

7 References

1. Adams MD., Kelley JM., Gocayne JD., Dubnick M., Polymeropoulos MH., Xiao H., Merril CR., Wu A., Olde B., Moreno RF., *et al.*, **Complementary DNA sequencing: expressed sequence tags and human genome project.** Science 252: 1651-1656, 1991.
2. Aida T., **On the inheritance of color in a freshwater fish, *Aplocheilus latipes* Temminck and Schlegel, with special reference to sex-linked inheritance.** Genetics 6: 554-573, 1921.
3. Altschul SF., Gish W., Miller W., Myers EW., Lipman DJ., **Basic local alignment search tool.** J Mol Biol. 215: 403-410, 1990.
4. Amores A., Force A., Yan YL., Joly L., Amemiya C., Fritz A., Ho RK., Langeland J., Prince V., Wang YL., Westerfield M., Ekker M., Postlethwait JH., **Zebrafish hox clusters and vertebrate genome evolution.** Science 282: 1711-1714, 1998.
5. Aparicio S., Chapman J., Stupka E., Putnam N., Chia JM., Dehal P., Christoffels A., Rash S., Hoon S., Smit A., Gelpke MD., Roach J., Oh T., Ho IY., Wong M., Detter C., Verhoef F., Predki P., Tay A., Lucas S., Richardson P., Smith SF., Clark MS., Edwards YJ., Doggett N., Zharkikh A., Tavtigian SV., Pruss D., Barnstead M., Evans C., Baden H., Powell J., Glusman G., Rowen L., Hood L., Tan YH., Elgar G., Hawkins T., Venkatesh B., Rokhsar D., Brenner S., **Whole genome shotgun assembly and analysis of the genome of *Fugu rubripes*.** Science 297: 1301-1310, 2002.
6. Asakawa S., Abe I., Kudoh Y., Kishi N., Wang Y., Kubota R., Kudoh J., Kawasaki K., Minoshima S., Shimizu N., **Human BAC library: Construction and rapid screening.** Gene 191: 69-79, 1997.
7. Bingulac-Popovic J., Figueroa F., Sato A., Talbot WS., Johnson SL., Gates M., Postlethwait JH., Klein J., **Mapping of MHC class I and class II regions to different linkage groups in the zebrafish, *Danio rerio*.** Immunogenetics 46: 129-34, 1997.

8. Brenner S., Elgar G., Sandford R., Macrae A., Venkatesh B., Aparicio S., **Characterization of pufferfish (Fugu) genome as a compact model vertebrate genome.** Nature 366: 265-268, 1993.
9. Devlin RH., Nagahama Y., **Sex determination and sex differentiation in fish: an overview of genetic, physiological, and environment influences.** Aquaculture 208: 191-364, 2002.
10. Driever W., Solnica-Krezel L., Schier AF., Neuhauss SC., Malicki J., Stemple DL., Stainier DY., Zwartkruis F., Abdelilah S., Rangini Z., Belak J., and Boggs C., **A genetic screen for mutations affecting embryogenesis in zebrafish** Development, 123: 37-46, 1996.
11. Egami N., Etoh H., **Life span data for the small fish, *Oryzias latipes*.** Exp. Gerontol. 4: 127-129, 1969.
12. Flajnik MF., Kasahara M., **Comparative genomics of the MHC: glimpses into the evolution of the adaptive immune system.** Immunity. 15: 351-362, 2001.
13. Fujiyama A., Watanabe H., Toyoda A., Taylor TD., Itoh T., Tsai SF., Park HS., Yaspo ML., Lehrach H., Chen Z., Fu G., Saitou N., Osoegawa K., Jong PJ., Suto Y., Hattori M., Sakaki Y., **Construction and analysis of human-chimpanzee comparative clone map.** Science 295: 131-134, 2002.
14. Fukamachi S., Shimada A., Shima A., **Mutations in the gene encoding B, a novel transporter protein, reduce melanin content in medaka.** Nature Genetics 28: 381-385, 2001.
15. Furutani-Seiki M, Sasado T, Morinaga C, Suwa H, Niwa K, Yoda H, Deguchi T, Hirose Y, Yasuoka A, Henrich T, Watanabe T, Iwanami N, Kitagawa D, Saito K, Asaka S, Osakada M, Kunimatsu S, Momoi A, Elmasri H, Winkler C, Ramialison M, Loosli F, Quiring R, Carl M, Grabher C, Winkler S, Del Bene F, Shinomiya A, Kota Y, Yamanaka T, Okamoto Y, Takahashi K, Todo T, Abe K, Takahama Y, Tanaka M, Mitani H, Katada T, Nishina H, Nakajima N, Wittbrodt J, Kondoh H. **A systematic genome-wide screen for mutations**

