UNIVERSITY OF PENNSYLVANIA – PERELMAN SCHOOL OF MEDICINE

curriculum vitae

Date: 10/19/2013

Mark A. Lemmon, Ph.D.

Date of birth: 12/30/1964 Place of birth: Norwich, England

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Philadelphia, PA 19104-6059 USA

If you are not a U.S. citizen or holder of a permanent visa, please indicate the type of visa you have:
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Education:

1988	B.A.	Hertford College, University of Oxford, UK (First Class Hons) (Biochemistry)
1990	M.Phil.	Yale University, New Haven, CT (Biophysics/Biochemistry)
1993	Ph.D.	Yale University, New Haven, CT (Biophysics/Biochemistry)
1996	postdoc	New York University Medical Center, New York, NY (Pharmacology)

Postgraduate Training and Fellowship Appointments:

1988-1993	HHMI Predoctoral Fellow, Dept. of Molecular & Biochemistry. Mentor: Prof. Donald M. Engelman., Yale University. M.Phil.(1990), and Ph.D. (1993)
1989-1993	Predoctoral Fellow, Howard Hughes Medical Institute
1993-1996	Postdoctoral Fellow, Department of Pharmacology, New York University Medical Center, New York, NY
1993-1996	Marion Abbe Postdoctoral Fellow of the Cancer Research Fund of Damon Runyon-Walter Winchell Foundation. Mentor: Prof. Joseph Schlessinger, Dept. of Pharmacology, NYU

Military Service: [none]

Faculty Appointments:

1996-2001	Assistant Professor of Biochemistry and Biophysics, University of Pennsylvania Perelman School of Medicine
2001-2004	Associate Professor of Biochemistry and Biophysics, University of Pennsylvania Perelman School of Medicine
2004-present	Professor of Biochemistry and Biophysics, University of Pennsylvania Perelman School of Medicine
2012-present	George W. Raiziss Professor of Biochemistry and Biophysics, University of Pennsylvania Perelman School of Medicine
2013-present	Investigator, Abramson Family Cancer Research Institute, University of Pennsylvania Perelman School of Medicine

Hospital and/or Administrative Appointments:

2008-2010	Interim Chairman, Department of Biochemistry and Biophysics, University of Pennsylvania Perelman School of Medicine
2010-present	Chairman, Department of Biochemistry and Biophysics, University of Pennsylvania Perelman School of Medicine

Personal Statement

I am Professor and Chair in the Department of Biochemistry and Biophysics at the University of Pennsylvania Perelman School of Medicine. Under my direction, the Lemmon laboratory has made significant contributions to understanding mechanisms of cellular signaling through lipid second messengers, notably the phosphoinositides that bind pleckstrin homology (PH), FYVE, and other domains. In addition, we have contributed significantly to current knowledge of transmembrane signaling mechanism for several different receptor tyrosine kinases (RTKs), in particular the therapeutic target EGFR. We have focused on the epidermal growth factor (EGF) receptor family of RTKs in recent years, and are now extending the same approaches across the human 'RTKome'. We have extensively studied both extracellular regions and intracellular kinase domains of RTKs, combining cellular and biochemical studies with biophysical approaches. With clinical collaborators at Penn and elsewhere, a major goal is to use these studies to understand how disease-related mutations activate RTKs (in cancer) or inactivate them in other diseases, and to use this information to develop and guide targeted therapies. The Lemmon laboratory is uniquely positioned to investigate the mechanisms and cellular signaling role of RTKs, and to lay the groundwork for inhibiting these receptors pharmacologically.

Other Appointments:

[none]

Specialty Certification:

[none]

Licensure:

[none]

Awards, Honors and Membership in Honorary Societies:

1983	Norfolk County Scholar, Norwich, UK
1984-1988	Open Scholarship, Hertford College, University of Oxford, UK
1985	Distinction, Biochemistry Prelims, Hertford College, Univ. of Oxford, UK
1988	Alumni Prize Fellowship, Yale University (Mol. Biophys. & Biochem.)
1988	Book Prize for First Class degree, Hertford College, Univ. of Oxford, UK
1989-1993	Predoctoral Fellow of the Howard Hughes Medical Institute
1993-1996	Marion Abbe Postdoctoral Fellow of the Cancer Research Fund of the Damon Runyon-Walter Winchell Foundation
1997-1998	Damon Runyon Scholar Award from the Damon Runyon-Walter Winchell Foundation
2005	Dean's Award for Excellence in Graduate Student Training, University of Pennsylvania Perelman School of Medicine
2007-2010	Elected Secretary, American Society for Biochemistry and Molecular Biology (ASBMB)

