BIOGRAPHICAL SKETCH	
NAME Joy T. Yang, Ph.D.	POSITION TITLE Associate Professor

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	YEAR(s)	FIELD OF STUDY
Wellesley College, Wellesley, MA	B.A.	1980-1984	Molecular Biology
Harvard University, Cambridge, MA	Ph.D.	1984-1989	Biology
MIT, MA	postdoctoral	1990-1994	Cell Biology

A. Positions and Honors

Positions and Employment

1990-1994 Postdoctoral Associate, Howard Hughes Medical Institute, Center for Cancer Research, MIT
1994-1996 Research Scientist, Center for Cancer Research, MIT
1996-2004 Assistant Professor, Department of Cell Biology, The Johns Hopkins University School of Medicine
2004- Associate Professor, Department of Cell Biology, The Johns Hopkins University School of Medicine

Other Experience and Professional Memberships

1983 ACS Lewis L. Engel Research Fellow, Data-Farber Cancer Institute
1989 Postdoctoral fellow, Department of Cellular and Developmental Biology, Harvard University
1997- Member, The American Society for Cell Biology

Honors

1984 Mary White Peterson Prize for independent research, Wellesley College
1987-1989 NSF Graduate Fellowship, Harvard University

B. Publications

1. **Yang, J.T.**, Saxton, W.M., and Goldstein, L.S.B. (1988). Isolation and characterization of the gene encoding the heavy chain of Drosophila kinesin. Proc. Natl. Acad. Sci. USA 85, 1864-1868.
2. **Yang, J.T.**, Laymon, R.A., and Goldstein, L.S.B (1989). A three domain structure of kinesin heavy chain revealed by DNA sequence and microtubule-binding analyses. Cell 56, 879-889.
3. Scholey, J.M., Heuser, J., **Yang, J.T.**, and L.S.B. Goldstein (1989). Identification of globular mechanochemical heads of kinesin. Nature 338, 355-357.
4. **Yang, J.T.**, Saxton, W.M., Stewart, R.J., Raff, E.C. and Goldstein, L.S.B. (1990). Evidence that the head of kinesin is sufficient for force generation and motility in vitro. Science 249, 42-47.
5. Hynes, R.O., George, E.L., Georges, E.N, Guan, J.-L., Rayburn, H., and **Yang, J.T.** (1992). Toward a Genetic Analysis of Cell-Matrix Adhesion. Cold Spring Harbor Symposia on Quan. Bio. LVII, 249-257.
6. **Yang, J.T.**, Rayburn, H., and Hynes, R.O. (1993). Embryonic Mesodermal Defects in α5 Integrin-Deficient Mice. Development 119, 1093-1105.
7. **Yang, J.T.**, Rayburn, H., and Hynes, R.O. (1995). α4 integrin-mediated cell adhesion has essential functions in placental and cardiac development. Development 121, 549-560.

8. Arroyo, A.G., **Yang, J.T.**, Rayburn, H. and Hynes, R.O. (1996). Differential requirements for α4 integrins during fetal and adult hematopoiesis. Cell 85, 997-1008.

9. **Yang, J.T.** and Hynes, R.O. (1996). Fibronectin receptor functions in embryonic cells deficient in α5β1 integrins can be compensated by αV integrins. Mol. Biol. of Cell 7, 1737-1748.

10. **Yang, J.T.**, Rando, T.R., Rayburn, H., Muhler, W., Blau, H. and Hynes R.O. (1996). Genetic Analysis of α4 integrin functions in the development of mouse skeletal muscle. J. Cell Biol. 135, 829-835.

11. Goh, K.L., **Yang, J.T.** and Hynes, R.O. (1997). Mesodermal defects and cranial neural crest apoptosis in α5 integrin-null embryos. Development, 124, 4309-4319.

12. Taverna, D., Disatnik, M-H, Rayburn, H., Bronson R. T., **Yang, J. T.**, Rando T. A. and Hynes, R. O. (1998). Dystrophic muscle in mice chimeric for expression of α5 integrin. J. Cell Biol. 143, 849-859.

13. Arroyo, A.G., **Yang, J.T.**, Rayburn, H. and Hynes, R. O. (1999). α4 integrin regulate the proliferation /differentiation balance of multilineage hematopoietic progenitors in vivo. Immunity 11, 555-566.

14. **Yang, J.T.**, Bader, B.L., Kreidberg, J.A., Ullman-Cullere, M., Trevithick, J. and Hynes, R. O. (1999). Overlapping and independent functions of fibronectin receptor integrins in early mesodermal development. Dev. Biol. 215, 264-277.

15. Pinco, K.A., Liu, S. and **Yang, J.T.** (2001). α4 integrin is expressed in a subset of cranial neural crest cells and in epicardial progenitor cells during early mouse development. Mech. Dev. 100, 99-103.

16. Sengbusch, J.K., He W., Pinco, K.A. and **Yang, J.T.** (2002). Dual functions of α4β1 integrin in epicardial development: initial migration and long term attachment. J. Cell Biol. 157, 873-882. (Cited by Editor's Choice, Science 296, 1769)

17. Pinco, K.A., He, W. and **Yang, J.T.** (2002). α4β1 integrin regulates lamellipodia protrusion via a focal complex/focal adhesion-independent mechanism. Mol. Biol. Cell 13, 3203-3217.

18. Grazioli, A., Alves, C.S., Konstantopoulos, K. and **Yang, J.T.** (2006). Defective blood vessel development and pericyte/pvSMC distribution in α4 integrin-deficient mouse embryos. Dev. Biol. 293, 165-177.

19. Dikeman, D.A., Rivera Rosado, L.A., Horn, T.A., Alves, C.S., Konstantopoulos, K. and **Yang, J.T.** (2008). α4β1 integrin regulates directionally persistent cell migration in response to shear flow stimulation. Am. J. Physiol. Cell Physiol., 295, 151-159.

20. Niu, X.L., Gupta, K., **Yang, J.T.**, Shamblott, M.J. and Levchenko, A. (2009). Physical transfer of membrane and cytoplasmic components as a general mechanism of cell-cell communication. J. Cell Sci. 122, 600-610.

21. Rivera Rosado, L.A., Horn, T.A., McGrath, S.C., Cotter, R.J. and **Yang, J.T.** (2011). Association between α4 integrin cytoplasmic tail and non-muscle myosin IIA regulates cell migration. J. Cell Sci. 124, 483-492.

22. Hung, W., Chen, S, Paul, C.D., Stroka, K.M., Lo, Y., *__Yang, J.T.__ and *Konstantopoulos, K. **(*co-corresponding authors).** Distinct signaling mechanisms regulate migration in unconfined and confined spaces. J. Cell Biol. (in press).

C. Research Support

AHA Grant-in-Aid 0755432U 7/1/2013 – 6/30/15
American Heart Association (Yang, J.T. – PI)
Regulation of pericyte motility by cytoplasmic association of alpha4 integrin with non-muscle myosin IIA
The goal of this project is focused on the role of the association between α4 integrin and myosin IIA in pericyte motility.