CURRICULUM VITAE

Hong Zhang, Ph.D.
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Appointments:

Investigator
Institute of Biophysics, Chinese Academy of Sciences, Beijing
(March 2012 to present)

Associate Investigator
National Institute of Biological Sciences, Beijing
(September 2009 to March 2012)

Assistant Investigator
National Institute of Biological Sciences, Beijing
(July 2004 to September 2009)

Instructor
Massachusetts General Hospital Cancer Center, Harvard Medical School
(March 2004 to July 2004)

Education:

Massachusetts General Hospital Cancer Center, Harvard Medical School
Research Fellow, February 2001 to March 2004

Department of Molecular Genetics, Albert Einstein College of Medicine
Ph.D. in Molecular Genetics, January 2001

Beijing Institute for Cancer Research, Beijing Medical University
M.S. in Tumor Biology, July 1994

Department of Biochemistry, Anhui University
B.S. in Biochemistry, July 1991

Awards and Honors:

HHMI International Early Career Scientist Award, 2012

Lilly-Asian Scientific Excellence Award, 2006

Burroughs Wellcome Fund Career Awards in the Biomedical Sciences, 2005

Massachusetts General Hospital Fund for Medical Discovery (FMD) Award, 2004

Major Professional Activities:

Editorial Board Member, *EMBO reports*, 2013-
Associate Editor, *Autophagy*, 2012-
Editorial Board Member, *JBC*, 2011-
Editorial Board Member, *Protein & Cell*, 2010-
Editorial Board Member, *Autophagy*, 2009-2012

Ad hoc reviewer for *Nature*, *Nature Cell Biology*, *Development*, *Molecular Biology of the Cell*, *Developmental Biology*, *Developmental Dynamics*, *Autophagy*, *JBC*, *Cell Death and Differentiation, Cell Research*.

Publications:

Zhao, Y.G., Zhao, H.Y., Miao, L., Wang, L., Sun, F. and **Zhang, H.** (2012) The p53-induced gene *Ei24* is an essential component of the basal autophagy pathway. ***The Journal of Biological Chemistry*** (in press).

Huang, J., Wang, H.B., Chen, Y.Y. Wang, X.X., and **Zhang, H.** (2012) Residual body removal during spermatogenesis in *C. elegans* requires genes that mediate cell corpse clearance. ***Development*** (doi:10.1242/dev.086769).

Liang, Q.Q., Yang, P.G., Tian, E, Han, J.H., and **Zhang, H.** (2012) The *C. elegans* ATG101 homolog EPG-9 directly interacts with EPG-1/Atg13 and is essential for autophagy. ***Autophagy*** 8, 1426-1433.

Wu, F., Li, Y.P., Wang, F.X., Noda, N.N., and **Zhang, H.** (2012) Differential function of the two Atg4 homologues in the aggrephagy pathway in *C. elegans*. ***The Journal of Biological Chemistry*** 287, 29457-29467.

Sun, Y.Y., Yang, P.G., Zhang, Y.X., Bao, X., Li, J., Hou, W.R., Yao, X.Y., Han, J.H. and **Zhang, H.** (2011) A genome-wide RNAi screen identifies genes regulating the formation of P bodies in *C. elegans* and their functions in NMD and RNAi. ***Protein & Cell*** 2, 918-939.

Sun, T., Wang, X.W., Lu, Q., Ren, H.Y., and **Zhang, H.** (2011) CUP-5, the *C. elegans* ortholog of the mammalian lysosomal channel protein MLN1/TRPML1, is required for proteolytic degradation in autolysosomes. ***Autophagy*** 7, 1308-15.

Jin, C.Y., Li, J., Green, C.D., Yu, X.M., Tang, X., Han, D.L., Xian, B., Wang, D., Huang, X.X., Cao, X.W., Yan, Z., Hou, L., Liu, J.C., Shukeir, N., Khaitovich, P., Chen, C.D. **Zhang, H.**,

Jenuwein, T., Han, J.D. (2011) Histone demethylase UTX-1 regulates *C. elegans* life span by targeting the insulin/IGF-1 signaling pathway. ***Cell Metabolism*** 14, 161-172.

