CURRICULUM VITAE

William S. Talbot, Ph.D.   (650) 725-7664 office
Department of Developmental Biology   (650) 725-7448 lab
School of Medicine   (650) 725-7739 fax
Stanford University   talbot@cmgm.stanford.edu
Beckman Center B315A
279 Campus Drive
Stanford, CA 94305

Date and Place of Birth:

December 2, 1966; Portsmouth, Virginia

Education:

University of Florida	B.S.	1987	Microbiology
Stanford University	Ph.D.	1993	Biochemistry

Research and Professional Experience:

1984-1987   Undergraduate research and Senior Thesis. Laboratory of Edward K. Wakeland, University of Florida

1988-1993   Doctoral research. Laboratory of David S. Hogness, Department of Biochemistry, Stanford University

1993-1996   Postdoctoral research. Laboratory of Charles B. Kimmel, Institute of Neuroscience, University of Oregon

1996-1999   Assistant Professor
Department of Cell Biology and Developmental Genetics Program
Skirball Institute of Biomolecular Medicine
New York University School of Medicine

1999-2002   Assistant Professor
Department of Developmental Biology
School of Medicine
Stanford University

2002-present   Associate Professor
Department of Developmental Biology
School of Medicine
Stanford University

Honors and Awards:

1987   B.S. with High Honors, University of Florida

1987-1990   National Science Foundation Graduate Fellowship

1990-1993	National Institutes of Health Training Grant, Department of Biochemistry, Stanford University
1993-1996	Jane Coffin Childs Memorial Fund Postdoctoral Fellowship
1997	NYU Whitehead Fellowship for Junior Faculty
1998-2002	Pew Scholars Award in the Biomedical Sciences
2002-2004	Rita Allen Foundation Scholars Award

Public and Professional Service:

1999	NIH Study Section, Ad Hoc Member February 1999 Meeting Cellular Biology and Physiology Subcommittee 1
1999-	Instructor, Marine Biological Laboratory Zebrafish Course Woods Hole, MA
1999	NIH Study Section, Ad Hoc Member October 1999 Meeting Human Embryonic Development Subcommittee 2 (HED-2/CDF-5)
2000-	Editorial Board, *Genome Research*
2000-	Faculty Coordinator for graduate student admissions and recruitment, Dept. of Developmental Biology, Stanford University
2000	Member of Expert Panel for Max-Delbrück-Center for Medical Genomics
2000	Member of NIH Scientific Review Group ZHD1 MCHG-B 02 S Special Emphasis Panel for review of a program project grant
2000-	Representative for Developmental Biology, Committee on Graduate Admissions and Placement (CGAP)
2001-	Director, Marine Biological Laboratory Course on Neural Development and Genetics of Zebrafish, Woods Hole, MA
2002-Collection	Member of External Advisory Panel, NIH Zebrafish Gene
2003	International Congress of Genetics, International Programme Advisory Committee
2003	Reviewer, NIH Special Emphasis Panel PAR-02-142, Tools for Genetic Screens in Zebrafish

Publications:

McConnell, T.J., **W.S. Talbot**, R.A. McIndoe, and E.K. Wakeland. 1988. The origin of MHC class II gene polymorphism within the genus *Mus*. *Nature* **332**: 651-654.

Koelle, M.R., **W.S. Talbot**, W.A. Segraves, M.T. Bender, P. Cherbas, and D.S. Hogness. 1991. The *Drosophila EcR* gene encodes an ecdysone receptor, a new member of the steroid receptor superfamily. *Cell* **67**: 59-77.

Talbot, W.S., E.A. Swyryd, and D.S. Hogness. 1993. *Drosophila* tissues with different metamorphic responses to ecdysone express different ecdysone receptor isoforms. *Cell* **73**: 1323-1337.

Robinow, S., **W.S. Talbot**, D.S. Hogness, and J.W. Truman. 1993. Programmed cell death in the *Drosophila* CNS is ecdysone-regulated and coupled with a specific ecdysone receptor isoform. *Development* **119**: 1251-1259.

Truman, J.W., **W.S. Talbot**, S.E. Fahrbach, and D.S. Hogness. 1994. Ecdysone receptor expression in the CNS correlates with stage-specific responses to ecdysteroids during *Drosophila* and *Manduca* development. *Development* **120**: 219-234.