2010-2013	Re-elected Secretary, American Society for Biochemistry and Molecular Biology (ASBMB)
2009	Stanley N. Cohen Biomedical Research Award, University of Pennsylvania Perelman School of Medicine
2012	Dorothy Crowfoot Hodgkin Award of the Protein Society
2012-present	George W. Raiziss Endowed Chair in Biochemistry and Biophysics

Memberships in Professional and Scientific Societies and Other Professional Activities:

International:

2003-present	American Society for Microbiology
2003-present	Biochemical Society
2007-present	American Society for Biochemistry and Molecular Biology (ASBMB) (Elected Secretary (2007-2010 and 2010-2013))
2010-Present	Scientific Advisory Board: UK consortium, on "Supra-molecular Rules in Signalling Networks", Kings' College, London

National:

2003-2007	Damon Runyon Cancer Research Fund (Member of Scientific Advisory Board)
2009-Present	Kolltan Pharmaceuticals, Inc. (Member, Scientific Advisory Board)
2009-Present	External Scientific Advisory Board, Keystone Program in Head-and-Neck cancer, Fox Chase Cancer Center, Philadelphia, PA
2013-Present	Scientific Advisory Board, MIT Integrative Cancer Biology Program, Cambridge, MA
2013-Present	External Advisory Board, Dana Farber Cancer Institute Program on Lung Cancer Targeted Therapies, Boston, MA

Editorial Positions:

2000-2005	Editorial Advisory Board, *The Biochemical Journal*
2004-2007	Member, Faculty of 1000
2004-2010	Editorial Board, *BMC Cell Biology* (Open Access)
2005-2007	Editorial Board, *The Biochemical Journal*
2006-Present	Editorial Board, *Molecular Cell*
2007-Present	Editorial Board, *BMC Proceedings* (Open Access)
2007-Present	Deputy Chair of the Editorial Board, *The Biochemical Journal*
2008-Present	Editorial Board, *Growth Factors*
2009-Present	Editorial Board, *Cell*
2010-Present	Section Editor (Signaling) *BMC Cell Biology* (Open Access)

Academic and Institutional Committees:

2004-Present	Member, Steering Committee, Tumor Biology Section, U. Penn Cancer Center
2005-Present	Member, Committee to Review CAMB Graduate group
2006-Present	SOM Limited Application Selection Committee
2008	Member, Committee to Review SOM Core facilities

2008	Search Committee for Chair of Cancer Biology
2008-Present	Member, Biomedical Imaging Core Committee
2008-Present	Member, Standing Committee of Department Chairs and Institute and Center Directors, Perelman School of Medicine
2009	Member, Committee to Review GCB Graduate Group
Present	Member of Graduate Groups in: Biochemistry and Molecular Biophysics, Cellular and Molecular Biology, Pharmacology, Immunology
Present	Member:Admissions committee, BMB Graduate Group
Present	Academic Development Fund Ctte, Perelman School of Medicine
2013	Search Committee for Vice Dean for Diversity and Inclusion
2013	Search Committee for Vice Provost for Research, U. Penn

Major Academic and Clinical Teaching Responsibilities:

