

CURRICULUM VITAE

Mark Alan Peifer

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Primary appointment

Hooker Distinguished Professor
Department of Biology
CB#3280, Coker Hall
University of North Carolina
Chapel Hill NC 27599-3280

Other appointments

Faculty Member
Curriculum in Genetics and Mol. Biology
Curriculum in Neurobiology
Member
Lineberger Comprehensive Cancer Center

Academic and research record

St. Olaf College, Northfield, MN B.A. Biology, 1980

Research Associate- The structure of zein genes in corn 1980-1981
Lab of Dr. Irwin Rubenstein, Univ. of Minnesota, St. Paul, MN

Ph. D. Dissertation- Regulation of the bithorax complex 1981-1988
Lab of Dr. Welcome Bender, Harvard University, Boston, MA

Postdoctoral Fellow, Lab of Dr. Eric Wieschaus 1988-1991
Princeton University, Princeton NJ

Assistant Professor of Biology 1992-1997
Associate Professor of Biology 1997-2002
Professor of Biology 2002-present
George and Alice Welsh Distinguished Term Professor 2001-2006

Hooker Distinguished Professor 2006-present
University of North Carolina-Chapel Hill

Fellowships, Awards, Professional Duties

J. Carlyle Sitterson Award for Excellence in Freshman Teaching 2012

Elected Fellow, American Association for the Advancement of Science 2010

Editorial Board, Journal of Cell Biology 2001-present

Editorial Board, Journal of Cell Science 2006-present

Editorial Board, Developmental Biology 2007-2014

Member, National Advisory General Medical Sciences Council 2015-2017

Member, NIH CDF4/ICI Study Section 2004-2008

Member, College of CSR Reviewers 2010-2012

Ad-hoc Member, National Advisory General Medical Sciences Council, May 2014, January 2015

Ad-hoc Member, NIH ICI 2011; NIH CDF4 Study Section, 1999, 2003, 2004; NIH CDF-5 2002
NIH Program Project or Special Emphasis Panels: NIH/NCI 2000, 2010; 2012; CDF-5 2001; CDF2 2002
Chair NIH ZRG1 Special Emphasis Panel, January 2009

Member, ASCB Council 2012-2014

Member, Education Committee of the ASCB:	2014-present
Member, International Affairs Committee of the ASCB:	2006-2010
Presented the Keynote Lecture, Gordon Conference, Cell Contact and Adhesion	June 2011
Hooker Distinguished Professor	July 2006-present.
George and Alice Welsh Distinguished Term Professor	2001-2006
Presented the Keynote Lecture, Keystone Symposium, Intercellular Junctions	February 2000
Recipient of 1999 Phillip and Ruth Hettleman Prize for Artistic and Scholarly Achievements by Young Faculty at UNC-CH	1999
US Army Breast Cancer Research Program Career Development Award	1998-2002
Searle Scholar	1992-1995
National Institutes of Health Postdoctoral Fellowship	1988-1991
National Science Foundation Predoctoral Fellowship	1981-1984
Graduated Summa cum laude, Phi Beta Kappa, and with Departmental Distinction in Biology	May 1980

Ongoing and Recent Research Support

1 R35 GM118096-1 (Mark Peifer, P.I) July 2016-June 2021

NIH/NIGMS

Regulating cell fate and shaping the body plan during morphogenesis and their alteration during oncogenesis

\$ 2,918,225 total costs \$386,556 Direct Costs per year

This award is part of the new MIRA Program and thus does not have specific Aims. It supports all of our lab's work in studying cell adhesion, cytoskeletal regulation, Wnt signaling and genome stability. It thus replaces both of the NIH R01 Awards below.

5 R01 GM47857-23 Mark Peifer, P.I. January 2013-December 2017 (One year-no-cost)

NIH/NIGMS

Cell adhesion, signal transduction, and cytoskeletal regulation in *Drosophila* .

The major goals of this project are to determine how cadherin-based cell adhesion is regulated, and how adhesion and cytoskeletal dynamics are coordinated.

2 RO1 GM672365-09 Mark Peifer, PI August 2013-July 2017 (One year-no-cost)

NIH/NIGMS

A model system to study the tumor suppressor APC

The major goals of this grant are to examine the roles of *Drosophila* APC2 in Wingless signaling and cytoskeletal regulation.