- affecting organogenesis in Medaka, *Oryzias latipes***. Mechanisms of Development 121(7-8):647-58, 2004.
16. Furutani-Seiki M., Wittbrodt J., **Medaka and zebrafish, an evolutionary twin study**. Mechanisms of Development 121: 629-637, 2004.
17. Gregory SG., Sekhon M., Schein J., Zhao S., Osoegawa K., Scott CE., Evans RS., BurrIDGE PW., Cox TV., Fox CA., Hutton RD., Mullenger IR., Phillips KJ., Smith J., Stalker J., Threadgold GJ., Birney E., Wylie K., Chinwalla A., Wallis J., Hillier L., Carter J., Gaige T., Jaeger S., Kremitzki C., Layman D., Maas J., McGrane R., Mead K., Walker R., Jones S., Smith M., Asano J., Bosdet I., Chan S., Chittaranjan S., Chiu R., Fjell C., Fuhrmann D., Girn N., Gray C., Guin R., Hsiao L., Krzywinski, *et al.*, **A physical map of the mouse genome**. Nature. 418: 743-450, 2002.
18. Grigoriev A., Levin A., Lehrach H., **A distributed environment for physical map construction**. Bioinformatics. 14: 252-258, 1998.
19. Henrich T., Ramialison M., Quiring R., Wittbrodt B., Furutani-Seiki M., Wittbrodt J., Kondoh H, **MEPD: a medaka gene expression pattern database**. Nucleic Acids Research 31: 72-74, 2003.
20. Henrich T., Wittbrodt J., **An *in situ* hybridization screen for the rapid isolation of differentially expressed genes**. Dev Genes Evol 210: 28-33, 2000.
21. Hong Y., Winkler C., and Scharl M., **Production of medaka chimeras from a stable embryonic stem cell line**. PNAS 95: 3679-3684, 1998.
22. Hsiao CD., Tsai, HJ., **Transgenic zebrafish with fluorescent germ cell: a useful tool to visualize germ cell proliferation and juvenile hermaphroditism in vivo**. Developmental Biology 262: 313-323, 2003.
23. Huang X., and Madan A., **CAP3: A DNA sequence assembly program**. Genome Research 9: 868-877, 1999.