Postlethwait, J.H., S. Johnson, C.N. Midson, **W.S. Talbot**, M. Gates, E.W. Ballinger, D. Africa, R. Andrews, T. Carl, J.S. Eisen, S. Horne, C.B. Kimmel, M. Hutchinson, M. Johnson, and A. Rodriguez. 1994. A genetic map for the zebrafish. *Science* **264**: 699-703.

Talbot, W.S., B. Trevarrow, M.E. Halpern, A.E. Melby, G. Farr, J.H. Postlethwait, T. Jowett, C.B. Kimmel, and D. Kimelman. 1995. A homeobox gene essential for zebrafish notochord development. *Nature* **378**: 150-157.

Johnson, S.L., M.A. Gates, M. Johnson, **W.S. Talbot**, S. Horne, K. Baik, S. Rude, J.R. Wong, J.H. Postlethwait. 1996. Centromere-linkage analysis and consolidation of the zebrafish genetic map. *Genetics* **142**: 1277-1288.

Schier, A.F., A.L. Joyner, R. Lehmann, and **W.S. Talbot**. 1996. From screens to genes: prospects for insertional mutagenesis in zebrafish. *Genes and Development* **10**: 3077-3080.

Schier, A.F., S.C.F. Neuhass, K.A. Helde, **W.S. Talbot**, and W. Driever. 1997. The *one-eyed pinhead* gene functions in mesoderm and endoderm formation in zebrafish and interacts with *no tail*. *Development* **124**: 327-342.

Postlethwait, J.H. and **W. S. Talbot**. 1997. Zebrafish genomics: from mutants to genes. *Trends in Genetics* **13**: 183-190.

Halpern, M.E., K. Hatta, S.L. Amacher, **W.S. Talbot**, Y.-L. Yan, B. Thisse, C. Thisse, J.H. Postlethwait and C.B. Kimmel, 1997 Genetic Interactions in zebrafish midline development. *Dev. Biol.* **187:** 154-170.

Bingulac-Popovic, J., F. Figueroa, A. Sato, **W.S. Talbot**, S.L. Johnson, M. Gates, J.H. Postlethwait and J. Klein. 1997. Mapping of *Mhc* class I and class II regions to different linkage groups in the zebrafish, *Danio rerio. Immunogenetics* **46:** 129-134.

Bender, M., F. B. Imam, **W.S. Talbot,** B. Ganetzky, and D.S. Hogness. 1997. Drosophila ecdysone receptor mutations reveal functional differences among receptor isoforms. *Cell* **91:** 777-788.

Talbot, W.S., E.S. Egan, M.A. Gates, C. Walker, B. Ullmann, S.C.F. Neuhauss, C.B. Kimmel, and J.H. Postlethwait. 1998. Genetic analysis of chromosomal rearrangements in the *cyclops* region of the zebrafish genome. *Genetics* **148:** 373-380.

Zhang, J., **W.S. Talbot**, and A.F. Schier. 1998. Positional cloning identifies zebrafish *one-eyed pinhead* as a permissive EGF-related ligand required during gastrulation. *Cell* **92:** 241-251.

Postlethwait, J. H., Y.-L. Yan, M.A. Gates, S. Horne, A. Amores, A. Brownlie, A. Donovan, E.S. Egan, A. Force, Z. Gong, C. Goutel, A. Fritz, R. Kelsh, E. Knapik, E. Liao, B. Paw, D. Ransom, A. Singer, M.Thomson, T.S. Abduljabbar, P. Yelick, D. Beier, J.-S. Joly, D. Larhammar, F. Rosa, M. Westerfield, L.I. Zon, S.L. Johnson and **W.S. Talbot**. 1998. Vertebrate genome evolution and the zebrafish gene map. *Nature Genetics* **18:** 345-349.

Thompson, M.A., Ransom, D.G., Pratt, S.J., MacLennan, H., Kieran, M.W., Detrich, H.W., Vail, B., Huber, T.L., Paw, B., Brownlie, A.J., Oates, A.C., Fritz, A., Gates, M.A., Amores, A., Bahary, N., **Talbot, W.S.**, Her, H., Beier, D.R., Postlethwait, J.H., and Zon, L.I. 1998. The *cloche* and *spadetail* genes differentially affect hematopoiesis and vasculogenesis. *Devel. Biol.* **197:** 248-269.

Yan, Y.-L., **W.S. Talbot**, E.S. Egan, J.H. Postlethwait. 1998. Mutant rescue by BAC clone injection in zebrafish. *Genomics* **50:** 287-289.