1997-2010	Course Director and sole lecturer: BMB614, Membrane Protein Structural Biology
1997-Present	Lecturer, BMB508, Macromolecules (1-2 lectures per year)
2000-2004	Course Director and lecturer, BMB550, 'Signal Transduction'
2000-Present	Co-director and Lecturer, BIOM 600 (8.5 hours per year)
2000-Present	Lecturer (1 hour per year) PHM 51/INSC 596: Neurochemistry & Neuropharmacology
2005-Present	CAMB 692 (Advanced Topics in Cell Biology): Co-Director, in 2005, 2007, 2009, 2011, and 2013.
2006-Present	Co-director, BMB705 Prelim Preparation course
1997-Present	Rotation Advisor for 23 students, from BMB, PHM, IMM and CAMB graduate groups
2003-Present	Dissertation advisor: Anthony Lee (BMB): Ph.D. completed 2003 Mitchell B. Berger (BMB): M.D./Ph.D. completed 2003 Megan C. King (BMB): Ph.D. completed 2004 Jong Yu (PHM): Ph.D. completed 2004 Mark Baumeister (IMM): Ph.D. completed 2005 David Keleti (BMB): Ph.D. completed 2007 Daryl E. Klein (BMB): M.D./Ph.D. completed 2007 Kelley A. Bethoney (BMB): Ph.D. completed 2008 Sung-Hee Choi (BMB): Ph.D. completed 2009 Katarina Moravcevic (BMB): Ph.D. completed 2010 Scott Bresler (BMB): MD/Ph.D. completed 2011 Fumin Shi (BMB): Ph.D. completed 2012
2007-Present	Dissertation Advisor (ongoing): Nicholas Bessman (BMB) Stephen Artim (BMB; VMD/Ph.D.) Jin Park (BMB; Ph.D.) Neo Wu (BMB; Ph.D.) Kelsey Speer (CAMB; Ph.D.) Matt Rapp (CAMB; Ph.D.)

Lectures by Invitation (Last 5 years):

Jan, 2008	'Extracellular regulation of the EGF Receptor', Dept. Molecular Pharmacology, Albert Einstein College of Medicine, Bronx, NY
Feb, 2008	'Extracellular regulation of the EGF Receptor', Dept. Biochemistry, New York University Medical Center, New York, NY
Mar, 2008	'Extracellular regulation of the EGF Receptor', National Institute for Medical Research, Mill Hill, London, UK
Mar, 2008	'Extracellular inhibition of the EGF Receptor', Institute of Structural Molecular Biology, University of London, UK.
Apr, 2008	'Extracellular regulation of the EGF Receptor', NIEHS, Research Triangle Park, NC
Aug, 2008	'Extracellular regulation of ErbB receptors', Gordon Research Conference on Growth Factors and Signalling, Magdalen College, Oxford, England.
Nov, 2008	'Extracellular Regulation of the EGF Receptor Family' Sloan Kettering Cancer Research Institute, New York, NY
Mar, 2009	'Extracellular Regulation of the EGF Receptor Family' Post-Kyoto Symposium, San Diego, CA
April, 2009	'PH domains and other modules that bind phosphoinositides' Keystone Meeting in PI 3-kinases and complex lipids, Squaw Valley, CA
May, 2009	'Extracellular Regulation of the EGF Receptor Family' University of Delaware, Newark, DE
Jun, 2009	'Regulation of EGF Receptor/ErbB Family Members' International Symposium, Cluster of Excellence in Macromolecular Complexes, Frankfurt, Germany
Sep, 2009	'PH Domains and other Phospholipid-Binding Domains' Fourth Seefeld Conference on Protein Modules, Seefeld, Austria
Oct, 2009	'Extracellular Regulation of the EGF Receptor Family' Blaffer Lecture, M.D. Anderson Cancer Center, Houston, TX
Oct, 2009	'Extracellular Regulation of the EGF Receptor Family', Drexel University School of Medicine, Philadelphia
Nov, 2009	'Extracellular Regulation of the EGF Receptor Family' MB&B Dept., Yale University
Nov, 2009	'Extracellular Regulation of the EGF Receptor Family' Fox Chase Cancer Center Distinguished Lecture Series, Philadelphia
Jan 2010	'Extracellular Regulation of the EGF Receptor Family' Dept. Pharmacology, Beth Israel Hospital, Harvard Medical School
April 2010	'Extracellular Regulation of the EGF Receptor Family' Johns Hopkins Bloomberg School of Public Health
April 2010	'Regulation of EGF Receptor Family Members' Univ. California, Berkeley, Structural Biology Seminar
April 2010	'New Lessons in Understanding Regulation of the EGF Receptor Family' Franklin Award Symposium in honor of Peter Nowell, Penn Medicine