24. Hyodo-Taguchi Y. **Inbred strains of the medaka, *Oryzias latipes***. The Fish Biology Journal MEDAKA 8: 11-14, 1996.
25. Hyodo-Taguchi Y., and Sakaizumi M. **List of inbred strains of the medaka, *Oryzias latipes*, maintained in the division of biology**. National Institute of Radiological Sciences, the Fish biology Journal MEDAKA 5: 29-30, 1993.
26. International Human Genome Sequencing Consortium, **Initial sequencing and analysis of the human genome**, Nature 409, 860-921, 2001
27. Ishikawa Y., **Medaka fish as a model system for vertebrate developmental genetics**. Bioessays 22: 487-495, 2000.
28. Iwamatsu T., **The Biology of the Medaka**. Tokyo Scientist-Sha. 1993.
29. Jaillon O., Aury JM., Brunet F., Petit JL., Stange-Thomann N., Mauceli E., Bouneau L., Fischer C., Ozouf-Costaz C., Bernot A., Nicaud S., Jaffe D., Fisher S., Lutfalla G., Dossat C., Segurens B., Dasilva C., Salanoubat M., Levy M., Boudet N., Castellano S., Anthouard V., Jubin C., Castelli V., Katinka M., Vacherie B., Biemont C. Skalli Z., Cattolico L., Poulain J., De Berardinis V., Cruaud C., Duprat S., Brottier P., Coutanceau JP., Gouzy J., Parra G., Lardier G., Chapple C., McKernan KJ., McEwan P., Bosak S., Kellis M., Volff JN., Guigo R., Zody MC., Mesirov J., Lindblad-Toh K., Birren B., Nusbaum C., Kahn D., Robinson-Rechavi M., Laudet V., Schachter V., Quetier F., Saurin W., Scarpelli C., Wincker P., Lander ES., Weissenbach J., Roest Crollius H., **Genome duplication in the teleost fish *Tetraodon nigroviridis* reveals the early vertebrate proto-karyotype**. Nature. 431: 946-957, 2004.
30. Ju B., Pristyazhnyuk I., Ladygina T., Kinoshita M., Ozato K., Wakamatsu Y., **Development and gene expression of nuclear transplants generated by transplantation of cultured cell nuclei into non-enucleated eggs in the medaka *Oryzias latipes***. Develop. Growth Differ 45: 167-174, 2003.
31. Kimura T., Jindo T., Narita T., Naruse K., Kobayashi D., Shin-I T., Kitagawa T., Sakaguchi T., Mitani H., Shima A., Kohara Y., Takeda H., **Large-scale isolation of ESTs**

- from medaka embryos and its application to medaka developmental genetics.** *Mechanisms of Development* . 121: 915-32, 2004.
32. Klein RR., Morishige DT., Klein PE., Dong J., and Mullet JE., **High throughput BAC DNA isolation for physical map construction of Sorghum (*Sorghum bicolor*).** *Plant Molecular Biology Reporter* 16: 351-364, 1998.
33. Kondo M., Froschauer A., Kitano A., Nanda I., Hornung U., Volf JN., Asakawa S., Mitani H., Naruse K., Tanaka M., Schmid M., Shimizu N., Scharl M., Shima A., **Molecular cloning and characterization of DMRT genes from the medaka *Oryzias latipes* and the platyfish *Xiphophorus maculatus*.** *Gene* 295: 213-222, 2002.
34. Kondo M., Nagao E., Mitani H., Shima A., **Differences in recombination frequencies during female and male meioses of the sex chromosomes of the medaka, *Oryzias latipes*.** *Genet. Res.* 78: 23-30, 2001.
35. Kondo M., Nanda I., Hornung U., Asakawa S., Shimizu N., Mitani H., Schmid M., Shima A., Scharl M., **Absence of the candidate male sex-determination gene *dmrt1b* (Y) of medaka from other fish species.** *Current Biology* 13: 416-420, 2003.
36. Kondo M., Nanda I., Hornung U., Schmid M., Scharl M., **Evolutionary origin of the medaka Y chromosome.** *Curr Biol.* 14:1664-9, 2004.
37. Krzywinski M., Wallis J., Gosele C., Bosdet I., Chiu R., Graves T., Hummel O., Layman D., Mathewson C., Wye N., Zhu B., Albracht D., Asano J., Barber S., Brown-John M., Chan S., Chand S., Cloutier A., Davito J., Fjell C., Gaige T., Ganten D., Girm N., Guggenheimer K., Himmelbauer H., Kreitler *et al.*, **Integrated and sequence-ordered BAC- and YAC-based physical maps for the rat genome.** *Genome Res.* 14: 766-79, 2004.
38. Kumar S., Hedges S.B., **A molecular timescale for vertebrate evolution.** *Nature* 392: 917-920, 1998.

