRNAs confer robustness to gene expression and have a significant impact on 3'UTR evolution. *Cell* **123**: 1133-1145.

- Su, J., Oanh, D. T. H., Lyons, R. E., Leeton, L., Hulten, M. C. W., Tan, S. H., Song, L., Rajendran, K. V. and Walker, P. J. 2008. A key gene of the RNA interference pathway in the black tiger shrimp, *Penaeus monodon*: Identification and functional characteristic of Dicer-1. *Fish and Shellfish Immunology* **24**: 223-233.
- Tang, G. Q. and Maxwell, E. S. 2008. *Xenopus* microRNA genes are predominantly located within introns and are differentially expressed in adult frog tissues via post-transcriptional regulation. *Genome Research* **18**: 104-112.
- Tassanakajon, A., Klinbunga, S., Paunglarp, N., Rimphanitchayakit, V., Udomkit, A., Jitrapakdee, S., Sritunyalucksana, K., Phongdara, A., Pongsomboon, S., Supungul, P., Tang, S., Kuphanumart, K., Pichyangkura, R. and Lursinsap, C. 2006. *Penaeus monodon* gene discovery project: The generation of an EST collection and establishment of a database. *Gene* (**384**): 104–112.
- Tiu, S. H. K., He, J. G. and Chan, S. M. 2007. The LvCHH-ITP gene of the shrimp (*Litopenaeus vannamei*) produces a widely expressed putative ion transport peptide (LvITP) for osmo-regulation. *Gene* **396**: 226–235.
- Tjaden, B., Goodwin, S. S., Opdyke, J. A., Guillier, M., Fu, D. X., Gottesman, S. and Storz, G. 2006. Target prediction for small, noncoding RNAs in bacteria. *Nucleic Acids Research* **34(9)**: 2781-2802.
- Tong, C. Z., Jin, Y. F. and Zhang, Y. Z. 2006. Computational prediction of microRNA genes in silkworm genome. *Journal of Zhejiang University SCIENCE B* **10**: 806-816.
- Valencia-Sanchez, M. A., Liu, J., Hannon, G. J. and Parker, R. 2006. Control of translation and mRNA degradation by miRNAs and siRNAs. *Genes & Development* **20**: 515-524.

- Vella, M. C., Choi, E. Y., Lin, S. Y., Reinert, K. and Slack, F. J. 2005. The *C. elegans* microRNA *let-7* binds to imperfect *let-7* complementary sites from the *lin-41* 3'UTR. *Genes and Development* **18**: 132-137.
- Vinther, J., Hedegaard, M. M., Gardner, P. P., Andersen, J. S. and Arctander, P. 2006. Identification of miRNA targets with stable isotope labeling by amino acids in cell culture. *Nucleic Acids Research* **34(16)**:e107 (1-6).
- Voet, D. and Voet, J. G. 2004. *Biochemistry*. 3rd Edition. John Wiley & Son Inc, USA. 303-1450.
- Wang, Z., Jiao, X., Carr-Schmid, A. and Kiledjian, M. 2002. The hDcp2 protein is a mammalian mRNA decapping enzyme. *Proceeding of the National Academic of Science* **99(20)**: 12663–12668.
- Wang, X. W., Zhang, J., Gu, J., He, T., Zhang, X. G. and Li, Y. D. 2005. MicroRNA identification based on sequence and structure alignment. *Bioinformatics* **21**: 3610-3614.
- Wang, X. W. 2008. miRDB: A microRNA target prediction and functional annotation database with a wiki interface. *RNA* **14**: 1012-1017.
- Wang, Y. C., Chang, P. S. and Chen, H. Y. 2006. Tissue distribution of prophenoloxidase transcript in the Pacific white shrimp *Litopenaeus vannamei*. *Fish and Shellfish Immunology* **20**: 414-418.
- Weaber, D. B., Anzola, J. M., Evans, J. D., Reid, J. G., Reese, J. T., Childs, K. L., Zdobnov, E. M., Samantam M. P., Miller, J. and Elisk, C. G. 2007. Computational and transcriptional evidence for microRNAs in the honey bee genome. *Genome Biology* **8(6)**: R97-R97.12.