Schier, A.F. and **W.S. Talbot**. 1998. The zebrafish organizer. *Current Opinion in Genetics and Development* **8:** 464-471.

Feldman, B., M.A. Gates, E.S. Egan, S.T. Dougan, G. Rennebeck, H.I. Sirotkin, A.F. Schier, and **W.S. Talbot**. 1998. Zebrafish organizer development and germ-layer formation require nodal-related signals. *Nature* **395:** 181-185.

Talbot, W.S. and A.F. Schier. 1999. Positional cloning of mutated genes in zebrafish. *Methods in Cell Biology* **60:** 259-286.

Karlstrom, R.O., **W.S. Talbo**t, and A.F. Schier. 1999. Comparative synteny cloning of zebrafish *you-too*: mutations in the hedgehog target gli2 affect ventral forebrain patterning. *Genes and Development* **13**: 388-393.

Fekany, K., Y. Yamanaka, T. Leung, H.I. Sirotkin, J. Topczewski, M.A. Gates, M. Hibi, A. Renucci, D. Stemple, A. Radbill, A.F. Schier, W. Driever, T. Hirano, **W.S. Talbot**, and L. Solnica-Krezel. 1999. The zebrafish *bozozok* locus encodes Dharma, a homeodomain protein essential for induction of gastrula organizer and dorsoanterior embryonic structures. *Development* **126:** 1427-1438.

Gritsman, K., J. Zhang, S. Cheng, E. Hecksher, **W.S. Talbot**, and A.F. Schier. 1999. The EGF-CFC protein one-eyed pinhead is essential for nodal signaling. *Cell* **97:** 121-132.

Gates, M.A., L. Kim, E.S. Egan, T. Cardozo, H.I. Sirotkin, S.T. Dougan, D. Lashkari, R. Abagyan, A.F. Schier, and **W.S. Talbot**. 1999. A genetic linkage map for zebrafish: comparative analysis and localization of genes and expressed sequences. *Genome Research* **9:** 334-347.

Geisler, R., G.-J. Rauch, H. Baier, F. van Bebber, L. Broß, M.P.S. Dekens, K. Finger, C. Fricke, M.A. Gates, H. Geiger, S. Geiger-Rudolph, D. Gilmour, S. Glaser, L. Gnügge, H. Habeck, K. Hingst, S. Holley, J. Keenan, A. Kirn, H. Knaut, D. Lashkari, F. Maderspacher, U. Martyn, S. Neuhauss, C. Neumann, T. Nicolson, F. Pelegri, R. Ray, J.M. Rick, H. Roehl, T. Roeser, H.E. Schauerte, A.F. Schier, U. Schönberger, H.-B. Schönthaler, S. Schulte-Merker, C. Seydler, **W. S. Talbot**, C. Weiler, C. Nüsslein-Volhard, and P. Haffter. 1999. A radiation hybrid map of the zebrafish genome. *Nature Genetics* 23: 86-89.

Meno, C., K. Gritsman, S. Ohishi, Y. Ohfuji, E. Heckscher, K. Mochida, A. Shimono, H. Kondoh, **W.S. Talbot**, E.J. Robertson, A.F. Schier, and H. Hamada. 1999. Mouse lefty2 and zebrafish antivin are feedback inhibitors of nodal signaling during vertebrate gastrulation. *Molecular Cell* **4:** 287–298.

Yan, Y.-T., K. Gritsman, J. Ding, R.D. Burdine, J.D. Corrales, S.M. Price, **W.S. Talbot**, A.F. Schier, and M.M. Shen. 1999. Conserved requirement for EGF–CFC genes in vertebrate left–right axis formation. *Genes and Development* **13:** 2527–2537.

Dick, A., M. Hild, H. Bauer, Y. Imai, H. Maifeld, A.F. Schier, **W.S. Talbot**, T. Bouwmeester, and M. Hammerschmidt. 2000. Essential role of Bmp7 (*snailhouse*) and its prodomain in dorsoventral patterning of the zebrafish embryo. *Development* **127:** 343-354..

Gritsman, K., **W.S. Talbot**, and A.F. Schier. 2000. Nodal signaling patterns the organizer. *Development* **127:** 921-932.

Talbot, W.S. and N. Hopkins. 2000. Zebrafish mutations and functional analysis of the vertebrate genome. *Genes and Development* **14:** 755-762.

Feldman, B, S.T. Dougan, A.F. Schier, and **W.S. Talbot**. 2000. Nodal-related signals establish mesendodermal fate and trunk neural identity in zebrafish. *Current Biology*, **10:** 531-534.