39. Kuroda N., Naruse K., Shima A., Nonaka M., Sasaki M., **Molecular cloning and linkage analysis of complement C3 and C4 genes of the Japanese medaka fish** Immunogenetics. 51: 117-128, 2000.
40. Loosli F., Koster RW., Carl M., Kuhnlein R., Henrich T., Mucke M., Krone A., Wittbrodt J., **A genetic screen for mutations affecting embryonic development in medaka fish (*Oryzias latipes*)**. Mechanisms of Development 97: 133-139, 2000.
41. Loosli F., Winkler S., Burgtorf C., Wurmbach E., Ansorge W., Henrich, T., Grabher C., Arendt D., Carl M., Krone A., Grzebisz E., Wittbrodt J., **Medaka eyeless is the key factor linking retinal determination and eye growth** Development 128: 4035-4044, 2001.
42. Loosli F., Winkler S., Wittbrodt J., **Six3 overexpression initiates the formation of ectopic retina**. Genes Dev. 13: 649-654, 1999.
43. Ma CG., Fan LC., Ganassin R., Bols N., & Collodi p., **Production of zebrafish germ-line chimeras from embryo cell culture**. PNAS 98: 2461-2466, 2001.
44. Matsuda M., Kawato N., Asakawa S., Shimizu N., Nagahama Y., Hamaguchi S., Sakaizumi M., Hori H., **Construction of a BAC library derived from the inbred Hd-rR strain of the teleost fish, *Oryzias latipes***. Genes Genet. Syst 76: 61-63, 2001.
45. Matsuda M., Kawato N., Asakawa S., Shimizu N., Nagahama Y., Hamaguchi S., Sakaizumi M., Hori H., **Construction of a BAC library derived from the inbred Hd-rR strain of the teleost fish, *Oryzias latipes***. Genes Genet. Syst. 76: 61-63, 2001.
46. Matsuda M., Matsuda C., Hamaguchi S., Sakaizumi M., **Identification of the sex chromosomes of the medaka, *Oryzias latipes*, by fluorescence *in situ* hybridization** Cytogenet Cell Genet. 82: 257-262, 1998.
47. Matsuda M., Sato T., Toyazaki Y., Nagahama Y., Hamaguchi S., Sakaizumi M., ***Oryzias curvinotus* has *DMY*, a Gene that is required for male development in the medaka, *O. latipes***. Zoological science 20: 159-161, 2003.

48. Matsuda M., Sotoyama S., Hamaguchi S., and Sakaizumi M., **Male-specific restriction of recombination frequency in the sex chromosomes of the medaka, *Oryzias latipes***. *Genetical Research* 73: 225-231, 1999.
49. Matsuo MY., Asakawa S., Shimizu N., Kimura H., Nonaka M., **Nucleotide sequence of the MHC class I genomic region of a teleost, the medaka (*Oryzias latipes*)**. *Immunogenetics* 53: 930-940, 2002.
50. McPherson JD., Marra M., Hillier L., Waterston RH., Chinwalla A., Wallis J., Sekhon M., Wylie K., Mardis ER., Wilson RK., Fulton R., Kucaba TA., Wagner-McPherson C., Barbazuk WB., Gregory SG., Humphray SJ., French L., Evans RS., Bethel G., Whittaker A., Holden JL., *et al.*, **International human genome mapping consortium. A physical map of the human genome**. *Nature*. 409: 934-941, 2001.
51. Monaco AP., Larin Z., **YACs, BACs, PACs and MACs: artificial chromosomes as research tools**. *Tibtech* 12: 280-286, 1994.
52. Mott R., Grigoriev A., Maier E., Hoheisel J., and Lehrach H., **Algorithms and software tools for ordering clone libraries: application to the mapping of the genome of *Schizosaccharomyces pombe***. *Nucleic Acids Res.* 21: 1965–1974, 1993.
53. Mouse Genome Sequencing Consortium, **Initial sequencing and comparative analysis of the mouse genome**, *Nature* 420, 520-562, 2002
54. Nanda I., Kondo M., Hornung U., Asakawa S., Winkler C., Shimizu A., Shan Z., Haaf T., Shimizu N., Shima A., Schmid M., Schartl M., **A duplicated copy of DMRT1 in the sex-determining region of the Y chromosome of the medaka, *Oryzias latipes***. *Proceeding of the National Academy of Science of USA* 99: 11778-11783, 2003.
55. Naruse K., Fukamachi S., Mitani H., Kondo M., Matsuoka T., Kondo S., Hanamura N., Morita Y., Hasegawa K., Nishigaki R., Shimada A., Wada H., Kusakabe T., Suzuki N., Kinoshita M., Kanamori A., Terado T., Kimura H., Nonaka M., Shima A. **A detailed linkage map of medaka, *Oryzias latipes*, comparative genomics and genome evolution**. *Genetics* 154: 1773-84, 2000.

