

BIOGRAPHICAL SKETCH

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|---|--|--------------------------------------|---------|-------------------|
| NAME Levin, Ellis Robert | | POSITION TITLE | | |
| eRA COMMONS USER NAME ELLIS_R_LEVIN | | Professor of Medicine & Pharmacology | | |
| EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i> | | | | |
| INSTITUTION AND LOCATION | | DEGREE <i>(if applicable)</i> | YEAR(s) | FIELD OF STUDY |
| Temple University | | BS | 1970 | Psychology |
| Thomas Jefferson University & Medical School | | MD | 1975 | |
| Thomas Jefferson University & Medical School | | Resident | 1978 | Internal Medicine |
| UCLA School of Medicine | | Fellow | 1981 | Endocrinology |

A. Positions and Honors

1982-88 Assistant Chief of Medicine, DVA Medical Center, Long Beach, CA
1983-89 Assistant Professor of Medicine, UC-Irvine
1989-95 Associate Professor of Medicine, UC-Irvine
1989-Pres Research Scientist, Southern California Institute for Research and Education, Long Beach, CA
1991 Los Angeles, Southern California Federal Executive Board Outstanding Research
1992-2000 Editorial Board of the Journal of Clinical Endocrinology & Metabolism
1992-Pres Chief, Endocrinology & Metabolism, DVA Medical Center, Long Beach, CA
1995-Pres Professor and Vice-Chairman of Medicine & Professor of Pharmacology and Biochemistry, Chief, Endocrinology and Metabolism, UC-Irvine
1996-2001, 2003-2008 Editorial Board, Journal of Biological Chemistry
1998 UC-Irvine College of Medicine, Committee of 1000, Faculty Award, Excellence in Research
1999 UC-Irvine College of Medicine, Athalie Clark Research Award
2001 Association of American Physicians
2001 Featured Author, "Hot Papers", The Scientist 15(8):April 16, 2001 edition, pp.15-16
2003-2006 Editor, Biochemical Journal

B. Selected peer-reviewed publications (from 92)

1. Levin ER, Frank HJL, Gelfand R, Loughlin S, Kaplan G. Natriuretic peptide receptors in cultured rat diencephalon. *J Biol Chem* 265:10019-24, 1990.
2. Levin ER, Frank HJL. Natriuretic peptides inhibit astroglial proliferation: Mediation by C receptor. *Am J Physiol* 261:R453-57, 1991.
3. Gelfand R, Frank HJL, Levin ER, Pedram A. Brain and atrial natriuretic peptides bind to common receptors in brain capillary endothelial cells. *Am J Physiol* 261:E183-89, 1991.
4. Levin ER, Frank HJL, Pedram A. Endothelin receptor expression in fetal rat diencephalon. *J Neurochemistry* 58:659-66, 1991.
5. Hu R-M, Levin ER, Pedram A, Frank HJL. Atrial natriuretic peptide inhibits the translation and secretion of endothelin from cultured bovine aortic endothelial cells: Mediation by C receptors. *J Biol Chem* 267(24):17384-89, 1992.
6. Hu R-M, Levin ER, Pedram A, Frank HJL. Insulin increases the production and secretion of endothelin from cultured bovine endothelia cells. *Diabetes* 42:351-58, 1993.
7. Prins B, Hu R-M, Nazario B, Pedram A, Frank HJL, Wever M, Levin ER. Prostaglandins inhibit the production and secretion of endothelin from cultured endothelial cells. *J Biol Chem* 269:11938-44, 1994.
8. Hu R-M, Chuang E, Prins B, Frank HJL, Pedram A, Kashyap M, Levin ER. High density lipoproteins stimulate the production and secretion of endothelin-1 from cultured bovine aortic endothelial cells. *J Clin Invest* 93:1056-62, 1994.
9. Hu R-M, Levin ER. Astrocyte growth is regulated by neuropeptides through Tis 8 and basic fibroblast growth factor. *J Clin Invest* 93:1820-27, 1994.

