Albert B Reynolds

CURRICULUM VITAE

(08.18.2020)

Professor
Program in Cancer Biology
Vanderbilt University School of Medicine
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EDUCATION:

B.A. in Biology	1978	Kenyon College, Gambier, OH
Ph.D.in Cell Biology	1985	University of Virginia, Charlottesville, VA
Fellowship (Cancer)	1989	University of Virginia Cancer Center, Charlottesville, VA

RESEARCH INTERESTS: I have lead an independent cancer research laboratory since the fall of 1989 when I arrived at St. Jude Children's Research Hospital to start my own lab. We discovered early on that the Src substrate, known only as p120 at the time, was in fact closely related to ß-catenin and physically associated with all members of the classical cadherin superfamily, including Epithelial (E)-cadherin – master regulator of the epithelial phenotype. Since then, our work has focused on p120 and the many important implications of this discovery in tissue homeostasis and cancer. We contributed many of the fields seminal findings, including p120's core function in controlling the stability and retention of E-cadherin at the cell surface, (2) its close functional relationship to the Rho GTPases, (3) its key in vivo role as a potent haploinsufficient tumor suppressor in mouse models of intestinal cancer, and (4) a surprising requirement for p120 in metastasis. A steady flow of unexpected observations associated, for example, with various p120 binding partners like the transcription factor, Kaiso (aka ZBTB33), suggest novel roles for p120 In the nucleus and comprise the rationale for a new direction aimed at mechanistic understanding of a Kaiso-p120 pathway involved in intestinal stem cell biology, differentiation, homeostasis and tumorigenesis.

PROFESSIONAL EXPERIENCE:

1985-1989	Postdoctoral Fellow with Dr. J.T. Parsons, University of Virginia, Charlottesville, VA.
1986-1988	American Cancer Society, Postdoctoral Fellow, UVA, Charlottesville, VA
1989-1996	Asst. Member, Dept. Tumor Cell Biology, SJCRH, Memphis, TN
1997-2000	Assoc. Professor, Dept of Cell Biology, Vanderbilt University Medical Center, Nashville, TN
2000-Pres.	Professor, Department of Cancer Biology, Vanderbilt University Medical Center, Nashville, TN
1998-2003	Standing Member, Executive Interdepartmental Graduate Program (Vanderbilt)
2000-Pres.	Member, Ingram-Vanderbilt Cancer Center
2002-2010	Project Leader in Vanderbilt Gastrointestinal SPORE.
2006-2018	Ingram Professor of Cancer Research (Vanderbilt)
2006-2013	Permanent Member, NIH Intercellular Interactions (ICI) Study Section
2008-2013	Leader, Signal Transduction and Cell Proliferation Program, Vanderbilt Ingram Cancer Center
2018-pres	Member, Program in Cancer Biology

LEADERSHIP ROLES (CHAIRPERSON or DIRECTOR)

1989-2012	Cofounder, Board of Directors, Stovall Life Sciences, Greensboro, NC
1989-2012	Director, Research and Development, Stovall Life Sciences, Greensboro, NC
1998-2000	Director of Graduate Studies (DGS), Dept. of Cell Biology, VUMC, Nashville, TN
2000-2006	Director, Cancer Biology Graduate Program (Vanderbilt
2003	Chair, ASCB Mini symposium, Cell-Cell Adhesion
2009-2017	Executive Director, Vanderbilt Antibody and Protein Core (aka VAPR)(Vanderbilt).