56. Naruse K., Hori H., Shimizu N., Kohara Y., Takeda H., **Medaka genomics: a bridge between mutant phenotype and gene function.** *Mechanisms of Development* 121: 619-628, 2004.
57. Naruse K., Tanaka M., Mita K., Shima A., Postlethwait J., Mitani H., **A medaka gene map: The trace of ancestral vertebrate proto-chromosomes revealed by comparative Gene mapping.** *Genome Research* 14: 820-828, 2004.
58. Niwa K., Ladygina T., Kinoshita M., Ozato K., and Wakamatsu Y., **Transplantation of blastula nuclei to non-enucleated eggs in the medaka, *Oryzias latipes*.** *Develop. Growth Differ.* 41: 163-172, 1999.
59. Ohno S., **Evolution by gene duplication.** Springer-Verlag, New York 1970.
60. Ohtsuka M., Kikuchi N., Nogami M., Inoko H., Ozato K., Kimura M., **Rapid screening of a novel arrayed medaka (*Oryzias latipes*) cosmid library.** *Biotechnol.* 4: 173-178, 2002.
61. Ohtsuka M., Makino S., Yoda K., Wada H., Naruse K., Mitani H., Shima A., Ozato K., Kimura M., Inoko H., **Construction of a linkage map of the medaka (*Oryzias latipes*) and mapping of the Da mutant locus defective in dorsoventral patterning.** *Genome Res.* 9: 1277-1287, 1999.
62. Poustka AP., Groth D., Hennig S., Thamm S., Cameron A., Beck A., Reinhardt R., Herwig R., Panopoulou G., and Lehrach H., **Generation, annotation, evolutionary analysis, and database integration of 20,000 unique sea urchin EST clusters.** *Genome Research* 13: 2736-2746, 2003.
63. Robinson-Rechavi M., Marchand O., Escriva H., Laudet V., **An ancestral whole-genome duplication may not have been responsible for the abundance of duplicated fish genes.** *Current Biology*, 11: R458-R459, 2001.
64. Sakaizumi M., **Genetic divergence in wild populations of medaka, *Oryzias latipes* (Pisces; Oryziatidae) from Japan and China.** *Genetics*, 69: 119-125, 1986.