May 2010	'PH Domains and other Phosphoinositide/Phospholipid-Binding Modules' Symposium on Membranes and Cancer, Purdue University
Aug 2010	'New Lessons in Regulation of EGFR Family Members.' Salk Meeting on Protein Phosphorylation and Cell Signaling (30 Years of Tyrosine Phosphorylation), La Jolla, CA
Oct 2010	'New Lessons in Regulation of EGFR Family Members.' Blaffer Seminar, M.D. Anderson Cancer Center, Houston, TX
May 2011	'Oncogene Addiction' Samuel Waxman Foundation Annual Meeting, New York, NY
June 2011	'Kinase regulation at the membrane surface'. Keynote lecture at Keck Biomembrane Retreat, Cornell University, Ithaca, NY
June 2011	'New Lessons in Regulation of EGFR Family Members.' Northwestern University, Chicago, IL
June 2011	'Signaling by Receptor Tyrosine Kinases' Drexel University, Philadelphia, PA
July 2011	'New Lessons in Regulation of EGFR Family Members.' FASEB Summer Conference on Protein Phosphorylation, Snowmass, CO
Sept. 2011	'New Lessons in Regulation of EGFR Family Members.' MD Anderson Cancer Research Symposium: EGF signaling, Houston
Sept. 2011	'New Lessons in Regulation of EGFR Family Members.' GBM Molecular Life Sciences Meeting, Frankfurt, Germany
Oct. 2011	'New Lessons in Regulation of EGFR Family Members.' Cell Signaling Networks Meeting, Merida, Mexico
Nov. 2011	'New Lessons in Regulation of EGFR Family Members.', Biochemistry Dept., Cornell Weill Medical College, NYC
Dec. 2011	'A New Mechanism for Allosteric Regulation of EGFR Family Members' Plenary Lecture, IBC's 2011 Antibody Engineering and IBC's 2011 Antibody Therapeutics meeting, San Diego, CA
Jan. 2012	'New Lessons in Regulation of EGFR Family Members.' Keystone Meeting on Structural Biology of Cellular Processes, Keystone, CO.
Feb. 2012	'New Lessons in Regulation of EGFR Family Members.' UNC Lineberger Comprehensive Cancer Center, Chapel Hill, NC.
Mar. 2012	'New Lessons in Regulation of EGFR Family Members.' *Biochemical Journal* Signaling Symposium, Sanford/Burnham Institute, La Jolla, CA
Apr. 2012	'Targeting Receptor Tyrosine Kinases in Cancer' AACR Annual Meeting, Chicago, IL
Apr. 2012	'New Lessons in Regulation of EGFR Family Members.' Lehigh University Department of Chemistry, Bethlehem, PA
Apr. 2012	'New Lessons in Regulation of EGFR Family Members.' Vanderbilt University Cancer Center, Nashville, TN
May 2012	'New Lessons in Regulation of EGFR Family Members.' Guys Hospital/Kings College, London, UK. International meeting on EGFR signaling mechanisms
Aug. 2012	'New Lessons in Regulation of EGFR Family Members.' Protein Society Annual Symposium Award lecture, San Diego, CA

Mar. 2013	'Pseudokinases in the Receptor Tyrosine Kinase Family' Biochemical Society Focused Meeting, Robinson College, Cambridge, England
Apr. 2013	'Diversity of Signaling Mechanisms in the Receptor Tyrosine Kinase Family' The Hastings Lecture, Department of Biological Chemistry and Molecular Pharmacology, Harvard Medical School
Apr. 2013	'Diversity of Signaling Mechanisms in the Receptor Tyrosine Kinase Family' Stony Brook University, Stony Brook, NY
May 2013	'Diversity of Signaling Mechanisms in the Receptor Tyrosine Kinase Family' UCSF Helen Diller Family Comprehensive Cancer Center, San Francisco, CA
May 2013	'Diversity of Signaling Mechanisms in the Receptor Tyrosine Kinase Family' Genentech Inc, San Francisco, CA
July 2013	'Diversity of Signaling Mechanisms in the Receptor Tyrosine Kinase Family' FEBS Congress 2013, St. Petersburg, Russia
July 2013	'Diversity of Signaling Mechanisms in the Receptor Tyrosine Kinase Family' FASEB Conference on Protein Kinases and Protein Phosphorylation, Niagara Falls, NY
Sept. 2013	'Understanding Activation Mechanisms of Growth Factor Receptor Tyrosine Kinases' Biochemical Society Harden Conference, University of Sheffield, UK.
Sept. 2013	'Diversity of Receptor Tyrosine Kinase Signaling Mechanisms' Cellular and Molecular Basis of Disease Seminar Series, Univ. New Mexico School of Medicine, Albuquerque, NM.