Kelly, P.D., F. Chu, I.G. Woods, P. Ngo-Hazelett, T. Cardozo, H. Huang, F. Kimm, L. Liao, Y.-L.Yan, Y. Zhou, S.L. Johnson, R. Abagyan, A.F. Schier, J.H. Postlethwait, and **W.S. Talbot**. 2000. Genetic linkage mapping of zebrafish genes and ESTs. *Genome Research* **10:** 558-567.

Imai, Y., B. Feldman, A.F. Schier, and **W.S. Talbot**. 2000. Analysis of chromosomal rearrangements induced by postmeiotic mutagenesis with ethylnitrosourea in zebrafish. *Genetics* **155:** 261-272.

Sirotkin, H.I., S.T. Dougan, A.F. Schier, and **W.S. Talbot**. 2000 *bozozok* and *squint* act in parallel to specify dorsal mesoderm and anterior neuroectoderm in zebrafish. *Development* **127:** 2583-2592.

Sirotkin, H.I., M.A. Gates, P.D. Kelly, A.F. Schier, and **W.S. Talbot**. 2000. *fast1* is required for development of dorsal axial structures in zebrafish. *Current Biology* **10:** 1051-1054.

Postlethwait, J.H., I.G. Woods, P. Ngo-Hazelett, Y.-L. Yan, P.D. Kelly, F. Chu, H. Huang, A. Hill, and **W.S. Talbot**. 2000. Zebrafish comparative genomics and the origins of vertebrate chromosomes. *Genome Research* **10:** 1890-1902.

Woods, I.G., P.D. Kelly, F. Chu, P. Ngo-Hazelett, Y.-L. Yan, H. Huang, J.H. Postlethwait, and **W.S. Talbot**. 2000. A comparative map of the zebrafish genome. *Genome Research* **10:** 1903-1914.

Schier, A.F. and **W.S. Talbot**. 2001. Nodal signaling and the zebrafish organizer. *Int. J. Dev. Biol.* **45:** 289-297.

Imai, Y. and **W.S. Talbot**. 2001. Morpholino phenocopies of the *bmp2b/swirl* and *bmp7/snailhouse* mutations. *Genesis* **30:** 160-163.

Imai, Y., M. A. Gates, A.E. Melby, D. Kimelman, A.F. Schier, and **W.S. Talbot**. 2001. The homeobox genes *vox* and *vent* are redundant repressors of dorsal fates in zebrafish. *Development* **128:** 2407-2420.

Kramer, C., T. Mayr, M. Nowak, J. Schumacher, G. Runke, H. Bauer, D.S. Wagner, B. Schmid, Y. Imai, **W.S. Talbot**, M.C. Mullins, and M. Hammerschmidt. 2002. Maternally supplied Smad5 is required for ventral specification in zebrafish embryos prior to zygotic Bmp signaling. Developmental Biology 250: 263-279.

Stickney, H.L., J. Schmutz, I.G. Woods, C.C. Holtzer, M.C. Dickson, P.D. Kelly, R.M. Myers, and **W.S. Talbot**. 2002. Rapid mapping of zebrafish mutations with SNPs and oligonucleotide microarrays. *Genome Research* **12:** 1929-1934.

Levkowitz, G., J. Zeller, H.I. Sirotkin, D. French, S. Schilbach, H. Hashimoto, M. Hibi, W.S. Talbot, A. Rosenthal. 2003. Zinc finger protein too few controls the development of monoaminergic neurons. *Nature Neuroscience* **6:** 28-33.

Karlstrom, R.O., O.V. Tyurina, A. Kawakami, N. Nishioka, **W.S. Talbot**, H. Sasaki, and A.F. Schier. 2003. Genetic analysis of zebrafish *gli1* and *gli2* reveals divergent requirements for *gli* genes in vertebrate development. *Development* **130:** 1549-1564.

Dougan, S.T., R.M. Warga, D.A. Kane, A.F. Schier, and **W.S. Talbot**. 2003. The role of the zebrafish *nodal-related* genes *squint* and *cyclops* in patterning the mesendoderm. *Development* **130:** 1837-1851.

Urtishak, K.A., M. Choob, X. Tian, N. Sternheim, **W.S. Talbot,** E. Wickstrom, S.A. Farber. Targeted gene knockdown in zebrafish using negatively charged peptide nucleic acid mimics. *Developmental Dynamics* **228:** 405-413.