65. Sakaizumi M., Moriwaki K., Egami N., **Allozymic variation and regional differentiation in wild population of the fish *Oryzias latipes***. *Copeia* 1983: 311-318, 1993.
66. Sambrook JG., Campbell RD., Elgar G., **Characterization of a gene cluster in *Fugu rubripes* containing the complement component C4 gene**. *Gene* 312: 73-83. 2003.
67. Sasaki T., Asakawa S., Shimizu A., Ishikawa S.K., Imai S., Himmelbauer H., Mitani H., Furutani-Seiki M., Kondoh H., Schartl M., Hori H., Shima A., and Shimizu N., **Medaka Genome mapping and sequencing : Toward Complete Genome Sequence**. *Marine Biotechnology* 6, S445-S448, 2004.
68. Sasaki T., Shimizu A., Ishikawa SK., Imai S., Asakawa S., Murayama Y., Zadeh Khorasani M., Mitani H., Furutani-Seiki M., Kondoh h., Nanda I., Schmid M., Schartel M., Nanoka M., Takeda H., Hori H., Himmelbauer H., shima A., Shimizu N. **The DNA sequence of Medaka chromosome LG22 and chromosomal evolution in vertebrates**. Submitted.
69. Schalkwyk LC., Cusack B., Dunkel I., Hopp M., Kramer M., Palczewski S., Piefke J., Scheel S., Weiher M., Wenske G., Lehrach H., and Himmelbauer H., **Advanced integrated mouse YAC map including BAC framework**. *Genome Res.* 11: 2142-2150, 2001.
70. Schartl M., **A comparative view on sex determination in medaka**. *Mechanisms of Development* 121: 639-645, 2004.
71. Schartl M., Nanda I., Kondo M., Schmid M., Asakawa S., Sasaki T., Shimizu N., Henrich T., Wittbrodt J., Furutani-Seiki M., Kondoh H., Himmelbauer H., Hong Y., Koga A., Nonaka M., Mitani H., Shima A., **Current status of medaka genetics and genomics**. *Methods Cell Biol.* 77: 173-199, 2004.
72. Scott MP., **Vertebrate homeobox gene nomenclature**. *Cell* 71: 551-553, 1992.

73. Shima A., Mitani H., **Medaka as a research organism: past, present and future.** Mechanism of Development 121: 599-604, 2004.
74. Shimada A., Shima A., **Combination of genomic DNA fingerprinting into the medaka specific-locus test system for studying environmental germ-line mutagenesis.** Mutation Res. 399: 149-165, 1988.
75. Shimoda N, Chevrette M, Ekker M, Kikuchi Y, Hotta Y, Okamoto H., **Mermaid, a family of short interspersed repetitive elements, is useful for zebrafish genome mapping.** Biochemical and Biophysical Research Communications 220: 233-237, 1996.
76. Steinfath M., Wruck W., Seidel H., Lehrach H., Radelof U., O'Brien J., **Automated image analysis for array hybridization experiments.** Bioinformatics. 17: 634-41, 2001.
77. Takehana Y., Nagai N., Matsuda M., Tsuchiya K., Sakaizumi M., **Geographic variation and diversity of the cytochrome *b* gene in Japanese wild population of medaka, *Oryzias latipes*.** Zoological science 20: 1279-1291, 2003.
78. Tanaka M., Kinoshita M., Kobayashi D., Nagahama Y., **Establishment of medaka (*Oryzias latipes*) transgenic lines with the expression of green fluorescent protein fluorescence exclusively in germ cells: A useful model to monitor germ cells in a live vertebrate.** PNAS 98: 2544-2549, 2001.
79. Taylor JS., Braasch I., Frickey T., Meyer A., and Van de Peer Y., **Genome duplication, a trait shared by 22,000 species of ray-finned fish.** Genome Res. 13: 382-390, 2003.
80. Terado T., Okamura K., Ohta Y., Shin DH., Smith SL., Hashimoto K., Takemoto T., Nonaka MI., Kimura H., Flajnik MF., Nonaka M., **Molecular cloning of C4 gene and identification of the class III complement region in the shark MHC.** J Immunol. 171: 2461-2466, 2003.
81. Toyama. K., **Some example of Mendelian characters (in Japanese).** Nihon Ikushugaku Kaiho 1: 1-9, 1916.