Publications

135. Pronobis, M.I., Deutch, N., Posham, V., Mimori-Kiyosue, Y. and Peifer, M. (2017).

Reconstituting regulation of the canonical Wnt pathway by engineering a minimal β catenin destruction machine. *Molecular Biology of the Cell* 28:41-53

134. Pronobis, M.I., Deutch, N., and Peifer, M. (2016). The Miraprep: A protocol that uses a Miniprep kit and provides Maxiprep yields. *PLoS One* 11, e0160509.
133. Rogers, E.M., Spracklen, A.J., Bilancia, C.G., Sumigray, K.D., Allred, S.C., Nowotarski, S.N., Schaefer, K. N., Ritchie, B.J., and Peifer, M. (2016). Abelson kinase acts as a robust, multifunctional scaffold in regulating embryonic morphogenesis. *Molecular Biology of the Cell* 27, 2613-2631.
132. Choi, W., Acharya, B.R., Peyret, G., Fardin, M-A. Mège, R-M., Ladoux, B., Yap, A.S., Fanning, A.S., Peifer, M. (2016). Remodeling the zonula adherens in response to tension and the role of afadin in this response. *Journal of Cell Biology* 213, 243-60.
131. Spracklen, A.J., and Peifer, M. (2015). Actin and Apical Constriction: Some (Re)-Assembly Required. *Developmental Cell* 35, 662-4.
130. Pronobis, M.I., Rusan, N.M., and Peifer, M. (2015). A novel GSK3-regulated APC:Axin interaction regulates Wnt signaling by driving a catalytic cycle of efficient β catenin destruction. *eLife* 4, e08022
129. Lerit, D.A., Jordan, H.A., Poulton, J.S., Fagerstrom, C.J., Galletta, B.J., Peifer, M., and Rusan, N.M. (2015). Interphase centrosome organization by the PLP-Cnn scaffold is required for centrosome function. *Journal of Cell Biology* 210, 79-97.
128. Poulton, J.S., Cuningham, J.C., and Peifer, M. (2014). Acentrosomal *Drosophila* epithelial cells exhibit abnormal cell division, leading to cell death and compensatory proliferation. *Developmental Cell* 30,731-45.
127. Nowotarski, S.H., McKeon, N., Moser, R.J., and Peifer, M. (2014). The actin regulators Enabled and Diaphanous direct distinct protrusive behaviors in different tissues during *Drosophila* development. *Molecular Biology of the Cell* 25, 3147-65.
126. Nowotarski, S.H., and Peifer, M. (2014). Cell Biology: A tense but good day for actin at cell-cell junctions. *Current Biology* 24, R688-90
