

CURRICULUM VITAE

Current Appointments

Professor of Biological Chemistry
Director, Graduate Program in Biological Chemistry
Director, Center for Cell Dynamics
President-elect, National Drosophila Board

Personal Information

Denise Johnson Montell, formerly Denise Marie Johnson
Department of Biological Chemistry
Johns Hopkins School of Medicine
855 North Wolfe Street
Baltimore, MD 21205-2185
(410) 614-2016 phone
(410) 614-8375 fax
dmontell@jhmi.edu
Date of birth: April 28, 1962

Education and Training

B. A., 1983 University of California, San Diego, Biochemistry and Cell Biology
Ph.D., 1988 Stanford University, Neurosciences
(Advisor: Corey Goodman)
Postdoctoral studies, 11/88-6/90, Carnegie Institution, Developmental Genetics
(Advisor: Allan Spradling)

Awards and Honors

Biology Department Honors, UCSD	1983
National Science Foundation Predoctoral Fellowship	1983-1986
American Cancer Society Postdoctoral Fellowship	1988-1991
Lucille P. Markey Scholar Award	1991-1997
American Cancer Society Junior Faculty Award	1994-1997
American Cancer Society Research Scholar Award	2001-2004
NYU, Honors Lecture	2004

Northwestern University H Foundation Symposium	2009
University of Cincinnati, William Larsen Lecture	2009

Professional Experience:

<u>Position</u>	<u>Institution</u>	<u>Dates</u>
Staff Associate	Carnegie Institution Department of Embryology	1990-1992
Assistant Professor	Johns Hopkins University School of Medicine Department of Biological Chemistry	1992-1998
Associate Professor	Johns Hopkins University School of Medicine Department of Biological Chemistry	1998-2002
Professor	Johns Hopkins University School of Medicine Department of Biological Chemistry	2002-present
Director	Graduate Program in Biological Chemistry	1999-present
Director	Center for Cell Dynamics	2006-present

Publications:**Peer-reviewed research articles**

1. Johnson, D. M., Newby, R. F. and Bourgeois, S. (1984) Membrane permeability as a determinant of dexamethasone resistance in murine thymoma cells. *Cancer Research* 44:2435-2440.
2. Montell, D. J. and Goodman, C. S. (1988) *Drosophila* substrate adhesion molecule: sequence of laminin B1 chain reveals domains of homology with mouse. *Cell* 53:463-473.
3. Montell, D. J. and Goodman, C. S. (1989) *Drosophila* laminin - sequence of B2 subunit and expression of all 3 subunits during embryogenesis. *The Journal of Cell Biology* 109:2441-2453.
4. Montell, D. J., Keshishian, H., and Spradling, A. C. (1991) Laser ablation studies of the role of the *Drosophila* oocyte nucleus in pattern formation. *Science* 254:290-293.
5. Montell, D. J., Rørth, P. and Spradling, A. C. (1992) *slow border cells*, a locus required for a developmentally regulated cell migration during oogenesis encodes *Drosophila* C/EBP. *Cell* 71:51-62.
6. Rørth, P. and Montell, D.J. (1992) *Drosophila* C/EBP: a tissue specific DNA binding protein required for embryonic development. *Genes & Development* 6:2299-2311.
7. Savant, S. and Montell, D.J. (1993) *torso-like* encodes the localized determinant for *Drosophila* terminal pattern formation. *Genes & Development* 7:2548-2555. Cover article.

8. Montell, D.J. (1994) Moving Right Along: Regulation of Cell Migration in *Drosophila* Development. Trends in Genetics 10:59-62.

9. Murphy, A. M., Lee, T., Andrews, C., Shilo, B.-Z. and Montell, D. J. (1995) The Breathless FGF receptor homolog, a downstream target of *Drosophila* C/EBP in the developmental control of cell migration. Development 121:2255-2263.

10. Lee, T., Feig, L. and Montell, D. J. (1996) Two distinct roles for Ras in a developmentally regulated cell migration. Development 122:409-418.

11. Murphy, A. M. and Montell, D. J. (1996) Cell type specific effects of Cdc42, Rac and RhoL in *Drosophila* oogenesis. The Journal of Cell Biology 133:617-630.

12. Lee T., Hacohen, N., Krasnow, M. and Montell, D. J. (1996) Regulated Breathless receptor tyrosine kinase activity required to pattern *Drosophila* tracheal cell migration and branching. Genes & Development 10:2912-2921.

13. Anderson, M. G., Certel, S. J., Certel, K., Lee, T., Montell, D. J. and Johnson, W. A. (1996) Function of the *Drosophila* POU domain transcription factor Drifter as a direct regulator of Breathless receptor tyrosine kinase expression in developing trachea. Development 122:4169-4178 (1996).