Organizing Roles in Scientific Meetings:

Apr, 2009	Theme/Symposium Organizer Mechanisms of Receptor Signaling Theme, ASBMB 2009 Meeting, New Orleans
March 2012	Co-Chairperson, 'Current Concepts and Controversies in Diagnostics, Therapeutics, and Prevention Research Session on 'EGFR Targeting' at the Annual Meeting of the American Association for Cancer Research

Bibliography:

A. Peer-reviewed Research Publications:

1. Lemmon MA., Flanagan JM., Hunt JF., Adair BD., Bormann BJ., Dempsey CE., Engelman DM.: Glycophorin A dimerization is driven by specific interactions between transmembrane alpha-helices. Journal of Biological Chemistry 267(11): 7683-9, Apr 15 1992.
2. Lemmon MA., Flanagan JM., Treutlein HR., Zhang J., Engelman DM.: Sequence specificity in the dimerization of transmembrane alpha-helices. Biochemistry 31(51): 12719-25, Dec 29 1992.

3. Treutlein HR., Lemmon MA., Engelman DM., Brunger AT.: The glycophorin A transmembrane domain dimer: sequence-specific propensity for a right-handed supercoil of helices. Biochemistry 31(51): 12726-32, Dec 29 1992.

4. Lemmon MA., Treutlein HR., Adams PD., Brunger AT., Engelman DM.: A dimerization motif for transmembrane alpha-helices. Nature Structural Biology 1(3): 157-63, Mar 1994.

5. Sorokin A., Lemmon MA., Ullrich A., Schlessinger J.: Stabilization of an active dimeric form of the epidermal growth factor receptor by introduction of an inter-receptor disulfide bond. Journal of Biological Chemistry 269(13): 9752-9, Apr 1 1994.

6. Lemmon MA., Ladbury JE.: Thermodynamic studies of tyrosyl-phosphopeptide binding to the SH2 domain of p56lck. Biochemistry 33(17): 5070-6, May 3 1994.

7. Arkin IT., Adams PD., MacKenzie KR., Lemmon MA., Brunger AT., Engelman DM.: Structural organization of the pentameric transmembrane alpha-helices of phospholamban, a cardiac ion channel. EMBO Journal 13(20): 4757-64, Oct 17 1994.

8. Ferguson KM., Lemmon MA., Schlessinger J., Sigler PB.: Crystal structure at 2.2 A resolution of the pleckstrin homology domain from human dynamin. Cell 79(2): 199-209, Oct 21 1994.

9. Lemmon MA., Ladbury JE., Mandiyan V., Zhou M., Schlessinger J.: Independent binding of peptide ligands to the SH2 and SH3 domains of Grb2. Journal of Biological Chemistry 269(50): 31653-8, Dec 16 1994.

10. Spivak-Kroizman T., Lemmon MA., Dikic I., Ladbury JE., Pinchasi D., Huang J., Jaye M., Crumley G., Schlessinger J., Lax I.: Heparin-induced oligomerization of FGF molecules is responsible for FGF receptor dimerization, activation, and cell proliferation. Cell 79(6): 1015-24, Dec 16 1994.

11. Fushman D., Cahill S., Lemmon MA., Schlessinger J., Cowburn D.: Solution structure of pleckstrin homology domain of dynamin by heteronuclear NMR spectroscopy. Proceedings of the National Academy of Sciences of the United States of America 92(3): 816-20, Jan 31 1995.

12. Ladbury JE., Lemmon MA., Zhou M., Green J., Botfield MC., Schlessinger J.: Measurement of the binding of tyrosyl phosphopeptides to SH2 domains: a reappraisal. Proceedings of the National Academy of Sciences of the United States of America 92(8): 3199-203, Apr 11 1995.

13. Ferguson KM., Lemmon MA., Sigler PB., Schlessinger J.: Scratching the surface with the PH domain. Nature Structural Biology 2(9): 715-8, Sep 1995.