- Weber, M. J. 2005. New human and mouse microRNA genes found by homology search. *FEBS Journal* **272**: 59-73.
- Wienholds, E., Koudijs, M. J., Freek, J. M. van Eeden, Cuppen, E. and Plasterk, R. H. A. 2003. The microRNA-producing enzyme Dicer1 is essential for zebrafish development. *Nature Genetics* **35(3)**: 217.
- Wienholds, E. and Plasterk, R. H. A. 2005. Minireview: MicroRNA function in animal development. *FEBS Letter* **579**: 5911-5922.
- Wightman, B., Ha, I. and Ruvkun, G. 1993. Posttranscriptional regulation of the heterochronic gene *lin-14* by *lin-4* mediates temporal pattern formation in *C. elegans*. *Cell* **75(5)**: 855-862.
- Yang, M. and Mattes, J. 2008. Discovery, biology and therapeutic potential of RNA interference, microRNA and antagomirs. *Pharmacology & Therapeutics* **117**: 94–104.
- Yao, Y. Guo, G., Ni, Z., Sunkar, R., Du, J., Zhu, J. K. and Sun, Q. 2007. Cloning and characterization of microRNAs from wheat (*Triticum aestivum* L.). *Genome Biology* **8**: R96.1- R96.12.
- Yekta, S., Shih, I. and Bartel, D. P. 2004. MicroRNA directed cleavage of *HOXB8* gene. *Science* **304**: 594-596.
- Zhang, X., Yang, H., Corydon, M. J., Zhang, X., Pedersen, S., Korenberg, J. R., Chen, X. N., Laporte, J., Gregersen, N., Niebuhr, E., Liu, G. and Bolund, L. 1999. Localization of a human nucleoporin 155 Gene (NUP155) to the 5p13 region and cloning of its cDNA. *Genomics* **57**: 144–151.
- Zhang, B., Pan, X., Cannon, C. H., Cobb, G. P. and Anderson, T. A. 2006. Conservation and divergence of plant microRNA genes. *Plant Journal* **46**: 243–259.

- Zhao, Y. and Srivastava, D. 2007. A developmental view of microRNA function. *Trends in Biochemical Science* **32**: 189-197.
- Zhou, D., Li, S., Wen, J., Gong, X., Xu, L. and Luo, Y. 2008. Genome-wide computational analyses of microRNAs and their targets from *Canis familiaris*. *Computational Biology and Chemistry* **32**: 61–66.
- Zuker, M. 2003. Mfold web server for nucleic acid folding and hybridization prediction. *Nucleic Acids Research* **31(13)**: 3406-3415.
- 454 Life Sciences, a Roche company, USA. 2008. <http://www.454.com/index.asp>
- Applied Biosystems, Inc, USA. 2008.
http://www3.appliedbiosystems.com/AB_Home/index.htm
- BLAST: Basic Local Alignment Search Tool. 2008.
<http://blast.ncbi.nlm.nih.gov/Blast.cgi>
- ClustalW. 2008. <http://www.ebi.ac.uk/Tools/clustalw/>
- EMBL-EBI Database. 2009. <http://www.ebi.ac.uk/Databases/>
- Food and Agriculture Organization of the United Nation. 2008.
<http://www.fao.org/fishery/species/3404/en>
- Gulf State Marine Fisheries Commission. 2005.
http://nis.gsmfc.org/nis_factsheet.php?toc_id=141
- Helicos BioSciences Corporation, UK. 2008.
<http://www.helicosbio.com/Home/tabid/36/Default.aspx>
- Illumina, Inc. USA. 2008. <http://www.illumina.com/>

National Fisheries Symposium. 5th. 2008.

<http://www.seafdec.org.my/mfrdmd/PDF/Dr.%20Marzuki.pdf>

National Centre for Biotechnology Information, 2008. <http://www.ncbi.nlm.nih.gov/>

Marine Genomics Project, 2008. <http://www.marinegenomics.org/>

mfold, Version 3.2. 2008. <http://mfold.bioinfo.rpi.edu/cgi-bin/rna-form1.cgi>

miRBase, Release 11.0: April 2008. <http://microrna.sanger.ac.uk/sequences/index.shtml>

miRBase Targets, Version 5.0: January 2009. <http://microrna.sanger.ac.uk/targets/v5/>

Oligonucleotide Properties Calculator, Version 3.23. 2008.

<http://www.basic.northwestern.edu/biotools/oligocalc.html>

Primer3 Input 0.4.0. 2008. <http://frodo.wi.mit.edu/>

Pfam 23.0. July 2008. <http://pfam.sanger.ac.uk/>

Pfam 9.0. January 2009. <http://rfam.sanger.ac.uk/>

Primer3 Input 0.4.0. <http://frodo.wi.mit.edu/>

UniProt Knowledgebase (UniProtKB), Version 19.0. November 2008.

<http://www.uniprot.org/help/uniprotkb>