14. Lee, T. and Montell, D. J. (1997) Multiple Ras signals pattern the *Drosophila* ovarian follicle cells. Developmental Biology 185:25-33.

15. Tinker, R., Silver, D. and Montell, D. J. (1998) Requirement for the Vasa RNA helicase in Gurken mRNA localization. Developmental Biology 199:1-10.

16. Liu, Y. and Montell, D. J. (1999) Identification of Mutations that Cause Cell Migration Defects in Mosaic Clones. Development 126:1869-1878.

17. Montell, D. J. (1999) Cell Biological and Genetic Methods for Studying *Drosophila* Oogenesis, pp. 367 in A comparative Methods Approach to the Study of Oocytes and Embryos (Ed. Joel D. Richters) Oxford University Press, New York, NY.

18. Savant-Bhonsale, S., Friese, M., McCoon, P. and Montell, D. J. (1999) A *Drosophila* *derailed* homolog, *doughnut*, expressed in invaginating tissues during embryogenesis. Gene 231:155-61.

19. Montell, D. J. (1999) The Genetics of Cell Migration in *Drosophila melanogaster* and *Caenorhabditis elegans* Development. Development, 126:3035-3046.

20. Bai, J., Uehara, Y. and Montell, D. J. (2000) Regulation of invasive cell behavior by Taiman, a *Drosophila* protein related to AIB1, a steroid receptor coactivator amplified in breast cancer. Cell 103:1047-1058.

21. Liu, Y. and Montell, D. J. (2001) Jing, a downstream target of *slbo* required for developmental control of border cell migration. Development 128:321-330.

22. Windberg, M., Tamagnone, L., Bai, J., Paolo M. Comoglio, Montell, D. J. and Goodman, C. S. (2001) The Transmembrane Protein Off-Track Associates with Plexins

and Functions Downstream of Semaphorin Signaling during Axon Guidance. *Neuron* 32:53-62.

23. Montell, D. J. (2001) Command and control: regulatory pathways controlling invasive behavior of the border cells. *Mechanisms of Development* 105:19-25.

24. Silver, D. and Montell, D. J. (2001) Paracrine Signaling through the JAK/STAT Pathway Activates Invasive Behavior of Ovarian Epithelial Cells in *Drosophila*, *Cell* 107:831-841.

25. Geisbrecht, E. and Montell, D. J. (2002) Requirement for Myosin VI in E-cadherin-mediated border cell migration, *Nature Cell Biology* 4:616-620. Cover photo.

26. Bai, J. and Montell, D. J. (2002) Eyes Absent, a key repressor of polar cell fate during *Drosophila* oogenesis, *Development* 129:5377-5388.

27. McDonald, J.A., Pinheiro, E., and Montell, D. J. (2003) PVF1, a PDGF/VEGF homolog, is sufficient to guide border cells and interacts genetically with Taiman., *Development* 130:3469-78.

28. Silver, D. L., Naora H., Liu, J., Cheng, W. and Montell, D. J. (2004) Activated STAT3: localization in focal adhesions and function in ovarian cancer cell motility. *Cancer Research* 15:3550-8.

29. Yoshida, H., Cheng, W., Hung, J., Montell, D., Geisbrecht, E., Rosen, D., Liu, J. and Naora, H. (2004) Lessons from border cell migration in the *Drosophila* ovary: A role for myosin VI in migration of human ovarian cancer cells, *PNAS* 101:8144-8149.

30. Montell, D. J. (2003) Border cell migration: the race is on. *Nature Reviews Molecular Cell Biology* 4:13-24.

31. Silver, D. and Montell, D. J. (2003) A New Trick for Cyclin/Cdk, Activation of STAT. *Developmental Cell* 4:1-10.

32. Geisbrecht, E. R. and Montell, D. J. (2004) *Drosophila* IAP1 Inhibition of Dronc Regulates Rac-dependent Cell Migration. *Cell* 118:111-25.

33. Pinheiro, E. M. and Montell, D. J. (2004) Requirement for Par-6 and Bazooka in *Drosophila* Border Cell Migration. *Development* 131:5243-51.

34. Adam, JC and Montell, DJ. (2004) A role for *extra macrochaetae* downstream of Notch in follicle cell differentiation. *Development* 131:5971-5980.

35. Silver, D., Geisbrecht, E. and Montell, D. J. (2005) Continuous requirement for JAK/STAT signaling during border cell migration. *Development* 132:3483-92.

36. Naora, H. and Montell, DJ. (2005) Ovarian cancer metastasis: Integrating insights from disparate model organisms. *Nature Reviews Cancer*, 5:355-66.