125. Winkelman, J.D., Bilancia, C.G. Peifer, M., and Kovar, D.R. (2014). Ena/VASP Enabled is a highly processive actin polymerase tailored to self-assemble parallel-bundled F-actin networks with Fascin. *Proceedings of the National Academy of Science USA* 111, 4121-6.
124. Bilancia, C.G. ,Winkelman, J.D., Tsygankov, D., Nowotarski, S.H. , Sees, J.A., Comber, K., Evans, I., Lakhani, V., Wood, W., Elston, T.C., Kovar, D.R., and Peifer, M. (2014). Enabled negatively regulates Diaphanous-driven actin dynamics in vitro and in vivo. *Developmental Cell* 28, 394-408.
123. Tsygankov, D., Bilancia, C.G., Vitriol, E.A., Hahn, K.M., Peifer, M.*, Elston, T.C.* (*=co-corresponding). (2014) CellGeo: a Computational Platform for the Analysis of Shape Changes in Cells with Complex Geometries. *Journal of Cell Biology* 204, 443-460,
122. Manning A.J., Peters, K.A., Peifer, M.*, and Rogers, S.L.*. (*=co-corresponding) (2013) Regulation of Epithelial Morphogenesis by the G-Protein Coupled Receptor Mist and its Ligand Fog. *Science Signaling* 6, ra98.
121. Poulton, J.S., Mu, F.W., Roberts, D.M., and Peifer, M. (2013). APC2 and Axin promote mitotic fidelity by facilitating centrosome separation and cytoskeletal regulation. *Development* 140, 4226-4236.
120. Ellis, S.J., Goult, B.T., Fairchild, M.J., Harris, N.J., Long, J., Lobo, P., Czerniecki, S., Van Petegem, F., Schöck, F., Peifer, M., Tanentzapf, G. (2013) Talin autoinhibition is required for morphogenesis. *Current Biology* 23, 1825-33.
119. Choi, W., Harris, N. J., Sumigray, K.D., and Peifer, M. (2013). Rap1 and Canoe/afadin are essential for establishment of apical-basal polarity in the *Drosophila* embryo. *Molecular Biology of the Cell* 24, 945-963.
118. Gao, L., Shao, L., Higgins, C.D., Poulton, J.S., Peifer, M., Davidson, M.W., Wu, X., Goldstein, B., and Betzig, E. (2012) Noninvasive Imaging of Three-Dimensional Dynamics in Thickly Fluorescent Specimens Beyond the Diffraction Limit. *Cell* 151, 1370-1385.
117. Sumigray, K.D. and Peifer, M. (2012) Cell shape by coercion: Par1 and aPKC put the squeeze on junctions. *Developmental Cell* 22, 907-908.