14. Lee CH., Leung B., Lemmon MA., Zheng J., Cowburn D., Kuriyan J., Saksela K.: A single amino acid in the SH3 domain of Hck determines its high affinity and specificity in binding to HIV-1 Nef protein. EMBO Journal 14(20): 5006-15, Oct 16 1995.

15. Lemmon MA., Ferguson KM., O'Brien R., Sigler PB., Schlessinger J.: Specific and high-affinity binding of inositol phosphates to an isolated pleckstrin homology domain. Proceedings of the National Academy of Sciences of the United States of America 92(23): 10472-6, Nov 7 1995.

16. Ferguson KM., Lemmon MA., Schlessinger J., Sigler PB.: Structure of the high affinity complex of inositol trisphosphate with a phospholipase C pleckstrin homology domain. Cell 83(6): 1037-46, Dec 15 1995.

17. Zheng J., Cahill SM., Lemmon MA., Fushman D., Schlessinger J., Cowburn D.: Identification of the binding site for acidic phospholipids on the pH domain of dynamin: implications for stimulation of GTPase activity. Journal of Molecular Biology 255(1): 14-21, Jan 12 1996.

18. Mandiyan V., O'Brien R., Zhou M., Margolis B., Lemmon MA., Sturtevant JM., Schlessinger J.: Thermodynamic studies of SHC phosphotyrosine interaction domain recognition of the NPXpY motif. Journal of Biological Chemistry 271(9): 4770-5, Mar 1 1996.

19. Mingarro I., Whitley P., Lemmon MA., von Heijne G.: Ala-insertion scanning mutagenesis of the glycophorin A transmembrane helix: a rapid way to map helix-helix interactions in integral membrane proteins. Protein Science 5(7): 1339-41, Jul 1996.

20. Lemmon MA., Bu Z., Ladbury JE., Zhou M., Pinchasi D., Lax I., Engelman DM., Schlessinger J.: Two EGF molecules contribute additively to stabilization of the EGFR dimer. EMBO Journal 16(2): 281-94, Jan 15 1997.

21. Burke CL., Lemmon MA., Coren BA., Engelman DM., Stern DF.: Dimerization of the p185neu transmembrane domain is necessary but not sufficient for transformation. Oncogene 14(6): 687-96, Feb 13 1997.

22. Lemmon MA., Pinchasi D., Zhou M., Lax I., Schlessinger J.: Kit receptor dimerization is driven by bivalent binding of stem cell factor. Journal of Biological Chemistry 272(10): 6311-7, Mar 7 1997.

23. Artalejo CR., Lemmon MA., Schlessinger J., Palfrey HC.: Specific role for the PH domain of dynamin-1 in the regulation of rapid endocytosis in adrenal chromaffin cells. EMBO Journal 16(7): 1565-74, Apr 1 1997.

24. Falasca M., Logan SK., Lehto VP., Baccante G., Lemmon MA., Schlessinger J.: Activation of phospholipase C gamma by PI 3-kinase-induced PH domain-mediated membrane targeting. EMBO Journal 17(2): 414-22, Jan 15 1998.

25. Isakoff SJ., Cardozo T., Andreev J., Li Z., Ferguson KM., Abagyan R., Lemmon MA., Aronheim A., Skolnik EY.: Identification and analysis of PH domain-containing targets of phosphatidylinositol 3-kinase using a novel in vivo assay in yeast. EMBO Journal 17(18): 5374-87, Sep 15 1998.

26. Klein DE., Lee A., Frank DW., Marks MS., Lemmon MA.: The pleckstrin homology domains of dynamin isoforms require oligomerization for high affinity phosphoinositide binding. Journal of Biological Chemistry 273(42): 27725-33, Oct 16 1998.

27. Kavran JM., Klein DE., Lee A., Falasca M., Isakoff SJ., Skolnik EY., Lemmon MA.: Specificity and promiscuity in phosphoinositide binding by pleckstrin homology domains. Journal of Biological Chemistry 273(46): 30497-508, Nov 13 1998.

28. Jost M., Simpson F., Kavran JM., Lemmon MA., Schmid SL.: Phosphatidylinositol-4,5-bisphosphate is required for endocytic coated vesicle formation. Current Biology 8(25): 1399-402, Dec 17-31 1998.