37. Montell, D. J. (2005) Analysis of Cell Migration Using *Drosophila* as a Model Organism, pp. 175-202 in Cell Migration, Developmental Methods and Protocols v. 294 (Ed. Jun-Lin Guan) Humana Press, Totowa, NJ.
38. Montell, D.J. (2005) Anchors Away! Fos Fosters Anchor Cell Invasion. *Cell* 121:816-817.
39. Wang, X., Bo, J., Bridges, T., Dugan, K.D., Chi, T.-C., Chodosh, L.A. and Montell, D. J. (2006) Analysis of cell migration using whole genome expression profiling of cells in the *Drosophila* ovary, *Developmental Cell* 10:483-95.
40. Mc.Donald, J.A., Pinheiro, E., Kadlec, L., Schupbach, G. and Montell, D. J. (2006) Multiple EGFR ligands participate in guiding migrating border cells. *Developmental Biology* 296:94-103.
41. Montell, D.J. (2006) The social lives of migrating cells in *Drosophila* *Current Opinion in Genetics and Development* 16:374-83.
42. Montell, D. J. (2006) A Kinase Gets Caspases into Shape. *Cell* 126:450-2.
43. Wang, X. and Montell, D. J. (2007) Spatial regulation of Notch signaling through regulation of Kuzbanian gene expression, *Developmental Biology* 301:532-40. Cover article.
44. Prasad, M. and Montell, D. J. (2007) Cellular dynamics of migrating border cells revealed through live cell imaging, *Developmental Cell* 12:997-1005.
45. Jang, C. C., Starz-Gaiano, M., and Montell, D. (2007) Modeling migration and metastasis in *Drosophila*. *J Mammary Gland Biol Neoplasia* 12:103-14.
46. Prasad, M., Jang, A. C-C., Starz-Gaiano, M., Melani, M. and Montell, D. J. (2007) A protocol for culturing *Drosophila melanogaster* stage 9 egg chambers for live imaging, *Nature Protocols* 4:2467-2473.
47. Starz-Gaiano, M., Melani, M., and Montell, D. J. (2008) Feedback inhibition of JAK/STAT signaling required to limit a migratory and invasive cell population. *Developmental Cell* 14:726-38.
48. Melani, M., Simpson, K.J., Brugge, J.S. and Montell, D.J. (2008) Regulation of cell adhesion and collective cell migration by hindsight and its human homolog RREB1. *Current Biology* 18:532-7.
49. McDonald, J.A., Khodyakova, A., Aranjuez, G., Dudley, C. and Montell, D.J. (2008) The PAR-1 serine/threonine kinase regulates epithelial detachment and directional protrusions of migrating border cells. *Current Biology* 18:1659-67.
50. Montell, D. J. (2008) Morphogenetic Cell Movements: Diversity from Combinatorial Use of Modular Mechanical Properties. *Science* 322:1502-5.

51. Jang, A. C.-C., Chang, Y.-C., Bai, J. and Montell, D.J. (2009) Border cell migration requires integration of spatial and temporal signals by the BTB protein Abrupt. *Nature Cell Biology* 11:569-79.

52. Kim, J.-H, Yin, H., Simpson, K. J., Schafer, D., Brugge, J., Montell, D. J. (2009) Psidin, a conserved actin binding protein required for protrusion dynamics and cell migration. *Cell*, in revision.

Editorial activity

Section Editor

Current Opinion in Genetics and Development (2006) Oncogenes and Cell Proliferation, Volume 16, Issue 1, pages 1-100.

Reviewer for

Cancer Research

Cell

Current Biology

Developmental Cell

Development

Developmental Biology

Genes & Development

Genetics

Journal of Cell Biology

Journal of Biological Chemistry

Journal of Cell Science

Mechanisms of Development

Molecular Biology of the Cell

Nature Cell Biology

Nature Reviews Molecular Cell Biology

Oncogene

PNAS

Science

Advisory Activities

1998-2002 NIH CDF6 Study Section

2000 NSF, Developmental Mechanisms, ad hoc

2002 American Cancer Society, Developmental and Differentiation ad hoc

2003-2006 American Cancer Society, Developmental and Differentiation, member

2005 American Cancer Society, Developmental and Differentiation, vice chair

2006 American Cancer Society, Developmental and Differentiation, chair

2006 NIH, Infectious Diseases & Microbiology IRG, ad hoc

2007 NIGMS Council, ad hoc

2008 NIH, ZRG1 CB N03M Special Emphasis Panel

2009 Howard Hughes Medical Institutes Scientific Advisory Panel, ad hoc

2010-2014 American Cancer Society, Council of Scientific Advisors

2010-2014 National Institute of General Medical Sciences Council