REFEREE ASSIGNMENTS:

1997	Biol. II NIH study section (Sept)
1997	Biol. I/Oral medicine. NIH Study section (Oct)
1997	Site Reviewer: Program Project, Brigham and Women's Hospital (Nov)
1998	Site Reviewer. Harvard, Alzheimer Program Project
2000	DOD Breast Cancer Research Program
2001	DOD Breast Cancer Research Program
2003	U. Ariz. Program Project, site visit,
2004	Reviewer, CD4 NIH study section
2005	Reviewer, Welcome Trust Fund

2006	NIH Subcomm. C (ad hoc),
2007	Ad hoc NIH study section (ICI)
2007-2013	Permanent Member NIH study section (ICI)
2013-2018	Ad-hoc for ICI and other study sections upon request (about 1 per yr)

MANUSCRIPT PEER REVIEW (for the following JOURNALS):

Cell
Science
Nature
Developmental Cell
Cancer Cell
Nature Cell Biology
Cancer Research
Molecular and Cellular Biology
Cell and Molecular Biology
Experimental Cell Research
Journal of Cell Biology
Journal of Cell Science
J. Physiology
Hybridoma

ACADEMIC SERVICE & SUPPORT:

Safety Committee, SJCRH, 1991, 1992
Postdoctoral Review Committee, SJCRH, 1993, 94, 95
Biotechnology Advisory Committee, SJCRH, 1994, 1995
Interdepartmental Graduate Program Recruitment Committee, Vanderbilt, 1997 - present
Cell Biology Departmental Graduate Program Committee, 1997 - 2000
Executive Graduate Education Committee (Chair, Roger Chalkley), 1998 - 2001
Molecular Recognition Unit Core Advisory Committee, Vanderbilt, 1997-2006
Director of Graduate Studies (DGS), Cell Biology Department, 1997-2002
Director, Cancer Biology Graduate Program, Department of Cancer Biology, 2002-2007
Director, Vanderbilt Monoclonal Antibody Core, 2006 – 2018
Director, Signal Transduction and Cell Proliferation Program, 2008 – 2013
Member, Ayres Institute Board of Advisors 2007 – 2018

HONORS AND AWARDS:

1996,99,03	Invited Speaker, ASCB Mini symposium
2009 on	Faculty of 1000
2000-2012	Gordon Research Conference, Invited Speaker
2010, 2017	VICC STAR Awards for High Impact Publications
2012	Charles Parker Award for Outstanding Basic Science
2013	Chair, Gordon Conference, Special section on p120-catenin
2014,15,17	Gordon Research Conference Invited Speaker
2017	Keynote address, Mayo Clinic Cancer Center, Conference on adhesion & metastasis
2018	Gordon research Conference, Chair – Cell Adhesion & Clinical Translation section

ORGANIZATIONS AND SOCIETIES:

American Society for Cell Biology—member
American Association for Cancer Research --member
American Academy for the Advancement of Science –member
Vanderbilt University Cancer Center - member

CURRENT RESEARCH PROJECTS:

1. Role of p120 in intestinal homeostasis and tumorigenesis
2. Role of Kaiso in intestinal homeostasis and tumorigenesis
3. Potential interaction between Kaiso and p120 in tissue differentiation and transcription

CURRENT FUNDING:

Bridge Funding, Vanderbilt University 06/2018-05-2021
P50 CA095103-05
GI SPORE Pilot Project 09/01/2020-08/31/2021
("Kaiso-mediated Regulation of Intestinal Differentiation") (with option to renew)

APPLICATIONS *PENDING*:

R01: NIH/GM 04/01/2021 to 03/31/2026
"*Kaiso-mediated Regulation of Intestinal Differentiation*"

Kaiso is a ZBTB transcription factor discovered originally in my lab as a p120-catenin binding partner. In the small intestine, Kaiso is highly expressed in the transit amplification compartment during the mitotic clonal expansion (MCE) and differentiation phase of progenitor maturation. Its expression is then immediately extinguished coincident with terminal differentiation and growth arrest. We have discovered that BRCA1 binds and transactivates Kaiso (aka ZBTB33) at a novel Kaiso DNA binding site identified by ChiPseq (the gold standard) and present in gene promoters of just under 1000 genes – now referred to as the Kaiso transcriptome. Along with recruitment of several additional factors, including known p120 binding partners and probably p120 itself, this Kaiso anchored transcriptional complex appears to orchestrate a gene-specific differentiation program that works in part by coordinating Pol II-mediated expression of Kaiso's direct gene targets. This proposal aims at mechanistic understanding of the major drivers of this system (i.e, (i) the regulatory complex and (ii) its target transcriptome) and how they interact to control differentiation (under normal conditions) and potentially transformation (under tumor initiating conditions triggered by constitutive activation of the Wnt pathway).