116. Roberts,D.M., Pronobis, M.I., Poulton, J.S., Kane, E.G., and Peifer, M. (2012) Regulation of Wnt signaling by the tumor suppressor APC does not require ability to enter the nucleus nor a particular cytoplasmic localization. *Molecular Biology of the Cell*, 23, 2041-56.
115. Pronobis, M.I., and Peifer, M. (2012) Wnt signaling: The many interfaces of β -catenin. *Current Biology* 22, R137-139.
114. Roberts,D.M., Pronobis, M.I., Alexandre, K.M., Rogers, G.C., Schneider, D.E., Jung, K-C., Poulton, J.S., McKay, D. J., ., and Peifer, M. (2012) Defining components of the β catenin destruction complex and exploring its regulation and mechanisms of action during development. *PLoS One* 7: e31284.
113. Choi, W. , and Peifer, M. (2011). Arranging a Cellular Checkerboard. *Science* 333, 1099-110.
112. Sawyer, J.K., Choi, W. , Jung, K.-C., He, L., Harris, N.J., and Peifer, M., (2011). A contractile actomyosin network linked to adherens junctions by Canoe/afadin helps drive convergent extension. *Molecular Biology of the Cell* 22: 2491-2508.
111. Choi, W. , Jung, K.-C., Nelson, K.S., Bhat, M.A., Beitel, G.J., Peifer, M., and Fanning, A.S. (2011). The single *Drosophila* ZO-1 protein Polychaetoid regulates embryonic morphogenesis in coordination with Canoe/Afadin and Enabled. *Molecular Biology of the Cell* 22: 2010-2030.
110. Roberts,D.M., Pronobis, M.I., Poulton, J.S., Waldmann, J.D., Stephenson, E.M., Hanna, S., and Peifer, M. (2011). Deconstructing the β catenin destruction complex: mechanistic roles for the tumor suppressor APC in regulating Wnt signaling. *Molecular Biology of the Cell* 22:1845-63.
109. Homem, C.C.F., and Peifer, M. (2009). Exploring the roles of Diaphanous and Enabled activity in shaping the balance between filopodia and lamellipodia. *Molecular Biology of the Cell* 20, 5138-5155.
108. Sawyer, J.K, Harris, N. J, and Peifer, M. (2009) Morphogenesis: Multitalented GTPases seeking new jobs. *Current Biology* 19, R985-7..
107. Roeth, J.F., Sawyer, J.K., Wilner, D.A., and Peifer, M. (2009). Rab11 Helps Maintain Apical Crumbs and Adherens Junctions in the *Drosophila* Embryonic Ectoderm. *PLoS One* 4, e7634. .
106. Gates, J., Nowotarski,S.H., Yin, H., Mahaffey, J.P., Bridges, T., Herrera,C., Homem,C.C.F., Janody, F., Montell, D.J.and Peifer,M. (2009) Enabled and Capping protein play important roles in shaping cell behavior during *Drosophila* oogenesis. *Developmental Biology* 333:90-107.
105. Cadigan, K.M., and Peifer, M. (2009) Wnt Signaling from Development to Disease: Insights from Model Systems. *Cold Spring Harb Perspect Biol* 1, a002881 doi: 10.1101/cshperspect.
104. Sawyer, J.K., Harris, N.J., Slep, K.C., Gaul, U., and Peifer, M. (2009) The *Drosophila* afadin homolog Canoe regulates linkage of the actin cytoskeleton to adherens junctions during apical constriction. *Journal of Cell Biology* 186:57-73.
103. Harris, T.J.C., Sawyer, J.K., and Peifer, M. (2009). How the cytoskeleton helps build the embryonic body plan: Models of morphogenesis from *Drosophila*. *Current Topics in Developmental Biology* 89, 55-85.
102. Rogers,G.C., Rusan, N.M., Roberts,D.M., Peifer, M., and Rogers, S.L. (2009). The SCFSlimb ubiquitin-ligase regulates Plk4/Sak levels to block centriole reduplication. *Journal of Cell Biology* 184, 225-239.
101. Duncan, M.C., and Peifer, M. (2008). Regulating polarity by directing traffic: Cdc42 prevents adherens junctions from Crumblin' aPart. *Journal of Cell Biology*183: 971-974.
100. Rusan, N.M., Akong, K., and Peifer, M. (2008). Putting the model to the test: are APC proteins essential for neuronal polarity, axon outgrowth and axon targeting? *Journal of Cell Biology* 183, 203-212.
99. Rusan, N.M., and Peifer, M. (2008). Original CIN: reviewing roles for APC in chromosome instability. *Journal of Cell Biology* 181: 719-726.
98. Rogers, G.C., Rusan, N.M., Peifer, M.and Rogers, S.L. (2008). A Multi-Component Assembly Pathway Contributes to the Formation of Acentrosomal Microtubule Arrays in Interphase *Drosophila* cells. *Molecular Biology of the Cell* 19:3163-78.
97. Gottardi, C.J., and Peifer, M. (2008). Terminal regions of β -catenin come into view. *Structure* 16, 336-338.
96. Homem, C.C.F., and Peifer, M. (2008) Diaphanous regulates myosin and adherens junctions to control cell contractility and protrusive behavior during morphogenesis. *Development* 135, 1005-1018.