29. Lee A., Frank DW., Marks MS., Lemmon MA.: Dominant-negative inhibition of receptor-mediated endocytosis by a dynamin-1 mutant with a defective pleckstrin homology domain. Current Biology 9(5): 261-4, Mar 11 1999.

30. Razzini G., Brancaccio A., Lemmon MA., Guarnieri S., Falasca M.: The role of the pleckstrin homology domain in membrane targeting and activation of phospholipase Cbeta(1). Journal of Biological Chemistry 275(20): 14873-81, May 19 2000.

31. Ferguson KM., Kavran JM., Sankaran VG., Fournier E., Isakoff SJ., Skolnik EY., Lemmon MA.: Structural basis for discrimination of 3-phosphoinositides by pleckstrin homology domains. Molecular Cell 6(2): 373-84, Aug 2000.

32. Ferguson KM., Darling PJ., Mohan MJ., Macatee TL., Lemmon MA.: Extracellular domains drive homo- but not hetero-dimerization of erbB receptors. EMBO Journal 19(17): 4632-43, Sep 1 2000.

33. Heise C., Lemmon M., Kirn D.: Efficacy with a replication-selective adenovirus plus cisplatin-based chemotherapy: dependence on sequencing but not p53 functional status or route of administration. Clinical Cancer Research 6(12): 4908-14, Dec 2000.

34. Plotnikov AN., Eliseenkova AV., Ibrahimi OA., Shriver Z., Sasisekharan R., Lemmon MA., Mohammadi M.: Crystal structure of fibroblast growth factor 9 reveals regions implicated in dimerization and autoinhibition. Journal of Biological Chemistry 276(6): 4322-9, Feb 9 2001.

35. Snyder, J.T., Rossman, K.L., Baumeister, M.A., Pruitt, W.M., Siderovski, D.P., Der, C.J., Lemmon, M.A., & Sondek, J.: Quantitative analysis of the effect of phosphoinositide interactions on the function of Dbl family proteins. Journal of Biological Chemistry 276(49): 45868-45875, Sept 2001.

36. Sankaran, V.G., Klein, D.E., Sachdeva, M.M., & Lemmon, M.A: High-Affinity Binding of FYVE Domains to Phosphatidylinositol-3-Phosphate Requires Intact Phospholipid, but not FYVE Domain Oligomerization. Biochemistry 40: 8581-8587, 2001.

37. Yu, J.W. & Lemmon, M.A.: All phox homology (PX) domains from Saccharomyces cerevisiae specifically recognize phosphatidylinositol 3-phosphate. Journal of Biological Chemistry 276(47): 44179-44184, 2001.

38. Mendrola, J.M., Berger, M.B., King, M.C., & Lemmon, M.A.: The single transmembrane domains of ErbB receptors self-associate in cell membranes. Journal of Biological Chemistry 277(7): 4704-4712, 2002.

39. Nasuhoglu, C., Feng, S., Mao, Y., Shammat, I., Yamamato, M., Earnest, S., Lemmon, M., & Hilgemann, D.W.: Modulation of cardiac PIP2 by cardioactive hormones and other physiologically relevant interventions. American Journal of Physiololgy: Cell Physiology 283: C223-C234, 2002.

40. Saxena, A., Morozov, P., Frank, D., Musalo, R., Lemmon, M.A., Skolnik, E.Y., Tycko, B.: Phosphoinositide binding by the pleckstrin homology domains of Ipl and Tih1. Journal of Biological Chemistry 277: 49935-49944, 2002.

41. Baumeister, M.A., Martinu, L., Rossman, K.L., Sondek, J., Lemmon, M.A., Chou, M.M.: Loss of phosphatidylinositol 3-phosphate binding by the C-terminal Tiam-1 pleckstrin homology domain prevents in vivo Rac1 activation without affecting membrane targeting. Journal of Biological Chemistry 278: 11457-11464, 2003.

42. Ferguson, K.M., Berger, M.B., Mendrola, J.M., Cho, H.-S., Leahy, D.J., & Lemmon, M.A.: EGF activates its receptor by removing interactions that autoinhibit ectodomain dimerization. Molecular Cell 11: 507-17, 2003.