Lu, Q., Yang, P.G., Huang, X.X., Hu, W.Q., Guo, B., Wu, F., Lin, L., Kovács, A.L., Yu, L. and **Zhang, H.** (2011) The WD40 repeat PtdIns(3)P-binding protein EPG-6 regulates progression of omegasomes to autophagosomes. ***Developmental Cell*** 21, 343-357.
(selected as "**Must Read"** for ***FACULTY OF 1000 Biology***).

Huang, X.X., Zhang, H. and **Zhang, H.** (2011) The zinc-finger protein SEA-2 regulates larval developmental timing and adult life span in *C. elegans*. ***Development*** 138, 2059-2068.

Yang, P.G. and **Zhang, H.** (2011) The coiled-coil domain protein EPG-8 plays an essential role in the autophagy pathway in *C. elegans*. ***Autophagy*** 7, 159-165.

Ren, H.Y. and **Zhang, H.** (2010) Wnt signaling controls temporal identities of seam cells in *Caenorhabditis elegans*. ***Developmental Biology*** 345, 144-155.

Tian, Y., Li, Z.P., Hu, W.Q., Ren, H.Y., Tian, E, Zhao, Y., Lu, Q., Huang, X.X., Yang, P.G., Li, X., Wang, X.C., Kovács, A.L., Yu, L. and **Zhang, H.** (2010) *C. elegans* screen identifies autophagy genes specific to multicellular organisms. ***Cell*** 141, 1042-1055.
(Previewed as a leading edge finding in the same issue of ***Cell*** by Christina McPhee and Eric Baehrecke; selected as "**Exceptional"** for ***FACULTY OF 1000 Biology***; highlighted by Felix Cheung in **Nature China**).

Huang, X.X., Tian, E, Xu, Y.H., and **Zhang, H.** (2009) The *C. elegans engrailed* homolog *ceh-16* regulates the self-renewal expansion division of stem cell-like seam cells. ***Developmental Biology*** 333, 337-347.

Xia, D., Huang, X.X., and **Zhang, H.** (2009) The temporally regulated transcription factor *sel-7* controls developmental timing in *C. elegans*. ***Developmental Biology*** 332, 246-257.

Tian, E, Wang, F.X., Han, J.H., and **Zhang, H.** (2009) *epg-1* functions in autophagy-regulated processes and may encode a highly divergent Atg13 homolog in *C. elegans*. ***Autophagy*** 5, 608-615.

Zhao, Y., Tian, E, and **Zhang, H.** (2009) Selective autophagic degradation of maternally-loaded germline P granule components in somatic cells during *C. elegans* embryogenesis. ***Autophagy*** 5, 717-719.

Zhang, Y.X., Yan, L.B., Zhou, Z., Yang, P.G., Tian E, Zhang, K., Zhao, Y., Li, Z.P., Song, B., Han, J.H., Miao, L., and **Zhang, H**. (2009) SEPA-1 mediates the specific recognition and degradation of P granule components by autophagy in *C. elegans*. ***Cell*** 136, 308-321.
(Previewed as a leading edge finding in the same issue of ***Cell*** by Eric Baehrecke; selected as "**Must Read"** for ***FACULTY OF 1000 Biology;*** highlighted by Nathalie Le Bot in **Nature Cell Biology 2009; 11, 246**; highlighted by Jane Qiu in **Nature China**).

Cai, Q.C., Sun, Y.Y., Huang, X.X., Guo, C., Zhang, Y.X., Zhu, Z.Y., and **Zhang, H.** (2008) The *Caenorhabditis elegans PcG*-like gene *sop-2* regulates the temporal and sexual specificities of cell fates. ***Genetics*** 178, 1445-1456.

Deng, H., Xia, D., Fang, B., and **Zhang, H.** (2007) The Flightless I homolog, *fli-1,* regulates anterior/posterior polarity, asymmetric cell division and ovulation during *Caenorhabditis elegans* development. ***Genetics*** 177, 847-860.

