

BIOGRAPHICAL SKETCH

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NAME Devreotes, Peter Nicholas	POSITION TITLE Director and Professor		
eRA COMMONS USER NAME pdevreo1			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
University of Wisconsin, Madison, WI	B.S.	1971	Physics
The Johns Hopkins University, Baltimore, MD	Ph.D.	1977	Biophysics
University of Chicago, Chicago, IL	Postdoc	1977-80	Biochemistry

A. POSITIONS AND HONORS**Positions**

1971-1977 Graduate Student, Biophysics, Johns Hopkins University, Ph.D with Fambrough
 1977-1980 Postdoctoral Fellow, Biochemistry, University of Chicago, with Steck
 1980-1985 Assistant Professor, Biological Chemistry, Johns Hopkins University School of Medicine
 1985-1987 Associate Professor, Biological Chemistry, Johns Hopkins University School of Medicine
 1987-2000 Professor, Biological Chemistry, Johns Hopkins University School of Medicine
 2000-Present Director and Professor, Cell Biology, Johns Hopkins University School of Medicine

Honors and Awards

1977-1980 Damon-Runyon Cancer Research Fellowship
 1980-1982 American Cancer Society Junior Faculty Research Award
 1983-1988 American Heart Association Established Investigator
 2004-Present American Society for Cell Biology Council
 2005-Present Elected Member to the National Academy of Sciences

B. SELECTED PEER-REVIEWED PUBLICATIONS (Total = 193)

10. Devreotes, P.N., Gardner, J., Fambrough, D.M. 1977. Kinetics of biosynthesis of acetylcholine receptors and subsequent incorporation into plasma membranes of cultured skeletal muscle. *Cell* **10**, 365-373.
16. Devreotes, P. and Steck, T. 1979. Cyclic 3',5'-AMP relay in *Dictyostelium discoideum*. II. Requirements for the initiation and termination of the response. *J. Cell Biol.* **80**, 300-309.
20. Tomchik, K.J. and Devreotes, P.N. 1981. Cyclic AMP waves in *Dictyostelium discoideum*: A demonstration by isotope dilution fluorography. *Science* **212**, 443-446 (cover article).
31. Klein, P., Theibert, A., Fontana, D., and Devreotes, P. 1984. Identification and cAMP-induced modification of the cAMP receptor in *Dictyostelium discoideum*. *J. Biol. Chem.* **260**, 1757-1764.
49. Klein, P.S., Sun, T.L., Saxe, C.L. III, Kimmel, A.R., Johnson, R.L., Devreotes, P.N. 1988. A chemoattractant receptor controls development in *Dictyostelium discoideum*. *Science* **241**, 1467-1472.
67. Gundersen, R.E. and Devreotes, P.N. 1990. In vivo receptor-mediated phosphorylation of a G protein in *Dictyostelium*. *Science* **248**, 591-593.
78. Pitt, G.S., Milona, N., Borleis, J., Lin, K.C., Reed, R.R., and Devreotes, P.N. 1992. Structurally distinct and stage-specific adenylyl cyclase genes play different roles in *Dictyostelium* development. *Cell* **69**, 305-315.
96. Insall, R., Kuspa, A., Lilly, P.J., Shaulsky, G., Levin, L.R., Loomis, W.F., and Devreotes, P.N. 1994. CRAC, a cytosolic protein containing a pleckstrin homology domain, is required for receptor and G-protein-mediated activation of adenylyl cyclase in *Dictyostelium*. *J. Cell Biol.* **126**, 1537-1545.