82. Tsukamoto K, Hayashi S, Matsuo MY, Nonaka MI, Kondo M, Shima A, Asakawa S, Shimizu N, Nonaka M. **Unprecedented intraspecific diversity of the MHC class I region of a teleost medaka, *Oryzias latipes***. Immunogenetics 57(6): 420-31, 2005.
83. Van de Peer Y., Taylor JS., Joseph J., Meyer A., **Wanda: a database of duplicated fish genes**. Nucleic Acids Research 30: 109-112, 2002.
84. Venter JC., Adams MD., Eugene EW., Li PW., Mural RJ., Sutton GG., Smith HO., Yandell M., Evans CA., Holt RA., Gocayne JD., Amanatides P., Ballew RM., Huson DH., Wortman JR., Zhang O., Kodira CD., Zheng XH., Chen L., Skupski M., Subramanian G., Thomas PD., Zhang J., George L., Miklos G., Nelson C., Broder S., Clark AG., Nadeau J., McKusick VA., Zinder N., *et al.*, **The sequence of the human genome**. Science 291: 1304-1351, 2001.
85. Venter JC., Adams MD., Sutton GG., Kerlavage AR., Smith HO., Hunkapiller M., **Shotgun sequencing of the human genome**. Science 280: 1540-1542, 1998.
86. Wada H., Naruse K., Shimada A., Shima A., **Genetic linkage map of a fish, the Japanese medaka *Oryzias latipes***. Molecular Marine Biology and Biotechnology 4: 269-274, 1995.
87. Wada H., Shimada A., Fukamachi S., Naruse K., Shima A., **A sex-linked inheritance of the *lf* locus in the medaka fish (*Oryzias latipes*)**. Zoological Science 15: 123-126, 1998.
88. Wakamatsu Y., Ju B., Pristyazhnyuk I., Niwa K., Ladygina T., Kinoshita M., Araki K., Ozato K., **Fertile and diploid nuclear transplants derived from embryonic cells of a small laboratory fish, medaka, *Oryzias latipes***. PNAS 98: 1071-1076, 2001.
89. Wakamatsu Y., Ozato K., and Sasado T., **Establishment of a pluripotent cell line derived from a medaka (*Oryzias latipes*) blastula embryo**. Mol. Mar. Biol. Biotechnol. 3: 185-191, 1994.
90. Wakamatsu Y., Pristyazhnyuk S., Kinoshita M., Tanaka M., and Ozato K., **The see-through medaka: A fish model that is transparent through life**. Proc Natl. Acad. Sci. 98: 10046-10050, 2001.

91. Wittbrodt J., Meyer A., and Scharl M., **More genes in fish?** Bioassays 20: 511-515, 1998.
92. Wittbrodt J., Shima A., Scharl M., **Medaka--a model organism from the far East.** Nat Rev Genet 3: 53-64, 2002.
93. Yamamoto T., **Artificial induction of functional sex-reversal in genotypic females of the medaka (*Oryzias latipes*).** J. Exp. Zool. 137: 227-264, 1958.
94. Yamamoto T., **Medaka (killifish) biology and strains.** Keigaku Pub. Co, Tokyo, 1975.
95. Zarkower, D., **Establishing sexual dimorphism: conservation amidst diversity?** Nature Review Genetics 2: 175-185, 2001.

8 List of Abbreviations

°C	Celsius
μ	Micro
μCi	Micro Curie
2D	two-dimensional
3D	three-dimensional
AFLP	amplified fragment length polymorphic
amp	ampicillin
BAC	Bacterial artificial chromosome
BLAST	Basic local alignment tool
bp	base pairs
BPP	Block Plate Pool
BRP	Block Row Pool
BSA	Bovine serum albumine
BSP	Block Column Pool
CBC	clone-by-clone
cDNA	complementary DNA
CGC	conserved gene cluster
cM	centi Morgan
cpm	counts per minute
DIG	digoxigenin
DNA	Deoxyribonucleic acid
Dnase	Deoxyribonuclease
dNTP	Deoxy-nucleoside triphosphate
<i>E. coli</i>	<i>Escherichia coli</i>
e.g.	exempli gratia
EDTA	Disodium ethylenediaminetetraacetate
ENU	N-ethyl-N-nitrosourea
ES	Embryonic stem
EST	expressed sequence tag
EtBr	Ethidiumbromide
EtOH	Ethanol