Xia, D., Zhang, Y.X., Huang, X.X., Sun, Y.Y., and **Zhang, H**. (2007) The *C. elegans* CBFbeta homolog, BRO-1, regulates the proliferation, differentiation and specification of the stem cell-like seam cell lineages. ***Developmental Biology*** 309, 259-272.

Deng, H., Sun, Y., Zhang, Y., Luo, X., Hou, W., Yan, L., Chen, Y., Tian, E., Han, J., and **Zhang, H.** (2007) Transcription factor NFY globally represses the expression of the *C. elegans* Hox gene *Abdominal-B* homolog *egl-5*. ***Developmental Biology*** 308, 583-592.

Yang, Y., Sun, Y.Y., Luo, X., Zhang, Y.X., Chen, Y.Y., Tian, E, Lints, R., and **Zhang, H.** (2007) *Polycomb*-like genes are necessary for specification of dopaminergic and serotonergic neurons in *Caenorhabditis elegans*. ***PNAS*** 104, 852-857.

Zhang, T.T., Sun Y.Y., Tian, E, Deng, H.S., Zhang, Y.X., Luo, X., Cai, Q.Q., Wang, H., Chai, J.J., and **Zhang, H.** (2006) RNA-binding proteins SOP-2 and SOR-1 form a novel PcG-like complex in *C. elegans*. ***Development*** 133, 1023-1033.

Zhang, H., Christoforou, A., Aravind, L., Emmons, S.W., van den Heuvel, S., and Haber, D.A. (2004) The *C. elegans Polycomb* gene *sop-2* encodes an RNA binding protein. ***Molecular Cell*** 14, 841-847.

Zhang, H., Smolen, G., Palmer, R., Christoforou, A., van den Heuvel, S., and Haber, D.A. (2004) SUMO modification is required for *in vivo* Hox gene regulation by the *Caenorhabditis elegans* Polycomb group protein SOP-2. ***Nature Genetics*** 36, 507-511.

Zhang, H., Palmer, R., Gao, X., Kreidberg, J., Gerald, W., Hsiao, L., Jensen, R.V., Gullans, S.R., and Haber, D.A. (2003) Transcriptional activation of placental growth factor by the forkhead/winged helix transcription factor FoxD1. ***Current Biology*** 13, 1625-1629.

Zhang, H., Azevedo, R.B., Lints, R., Doyle, C., Teng, Y., Haber, D., and Emmons, S.W. (2003) Global regulation of Hox gene expression in *C. elegans* by a SAM domain protein. ***Developmental Cell*** 4, 903-915.

Palmer, R.E., Lee, S.B., Wong, J.C., Reynolds, P.A., **Zhang, H.,** Truong, V., Oliner, J.D., Gerald, W.L., and Haber, D.A. (2002) Induction of BAIAP3 by the EWS-WT1 chimeric fusion implicates regulated exocytosis in tumorigenesis. ***Cancer Cell*** 2, 497-505.

Zhang, H., and Emmons, S.W. (2002) *C. elegans unc-37/groucho* interacts genetically with components of the transcriptional mediator complex. ***Genetics*** 160, 799-803.

Zhang, H., and Emmons, S.W. (2001) The novel *C. elegans* gene *sop-3* modulates Wnt signaling to regulate Hox gene expression. ***Development*** 128, 767-777.

Zhang, H., and Emmons, S.W. (2000) A *C. elegans* mediator protein confers regulatory selectivity on lineage-specific expression of a transcription factor gene. ***Genes & Development*** 14, 2161-2172.

Invited reviews:

Mijaljica, D., Nazarko, T.Y., Brumell, J.H., Huang, W.P., Komatsu, M., Prescott, M., Simonsen, A., Yamamoto, A., **Zhang, H.,** Klionsky, D.J., Devenish, R.J., (2012) Receptor protein complexes are in control of autophagy. ***Autophagy*** (in press).

Wu, F., and **Zhang, H.** (2011) Dance of the yeast ATGs and worm EPGs. **The Biochemist** 33, 20-22.