95. Stevens, T L., Rogers, E M., Koontz, L. M. , Fox, D. T., Homem, C. C.F., Nowotarski, S. H., Artabazon, N. B., and Peifer, M. (2008). Using Bcr-Abl to examine mechanisms by which Abl kinase regulates morphogenesis in *Drosophila*. *Molecular Biology of the Cell* 19 378-393.
94. Roberts, D.M., Slep, K.C., and Peifer, M. (2007). It takes more than two to tango: Dishevelled polymerization and Wnt signaling. *Nature Structural and Molecular Biology* 14, 463-465.
93. Gates, J., Mahaffey, J.P., Rogers, S.L., Emerson, M., Rogers, E.M., Sottile, S.L., Van Vactor, D., Gertler, F.B., and Peifer, M. (2007). Enabled plays key roles in Embryonic Epithelial Morphogenesis in *Drosophila*. *Development* 134, 2027-2039.
92. Harris, T.J.C., and Peifer, M. (2007). aPKC controls microtubule organization to balance adherens junction symmetry and planar polarity during development. *Developmental Cell* 12 727-738.
91. Rusan, N.M., and Peifer, M. (2007). A role for a novel centrosome cycle in asymmetric cell division. *Journal of Cell Biology* 177, 13-20.
90. Hayden, M.A., Akong, K., and Peifer, M. (2007). Novel roles for APC family members and Wingless/Wnt signaling during *Drosophila* brain development. *Developmental Biology*, 305, 358-376.
89. Fox, D.T., and Peifer, M. (2007). Abelson kinase and RhoGEF2 regulate actin organization during cell constriction in *Drosophila*. *Development* 134, 567-578.
88. Fox, D.T., and Peifer, M. (2007). Cell adhesion: Separation of p120's powers? *Current Biology* 17, R24-R27.
87. McCartney, B.M., Price, M.H., Webb, R., , Hayden, M.A., Holot, L., Zhou, M, Bejsovec, A., and Peifer, M. (2006). Testing hypotheses for the functions of APC family proteins using null and truncation alleles in *Drosophila*. *Development* 133 2407-2418.
86. Price, M.H., Roberts, D.M., McCartney, B.M., Jezuit, E., and Peifer, M. (2006). Cytoskeletal dynamics and cell signaling during planar polarity establishment in the *Drosophila* embryonic denticle. *Journal of Cell Science* 119: 403-415.
85. Gates, J., and Peifer, M. (2005). Can 1000 reviews be wrong? Actin, alpha-catenin and Adherens Junctions. *Cell* 123, 769-772.
84. Fox, D.T., Homem, C.C.F., Myster, S.H., Wang, F., Bain, E.E., and Peifer, M. (2005). Rho1 Regulates *Drosophila* Adherens Junctions Independently of p120ctn. *Development*, 132, 4819-4831.
83. Harris, T.J.C., and Peifer, M. (2005). The positioning and segregation of apical cues during epithelial polarity establishment in *Drosophila*. *Journal of Cell Biology* 170, 813-823.
82. McEwen, D.G., and Peifer, M. (2005). Puckered, a *Drosophila* MAPK phosphatase, ensures cell viability by antagonizing JNK-induced apoptosis. *Development* 132, 3935-3946.
81. Harris, T.J.C., and Peifer, M. (2005). Decisions, decisions: β -catenin chooses between adhesion and transcription. *Trends in Cell Biology* 15, 234-237.
80. Harris, T.J.C., and Peifer, M. (2004). Adherens junction-dependent and -independent steps in the establishment of epithelial cell polarity in *Drosophila*. *Journal of Cell Biology* 165, 135-147.
79. Myster, S.H., Wang, F., Cavallo, R., Christian, W., Bhotika, S., Anderson, C.T., and Peifer, M. (2004). Genetic and bioinformatic analysis of 41C and the 2R heterochromatin of *Drosophila melanogaster*: A window on the heterochromatin-euchromatin junction. *Genetics* 166, 807-22.
78. Grevengoed, E.E., Fox, D.T., Gates, J., and Peifer, M. (2003). Balancing different types of actin polymerization at distinct sites: Roles for Abelson kinase and Enabled. *Journal of Cell Biology* 163, 1267-1280.
77. Peifer, M., and Yap, A.S. (2003). Traffic control: p120-catenin acts as a gatekeeper to control the fate of classical cadherins in mammalian cells. *Journal of Cell Biology* 163 437-440.
76. McCartney, B.M., and Peifer, M. (2003). Stem Cells in the News: CNN and APC Make Headlines. *Developmental Cell* 5, 532-4.
75. Grevengoed, E.E., and Peifer, M. (2003). Cytoskeletal connections: Building strong cells in new ways. *Current Biology* 13, R568-70.