Fig.	Figure
FISH	fluorescent <i>in situ</i> hybridization
g	Gram
GFP	Green fluorescent protein
h	hour
IRS	Interspersed repetitive sequence
kan	kanamycin
kb	kilobases
l	Liter
LB	Luria bertani
LG	Linkage group
m	Milli
M	Molar
Mb	Megabases
MHC	Major Histocompatibility Complex
min	minute
MTP	microtiterplate
No.	Number
OFP	oligonucleotide fingerprinting approach
p	pico
PAC	P1 derived artificial chromosome
PCI	Phenol / Chloroform / Isoamylalcohol
PCR	Polymerase chain reaction
pH	Negative logarithm of the concentration of free hydrogen ions
PNK	T4-polynucleotide kinase
PPE	Pooled Probe Editor
R	resistance
RAPD	random amplified polymorphic DNA
RH	Radiation Hybrid
RNA	Ribonucleic acid
Rnase	Ribonuclease
RP	Row Pool
rpm	rotation per minute
RT	room temperature

RZPD	Resource Centre/Primary Database (Ressourcen-Zentrum Primär-Datenbank)
S	Second
SDS	sodium dodecyl sulfate
SNP	single nucleotide polymorphisms
SP	Column Pool
STS	sequence tagged site
Taq	Thermophilus aquaticus
TCR	T cell receptor
Tris	Tris-(hydroxymethyl)-aminomethane
TXT	textfile
U	Unit
V	Volt
Vol.	Volume
WGS	whole-genome shotgun
X-Gal	5-bromo-4-chloro-3-indolyl-beta-D-galactopyranoside
YAC	Yeast artificial chromosome

9.1 Publications:

- (1) Abstracts for conferences and meetings:
 - ? **Zadeh Khorasani M**, Berger A, Hennig S, Sasaki T, Asakawa S, Imre G, Palczewski S, Hori H, Mitani H, Furutani-Seiki M, Wittbrodt J, Shima A, Kondoh H, Shimizu N, Lehrach H, Himmelbauer H. Characterisation of the medaka genome and transcriptome. *Symposium of the national genomes research network (NGFN) and the German human genome project (DHGP). Berlin, November 17-19, 2002.*
 - ? **Zadeh Khorasani M**, Berger A, Hennig S, Sasaki T, Asakawa S, Imre G, Palczewski S, Hori H, Mitani H, Furutani-Seiki M, Wittbrodt J, Shima A, Kondoh H, Shimizu N, Lehrach H, Himmelbauer H. Characterisation of the medaka genome and transcriptome. *3rd European Conference on Zebrafish and Medaka Genetics and Development. Paris, June 11-14, 2003.*
 - ? Himmelbauer H, Berger A, **Zadeh Khorasani M**, Hennig S, Sasaki T, Asakawa S, Imre G, Palczewski S, Herwig H, Hori H, Mitani H, Shima A, Wittbrodt J, Kondoh H, Lehrach H, Shimizu N. Transcriptome analysis and a first-generation physical map in BACs for the medaka. *Human Genome Meeting (HGM2004). Berlin, April 4-7, 2004.*
- (2) **Khorasani MZ**, Hennig S, Imre G, Asakawa S, Palczewski S, Berger A, Hori H, Naruse K, Mitani H, Shima A, Lehrach H, Wittbrodt J, Kondoh H, Shimizu N, Himmelbauer H, **A first generation physical map of the medaka genome in BACs essential for positional cloning and clone-by-clone based genomic sequencing.** *Mech Dev* 121: 903-13, 2004.
- (3) Sasaki T, Shimizu A, Ishikawa S, Imai S, Asakawa S, Murayama Y, **Zadeh Khorasani M**, Mitani H, Furutani-Seiki M, Kondoh H, Nanda I, Schmid M, Schartel M, Nonaka M, Takeda H, Hori H, Himmelbauer H, Shima A and Shimizu N, **The DNA sequence of medaka chromosome LG22 and chromosomal evolution in vertebrates,** submitted.

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9.3 Statement

Hiermit erkläre ich, die vorliegende Arbeit selbständig angefertigt zu haben. Ich habe keine unerlaubten oder unerwähnten Hilfsmittel benutzt.

Berlin, den