Tian, Y., Ren, H.Y., Zhao, Y., Lu, Q., Huang, X.X., Yang, P.G., and **Zhang, H.** (2010) Four metazoan autophagy genes regulate cargo recognition, autophagosome formation and autolysosomal degradation. ***Autophagy*** 6, 984-985.

Kovács, A.L. and **Zhang, H.** (2010) Role of autophagy in *Caenorhabditis elegans*. ***FEBS letters*** 584, 1335-1341.

Sun, Y.Y. and **Zhang, H.** (2005) A unified mode of epigenetic gene silencing: RNA meets *Polycomb* group proteins. ***RNA biology*** 2, 8-10.

Invited talk:

1. Department of Cancer Biology, University of Massachusetts Medical School, MA (Worcester), November 5, 2012
2. 6th International Symposium on Autophagy, Japan (Okinawa), October 30, 2012
3. School of Life Sciences and School of Medicine, Tsinghua University, Beijing, July 6, 2012
4. Gordon Research Conference, Autophagy in Stress, Development & Disease, California, March 15, 2012
5. Division of Life Science, Hong Kong University of Science and Technology, January 17, 2012
6. College of Life Sciences, Capital Normal University, Beijing, December 28, 2011
7. Zing Conferences: Autophagy conference, Mexico, December 9, 2011
8. EMBO conference: Autophagy in Health and Disease, Israel, November 1, 2011
9. Blood Center, Suzhou University, China, October 13, 2011
10. Cold Spring Harbor Asia-Developmental Control of Sex, Growth, and Cellular Fate, Suzhou, China, October 13, 2011
11. The second Japan-Sino autophagy symposium, Shonan, Japan, October 6, 2011
12. The12nd Chinese Cell Biology Conference, Beijing, July 17, 2011
13. Student invited seminar, College of Life Sciences, Peking University, June 1, 2011
14. Life Sciences Institute, Zhejiang University, May 23, 2011
15. Nanqiang Lecture, Xiamen University, April 29, 2011
16. College of Life Sciences, Huazhong University of Science and Technology, March 26, 2011

17. The Inaugural Xiamen Winter Symposium, Xiamen, February 21, 2011
18. Institute of Biological Sciences, Academia Sinica, Taipei, Taiwan, December 21, 2010
19. Symposium on *C. elegans* development and aging, National Taiwan University, December 18, 2010
20. 1st Sino-Japan symposium on autophagy, Xi'an, October 15, 2010
21. 2010 National Symposium of Developmental Biology, Beijing, September 17, 2010
22. Department of Physiology and Cell Biology, Tokyo Medical and Dental University (at Tokyo), Japan, July 14, 2010
23. Honor lecture at the Cell Research Award Ceremony, Shanghai, July 8, 2010
24. College of Life Sciences, Nankai University, Tianjing, June 28, 2010
25. 10th Annual Meeting of the Protein Science Society of Japan (at Sapporo), June 16, 2010
26. Frontiers in Developmental, Stem cell and Systems Biology Symposium, Beijing, May 12, 2010
27. Department of Anatomy, Cell and Developmental Biology, Eötvös Loránd University, Budapest, Hungary, May 3, 2010
28. Gordon Research Conference, Autophagy in Stress, Development & Disease, Italy, April 26, 2010
29. Institute of Genetics and Developmental Biology, Chinese Academy of Sciences, April 7, 2010
30. RIKEN, Center for Developmental Biology, Japan, September 30, 2009
31. 5th International Symposium on Autophagy, Japan, September 25, 2009
32. Department of Molecular Microbiology and Immunology, Keck School of Medicine, University of Southern California, June 26, 2009
33. Department of Life Science, Changgung University, Taiwan, June 19, 2009
34. Institute of Molecular Medicine, Peking University, May 7, 2009
35. Molecular Mechanisms of Developmental Timing (HHMI Janelia Farm Research Campus), May 2008
36. CAS International Symposium on Model Organisms and Diseases (Beijing), October 2006
37. 15th International *C. elegans* Meeting (Los Angeles, California), July 2005