74. Myster, S.H., Cavallo, R., Anderson, C.T., Fox, D.T., and Peifer, M. (2003). *Drosophila* p120catenin plays a supporting role in cell adhesion but is not an essential adherens junction component. *Journal of Cell Biology* 160, 433-449.
73. Peifer, M. (2002). Developmental Biology: Colon construction. *Nature* 420 274-276.
72. Macara, I.G., Baldarelli, R., Field, C.M., Glotzer, M., Hayashi, Y., Hsu, S.-C., Kennedy, M.B., Kinoshita, M., Longtine, M., Low, C., Maltais, L.J., McKenzie, L., Mitchison, T.J., Nishikawa, T., Noda, M., Petty, E.M., Peifer, M., Pringle, J.R., Robinson, P.J., Roth, D., Russell, S.E.H., Stuhlmann, H., Tanaka, M., Tanaka, T., Trimble, W.S., Ware, J., Zeleznik-Le, N.J., Zieger, B. (2002). Mammalian septins nomenclature. *Molecular Biology of the Cell* 13, 4111-4113.
71. Akong, K., McCartney, B.M., and Peifer, M. (2002). *Drosophila* APC2 and APC1 have overlapping roles in the larval brain despite their distinct intracellular localizations. *Developmental Biology* 250, 71-90.
70. Akong, K., Grevengoed, E.E., Price, M.H., McCartney, B.M., Hayden, M.A., DeNofrio, J.C., and Peifer, M. (2002). *Drosophila* APC2 and APC1 play overlapping roles in Wingless signaling in the embryo and imaginal discs. *Developmental Biology* 250, 91-100.
69. Peifer, M., and McEwen, D.G. (2002). The ballet of morphogenesis: Identifying the hidden choreographers. *Cell* 109: 271-274.
68. Shih, H-P., Hales, K. G., Pringle, J.R., and Peifer, M. (2002). Identification of Septin-interacting Proteins and Characterization of the Smt3/SUMO-conjugation System in *Drosophila*. *Journal of Cell Science* 115, 1259-1271.
67. Grevengoed, E.E., Loureiro, J.J., Jesse, T.L., and Peifer, M. (2001). Abelson kinase regulates epithelial morphogenesis in *Drosophila*. *Journal of Cell Biology* 155, 1185-1197.
66. Myster, S.H., and Peifer, M. (2001) Wingless can't fly so it hitches a ride with dynein. *Bioessays* 23, 869-872.
65. McCartney, B.M., McEwen, D.G., Grevengoed, E., Maddox, P., Bejsovec, A., Peifer, M. (2001) *Drosophila* APC2 and Armadillo participate in tethering mitotic spindles to cortical actin. *Nature Cell Biology* 3, 933-938.
64. McEwen, D.G., and Peifer, M. (2001) Wnt signaling: The Naked Truth? *Current Biology* 11: R524-R526.
63. Loureiro, J.J., Akong, K., Cayirlioglu, P., Baltus, A.E., DiAntonio, A., and Peifer, M. (2001) Activated Armadillo/ β -catenin does not play a general role in cell migration and process extension in *Drosophila*. *Developmental Biology* 235: 33-44.
62. Simcha, I., Kirkpatrick, C., Sadot, E., Shtutman, M. Polevoy, G., Geiger, B., Peifer, M., and Ben-Ze'ev, A. (2001). Cadherin Sequences that Inhibit β -catenin Signaling: a Study in Yeast and Mammalian Cells. *Molecular Biology of the Cell* 12: 1177-88.
61. Tepass, U., Truong, K., Godt, D., Ikura, M., Peifer, M. (2000). Cadherins in embryonic and neural morphogenesis.. *Nature Reviews: Molecular Cell Biology* 1: 91-100.
60. Adam, J.C., Pringle, J.R., and Peifer, M. (2000). Evidence for functional differentiation among *Drosophila* septins in cytokinesis and cellularization. *Molecular Biology of the Cell* 11: 3123-3135.
59. Peifer, M. (2000). Travel bulletin: traffic jams cause tumors. *Science* 289, 67-69.
58. McEwen, D.G., Cox, R.T., and Peifer, M. (2000). The canonical Wg and JNK signaling cascades collaborate to promote both dorsal closure and ventral patterning. *Development* 127, 3607-3617.
57. McEwen, D.G., and Peifer, M. (2000). Wnt signaling: Moving in a new direction. *Current Biology* 10, R562-R564.
56. Cox, R.T., McEwen, D.G., Myster, D.G., Duronio, R.J., Loureiro, J., and Peifer, M. (2000). A screen for mutations that suppress the phenotype of *Drosophila armadillo*, the β -catenin homolog. *Genetics* 155, 1725-1740.
55. McCartney, B.M., and Peifer, M. (2000). Teaching tumor suppressors new tricks. *Nature Cell Biol.* 2, E58-60.
54. Peifer, M., and Polakis, P. (2000). Wnt signaling in oncogenesis and embryogenesis: A look outside the nucleus. *Science* 287, 1606-1609.