10. Nazario B, Hu R-M, Pedram A, Prins B, Levin ER. Atrial and brain natriuretic peptides stimulate the production and secretion of C-type natriuretic peptide from bovine aortic endothelial cells. *J Clin Invest* 95:1151-57, 1995.
11. Levin ER. Endothelins. *New Engl J Med* 333(6):356-63, 1995.
12. Razandi M, Pedram A, Rubin S, Levin ER. Prostaglandins PGE2 and prostacyclin inhibit ET-1 secretion from endothelial cells by activating the particulate form of cGMP. *Am J Physiol* 270:H1342-49, 1996.
13. Prins B, Weber MJ, Hu R-M, Pedram A, Daniels M, Levin ER. Atrial natriuretic peptide inhibits mitogen-activated protein kinase through the clearance receptor: Potential role in the inhibition of astrocyte proliferation. *J Biol Chem* 271(24):14156-62, 1996.
14. Biesiada E, Razandi M, Levin ER. Egr-1 activates basic fibroblast growth factor transcription: Mechanistic implications for astrocyte proliferation. *J Biol Chem* 271(31):18576-81, 1996.
15. Morey AK, Pedram A, Razandi M, Prins BA, Hu R-M, Biesiada E, Levin ER. Estrogen and progesterone inhibit human vascular smooth muscle proliferation. *Endocrinology* 138(8):3330-39, 1997.
16. Pedram A, Razandi M, Hu R-M, Levin ER. Vasoactive peptides modulate vascular endothelial cell growth factor production and endothelial cell proliferation and invasion. *J Biol Chem* 272:17097-103, 1997.
17. Morey AK, Razandi M, Pedram A, Hu R-M, Prins B, Levin ER. Estrogen and progesterone inhibit the stimulated production of endothelin-1: Differential positive and negative regulatory mechanisms. *Biochem J* 330(3):1097-105, 1998.
18. Pedram A, Razandi M, Hu R-M, Levin ER. Astrocyte progression through G1-S phase of the cell cycle depends upon multiple protein interactions. *J Biol Chem* 273(22):13966-72, 1998.
19. Levin ER, Gardner DG, Samson WK. Natriuretic peptides. *New Engl J Med* 339:321-28, 1998.
20. Pedram A, Razandi M, Levin ER. Extracellular regulated kinase/jun kinase cross-talk underlies vascular endothelial cell growth factor-induced endothelial cell proliferation. *J Biol Chem* 273(41):26722-28, 1998.
21. Levin ER, Rosen GF, Yee W, Cassidenti D, Meldrum D, Pedram A. Role of vascular endothelial cell growth factor in ovarian hyperstimulation syndrome. *J Clin Invest* 102(11):1978-85, 1998.
22. Razandi M, Pedram A, Greene GL, Levin ER. Cell membrane and nuclear estrogen receptors derive from a single transcript: Studies of ER alpha and ER beta expressed in CHO cells. *Mol Endocrinol* 13(2):307-19, 1999.
23. Pedram A, Razandi M, Kehrl J, Levin ER. Natriuretic peptides inhibit G protein activation: Medication through cross talk between cyclic GMP-dependent protein kinase and RGS proteins. *J Biol Chem* 275(10):7365-72, 2000.
24. Razandi M, Pedram A, Levin ER. Plasma membrane estrogen receptors signal to anti-apoptosis in breast cancer. *Mol Endocrinol* 14(9):1434-47, 2000.
25. Razandi M, Pedram A, Levin ER. Estrogen signals to preservation of endothelial cell form and function. *J Biol Chem* 275(49):38540-46, 2000.
26. Pedram M, Razandi M, Levin ER. Natriuretic peptides suppress VEGF signaling to angiogenesis. *Endocrinology* 142:1578-86, 2001.
27. Kelly M, Levin ER. Rapid actions of plasma membrane estrogen receptors. *Trends Endocrinol Metab* 12(4):152-56, 2001.
28. Razandi M, Oh P, Pedram A, Schnitzer J, Levin ER. Estrogen receptors associate with and regulate the production of caveolin: Implications for signaling and cellular actions. *Mol Endocrinol* 16:100-15, 2002.
29. Levin ER. Cellular functions of plasma membrane estrogen receptors. *Steroids* 67:471-75, 2002.
30. Pedram A, Razandi M, Levin ER. Deciphering VEGF signaling to vascular permeability: Inhibition by atrial natriuretic peptide. *J Biol Chem* 277:44385-98, 2002.
31. Pedram A, Razandi M, Aitkenhead M, Hughes CCW, Levin ER. Integration of the non-genomic and genomic actions of estrogen: Membrane initiated signaling by steroid (MISS) to transcription and cell biology. *J Biol Chem* 277:50768-75, 2002.
32. Razandi M, Pedram A, Parks S, Levin ER. Proximal events in ER signaling from the plasma membrane. *J Biol Chem* 278:2701-12, 2003.
33. Levin ER. Bidirectional signaling between the estrogen receptor and the epidermal growth factor receptor. *Mol Endocrinol* 17:309-17, 2003.
34. Razandi M, Alton G, Pedram A, Ghonshani S, Webb D, Levin ER. Identification of a structural determinant for the membrane localization of ER α . *Mol Cell Biol* 23:1633-46, 2003.

35. Razandi M, Pedram A, Rosen EM, Levin ER. BRCA1 inhibits membrane estrogen and growth factor receptor signaling to cell proliferation in breast cancer. *Mol Cell Biol* 24:5900-13 2004.
36. Razandi M, Pedram A, Merchenthaler I, Greene GL, Levin ER. Plasma membrane estrogen receptors exist and function as dimers. *Mol Endocrinol* 18:2854-65, 2004.
37. Levin, ER. Integration of the extra-nuclear and nuclear actions of estrogen. *Mol Endocrinol* 19:1951-59, 2005.
38. Guo X, Razandi M, Pedram A, Kassab G, Levin ER. Estrogen induces vascular wall dilation: Mediation through kinase signaling to nitric oxide and estrogen receptors alpha and beta. *J Biol Chem* 280:19704-10, 2005.
39. Pedram A, Razandi M, Aitkenhead M, Levin ER. Estrogen inhibits cardiomyocyte hypertrophy in-vitro: Antagonism of calcineurin-related hypertrophy through induction of MCIP1. *J Biol Chem* 280:26339-48, 2005.
40. Kim JK, Pedram A, Razandi M, Levin ER. Estrogen prevents cardiomyocyte apoptosis through inhibition of reactive oxygen species and differential regulation of p38 isoforms. *J Biol Chem* 281:6760-67, 2006.
41. Pedram A, Razandi M, Wallace DC, Levin ER. Functional estrogen receptors in the mitochondria of breast cancer cells. *Mol Biol Cell* 17:2125-37, 2006.
42. Pedram A, Razandi M, Levin ER. Nature of functional estrogen receptors at the plasma membrane. *Mol Endocrinol* 20:1996-2009, 2006.
43. Levin ER, Pietras RJ. Estrogen receptors outside the nucleus in breast cancer. *Breast Cancer Research and Treatment* Jun 26, 2007 10.1007/s10549-007-9618-4.
44. Pedram A, Razandi M, Sainson RCA, Kim JK, Hughes CC, Levin ER. A conserved mechanism for steroid receptor translocation to the plasma membrane. *J Biol Chem* 282:2278-88, 2007.
45. Hammes SR, Levin ER. Extra-nuclear steroid receptors: Nature and function. *Endo Rev* 28(7):726-741,2007.