43. Berger, M.B., Mendrola, J.M., Lemmon, M.A.: ErbB3/HER3 does not homodimerize upon neuregulin binding at the cell surface. FEBS Letters 569: 332-336, 2004.

44. Dove, S.K., Piper, R.C., McEwen, R.K., Yu, J.W., King, M.C., Hughes, D.C., Thuring, J., Holmes, A.B., Cooke, F.T., Michell, R.H., Parker, P.J., & Lemmon, M.A.: Svp1p defines a family of phosphatidylinositol 3,5-bisphosphate effectors. EMBO J 23: 1922-1933, 2004.

45. King, M.C., Raposo, G., Lemmon, M.A.: Inhibition of nuclear import and cell-cycle progression by mutated forms of the dynamin-like GTPase MxB. Proceedings of the National Academy of Sciences, USA 101: 8957-8962, 2004.

46. Klein, D.E., Nappi, V.M., Reeves, G.T., Shvartsman, S.Y., & Lemmon, M.A.: Argos inhibits EGF receptor signaling by ligand sequestration. Nature 430: 1040-1044, 2004.

47. Klein, P., Mattoon, D., Lemmon, M.A., Schlessinger, J.: A structure-based model for ligand binding and dimerization of EGF receptors. Proceedings of the National Academy of Sciences, USA 101: 929-934, 2004.

48. Mattoon, D., Klein, P., Lemmon, M.A., Lax, I., Schlessinger, J.: The tethered configuration of the EGF receptor extracellular domain exerts only a limited control of receptor function. Proceedings of the National Academy of Sciences, USA 101: 923-928, 2004.

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50. Yu, J.W., Mendrola, J.M., Audhya, A., Singh, S., Keleti, D., DeWald, D.B., Murray, D., Emr, S.D., & Lemmon, M.A.: Genome-wide analysis of membrane targeting by S. cerevisiae pleckstrin homology domains. Molecular Cell 13: 677-688, 2004.

51. Dawson, J.P., Berger, M.B., Lin, C.C., Schlessinger, J., Lemmon, M.A., Ferguson, K.M.: Epidermal growth factor receptor dimerization and activation require ligand-induced conformational changes in the dimer interface. Molecular and Cellular Biology 25: 7734-7742, 2005.

52. Flesch, F.M., Yu, J.W., Lemmon, M.A., Burger, K.N.: Membrane activity of the phospholipase C-delta1 pleckstrin homology (PH) domain. Biochemical Journal 389: 435-441, 2005.

53. Reeves, G.T., Kalifa, R., Klein, D.E., Lemmon, M.A., Shvartsman, S.Y.: Computational analysis of EGFR inhibition by Argos. Developmental Biology 284: 523-535, 2005.

54. Michell, R.H., Heath, V.L., Lemmon, M.A., Dove, S.K.: Phosphatidylinositol 3,5-bisphosphate: metabolism and cellular functions. Trends in Biochemical Sciences 31(1): 52-63, Jan 2006.

55. Alvarado, D., Evans, T.A., Sharma, R., Lemmon, M.A., Duffy, J.B.: Argos mutants define an affinity threshold for spitz inhibition in vivo. Journal of Biological Chemistry 281: 28993-29001, 2006.

56. Baumeister, M.A., Rossman, K.L., Sondek, J., Lemmon, M.A.: The Dbs PH domain contributes independently to membrane targeting and regulation of guanine nucleotide-exchange activity. Biochemical Journal 400: 563-572, 2006.

57. Choudhury, P., Srivastava, S., Li, Z., Ko, K., Albaqumi, M., Narayan, K., Coetzee, W.A., Lemmon, M.A., Skolnik, E.Y.: Specificity of the myotubularin family of phosphatidylinositol-3-phosphatase is determined by the PH/GRAM domain. Journal of Biological Chemistry 281: 31762-31769, 2006.

58. Miura, G.I., Buglino, J., Alvarado, D., Lemmon, M.A., Resh, M.D., Treisman, J.E.: Palmitoylation of the EGFR ligand Spitz by Rasp increases Spitz activity by restricting its diffusion. Developmental Cell 10(2): 167-176, 2006.

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C. Research Publications, non-peer reviewed:

[None]

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E. Books

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Patents:

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