105. Wu, L., Valkema, R., Van Haastert, P. J. M., and Devreotes, P. N. 1995. The G-protein β -subunit is essential for multiple responses to chemoattractants in *Dictyostelium*. *J. Cell Biol.* 129, 1667-1675.
108. Chen, M.-Y., Insall, R.H., and Devreotes, P.N. 1996. Signaling through chemoattractant receptors in *Dictyostelium*. *TIGS* 12, 52-57. (COVER)
109. Parent, C.A. and Devreotes, P.N. 1996. Molecular genetics of signal transduction in *Dictyostelium*. *Annu. Rev. Biochem.* 65, 411-440.
111. Insall, R. and Devreotes, P.N. 1996. A RasGEF modulates signaling through chemoattractant receptors in *Dictyostelium*. *Current Biology* 6, 719-729. (COVER)
122. Xiao, Z., Zhang, N., Murphy, D.B. and Devreotes, P.N. 1997. Chemoattractant receptors in living *Dictyostelium* cells during chemotaxis and persistent stimulation as monitored through a green fluorescence protein-cAMP receptor fusion construct. *J. Cell Biol.* 139, 365-374.
123. Chen, M.-Y., Long, Y. and Devreotes, P.N. 1997. A novel cytosolic regulator, Pianissimo, is required for chemoattractant receptor and G protein-mediated activation of the twelve transmembrane domain adenylyl cyclase in *Dictyostelium*. *Genes & Development* 11, 3218-3231.
130. Parent, C., Blacklock, B., Froelich, W., Murphy, D. and Devreotes, P.N. 1998. G protein signaling events are activated at the leading edge of chemotactic cells. *Cell*, 95, 81-91.
133. Parent, C and Devreotes, P.N. 1999. A Cell's Sense of Direction. *Science* 284, 765-770.
137. Jin, T., Zhang, N., Parent, C., and Devreotes, P.N. 2000. Distribution of GFP-tagged G-protein β -subunits in chemotaxing cells. *Science*, 287, 1034-1036.
141. Janetopoulos, C., Jin, T. and Devreotes, P.N. 2001. Receptor mediated activation of heterotrimeric G-proteins in living cells. *Science*, 291, 2408-2411.
149. Ueda, M., Sako, Y., Tanaka, T., Devreotes, P., and Yanagida, T. 2001 Single molecule analysis of chemotactic signaling in *Dictyostelium* cells. *Science*, 294(5543), 864-7.
153. Iijima, M. and Devreotes, P. N. 2002 Tumor suppressor PTEN mediates sensing of chemoattractant gradients. *Cell* 109, 599-610 (COVER).
156. Iijima, M., Huang, E., and Devreotes, P.N. 2002 Temporal and spatial regulation of chemotaxis. *Dev. Cell* 3, 469-478.
159. Huang, E., Iijima, M., Parent, C.A., Funamoto, S., Firtel, R., and Devreotes, P.N. 2003 Receptor-mediated regulation of PI3Ks confines PI(3,4,5)P₃ to the leading edge of chemotaxing cells. *Mol. Bio. Cell* 14, 1913-1922.
160. Janetopoulos, C. and Deverotes, P.N. 2003 Eukaryotic Chemotaxis: Distinctions between directional sensing and polarization. *J. Biol. Chem.* 278, 20445-20448.
166. Iijima, M., Huang, Y.E., Luo, H.R., Vazquez, F., and Devreotes, P.N. 2004 Novel mechanism of PTEN regulation by its Phosphatidylinositol 4,5-bisphosphate binding motif is critical for chemotaxis. *J. Biol. Chem.* 279(16):16606-16613.
169. Janetopoulos, C., Ma, L., Iglesias, P.A., and Devreotes, P.N. 2004 Chemoattractant-induced temporal and spatial PI(3,4,5)P₃ accumulation is controlled by a local excitation, global inhibition mechanism. *PNAS* 101(24):8951-8956.
176. Janetopoulos, C., Borleis, J., Vazquez, F., Iijima, M., and Devreotes, P.N. 2005 Temporal and spatial regulation of phosphoinositide signaling mediates cytokinesis. *Dev. Cell* 8:467-477.
179. Vazquez, F., Matsuoka, S., Sellers, W.R., Yanagida, T., Ueda, M., and Devreotes, P.N. 2006 Tumor suppressor PTEN acts through dynamic interaction with the plasma membrane. *PNAS* 103:3633-3638.
184. Janetopoulos, C. and Devreotes, P.N. 2006 Phosphoinositide signaling plays a key role in cytokinesis. Minireview. *J. Cell Biol.* 174:485-490.
189. Chen, L., Iijima, M., Tang, M., Landree, M.A., Huang, Y.E., Xiong, Y., Iglesias, P.A., Devreotes, P.N. 2008 PLA₂ and PI3K/PTEN pathways act in parallel to mediate chemotaxis. *Dev. Cell* 12(4):603-614.
192. Kamimura, Y., Xiong, Y., Iglesias, P.A., Hoeler, O., Bolourani, P. and Devreotes, P.N. 2008 PIP(3)-Independent activation of TorC2 and PKB at the cell's leading edge mediates chemotaxis. *Curr. Bio.* 18:1034-43.
193. Tang, L., Franca-Koh, J., Xiong, Y., Chen, M.-Y., Long, Y., Bickford, R.M., Knecht, D.A., Iglesias, P.A., and Devreotes, P.N. 2008 Tsunami, the *Dictyostelium* homolog of the Fused kinase is required for polarization and chemotaxis. *Genes Dev.* 22:2278-2290.