53. Peifer, M., and Tepass, U. (2000). Cell Biology: Which way is up? *Nature* 403, 611-612.
52. McCartney, B., Dierick, H.A., Kirkpatrick, C., Moline, M.M., Baas, A., Peifer, M., and Bejsovec, A. (1999). *Drosophila* APC2 is a cytoskeletally-associated protein that regulates Wingless signaling in the embryonic epidermis. *J. Cell Biol.* 146, 1303-1318.
51. Peifer, M. (1999). Signal transduction: Neither straight nor narrow. *Nature* 400, 213-215.
50. Cox, R.T., Pai, L.-M., Kirkpatrick, C., Stein, J., and Peifer, M. (1999). Roles of the C-terminus of Armadillo in Wingless signaling in *Drosophila*. *Genetics*, 153, 319-332.
49. Cox, R.T., Pai, L.-M., Miller, J.R., Orsulic, S., Stein, J., McCormick, C.A., Audeh, Y., Wang, W., Moon, R.T., and Peifer, M. (1999). Membrane-tethered *Drosophila* Armadillo cannot transduce Wingless signal on its own. *Development* 126, 1327-1335.
48. Lu, Q., Paredes, M., Medina, M., Zhou, J., Cavallo, R., Peifer, M., Orecchio, L. and Kosik, K.S. (1999). Delta-catenin, an adhesive junction-associated protein which promotes cell scattering. *J. Cell Biol.* 144, 519-532.
47. van Es, J.H., Kirkpatrick, C., van de Wetering, M., Molenaar, M., Miles, A., Kuipers, J. Destrée, O., Peifer, M., and Clevers, H. (1999). Identification of APC2, a homologue of the adenomatous polyposis coli tumour suppressor. *Current Biology* 9, 105-108.
46. Cavallo, R.A., Cox, R.T., Moline, M.M., Roose, J., Polevoy, G.A., Clevers, H., Peifer, M., and Bejsovec, A. (1998). *Drosophila* TCF and Groucho interact to repress Wingless signaling activity. *Nature* 395, 604-608.
45. Loureiro, J., and Peifer, M. (1998). The roles of Armadillo, a *Drosophila* catenin, during central nervous system development. *Current Biology* 8, 622-632.
44. Peifer, M. (1998). Birds of a feather flock together. *Nature* 395, 324-325.
43. Cox, R.T., and Peifer, M. (1998). Wingless/Wnt signaling: The inconvenient complexities of life. *Current Biology* 8, R140-R144.
42. Pai, L.-M., Orsulic, S., Bejsovec, A. and Peifer, M. (1997). Negative regulation of Armadillo, a Wingless effector in *Drosophila*. *Development* 124, 2255-2266.
41. Cavallo, R., Rubenstein, D., and Peifer, M. (1997). Armadillo and dTCF: A marriage made in the nucleus. *Curr. Opin. Genet. Devel.* 7, 459-466.
40. van de Wetering, M., Cavallo, R., Dooijes, D., van Beest, M., van Es, J., Loureiro, J., Ypma, A., Hursh, D., Jones, T., Bejsovec, A., Peifer, M., Mortin, M., and Clevers, H. (1997). Armadillo co-activates transcription driven by the product of the *Drosophila* segment polarity gene *dTCF*. *Cell* 88, 789-799.
39. Peifer, M. (1997). β -catenin as oncogene-- the smoking gun. *Science* 275, 1752-1753.
38. Pai, L.-M., Kirkpatrick, C., Blanton, J., Oda, H., Takeichi, M., and Peifer, M. (1996). α -catenin and DE-cadherin occupy distinct binding sites on *Drosophila* Armadillo that differ substantially in size. *J. Biol. Chem.* 271, 32411-32420.
37. Orsulic, S., and Peifer, M. (1996). Wingless lands at last. *Current Biology* 6, 1363-1367.
36. Orsulic, S., and Peifer, M. (1996). An in vivo structure-function study of Armadillo, the β -catenin homolog, reveals both separate and overlapping regions of the protein required for cell adhesion and for Wingless signaling. *J. Cell Biol.* 134, 1283-1301.
35. Cox, R., Kirkpatrick, C., and Peifer, M. (1996). Armadillo is required for adherens junction assembly, cell polarity and morphogenesis during *Drosophila* embryogenesis, *J. Cell Biol.* 134, 133-148.
34. Peifer, M. (1996). Regulating cell proliferation: as easy as APC (Perspective). *Science* 272, 974-975.
33. Bejsovec, A. and Peifer, M. (1996). The wingless/Wnt-1 signaling pathway - new insights into the cellular mechanisms of signal transduction. In: *Advances in Developmental Biology* Volume 4, p. 1-45 (P. Wassarman, ed.). JAI Press, Connecticut
32. Fares, H., Peifer, M., and Pringle, J.P. (1995). Localization and possible functions of *Drosophila* septins. *Mol. Biol. Cell* 6, 1843-1859.
31. Rauskolb, C., Smith, K., Peifer, M., and Wieschaus, E. (1995). *extradenticle* determines segmental identities throughout *Drosophila* development. *Development* 121, 3663-3673.
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