PAST FUNDING:

5RO1 GM102524-02 (Reynolds) 09/01/2013-
04/30/2017
NIH/NIGMS
Role of p120 catenin in cell transformation
This project used a variety of 2- and 3-D MDCK cell models to examine at the molecular level mechanisms that underlie several striking phenotypes relevant to p120's Rho-inhibitory activity. This work showed for the first time that E-cadherin-associated p120 at lateral cell-cell contacts critically supports epithelial morphology via localized suppression of RhoA activity at surfaces in direct contact with one another.

P30 CA068485 (Pietenpol)
NIH/NCI 09/10/2010-08/31/2015
Antibody Shared Resource
The major goals of this project are: 1) Coordinate and integrate the cancer and cancer-related activities of Vanderbilt. 2.) Conduct, support and enhance cancer research and integrate cancer-related research throughout the University. 3.) Integrate, develop and conduct cancer education programs. 4.) Coordinate and integrate the care of cancer patients at Vanderbilt University Medical Center and the Veterans Administration Medical Center.

1 P50 CA95103 (Coffey)
NIH/NCI 06/01/2007- 5/31/2012
Project 3 (Reynolds): SPORE in GI Cancer
This project aimed to (1) pharmacologically reverse consequences of p120-deficiency in a conditional mouse model, (2) identify consequences of p120-loss in human CRC, and (3) conduct a high throughput screen to identify novel p120 signaling partners.

RO1 CA055724-01-20 (Reynolds)
NIH/NCI 04/01/2007- 03/31/2011
P120 and Cell-Cell Adhesion
This RO1 was renewed three times since its inception in 1992 as an R29 (Young Investigator Award). It funded much of our seminal work in the field, defining the now well characterized role of p120 in stabilizing E-cadherin and maintaining its presence on the cell surface, as needed for homophilic intercellular adhesion. Functional domains were mapped, phosphorylation sites were pinpointed, and phosphospecific mAbs were generated to functionally characterize these effects,

and set the stage for animal models used later to definitively demonstrate a potent haploinsufficient tumor suppressor role for p120 in intestinal tumorigenesis.

R01 CA111947 (Reynolds)
NIH/NCI 08/01/2005 to 05/31/2010
A mouse model for p120 downregulation in cancer
We used villin-Cre and villin-CreER mice to selectively (and inducibly) target p120 knockout to the intestine and colon. The main goals were to determine the consequences of p120-loss by itself, and in combination with an APC mutation (Min mouse) in intestinal tumorigenesis. The experiments definitively proved that p120 is a potent haploinsufficient tumor suppressor (e.g., loss of a single allele increased tumor multiplicity 10 fold), and introduced important new questions (e.g., biallelic loss of p120 in the absence of Apc was synthetic lethal), the latter offering potential for therapeutic intervention.

National Cancer Institute. NIH, R21 2004-2006
"Mechanism of p120 downregulation in human cancer
This grant funded an IHC and mechanistic study to examine p120 downregulation in human cancer

R01 CA083068 (Reynolds)
NIH/NCI 04/01/2000-03/31/2005
Role of Kaiso in metastasis.
The goal of this proposal to test the hypothesis that in E-cadherin deficient cells, p120 trans-activates Kaiso, leading to transcription of target genes involved in metastasis. In Aim 1 the PI will define the role of Kaiso and p120 in transcription using artificial promotor/reporters containing an affinity Kaiso DNA binding site. In aim 2 additional Kaiso target genes will be identified by microarray technology. The PI contends that identification of novel Kaiso target genes should provide clues to the role of Kaiso and should reveal new genes and their promotors that will be used to elucidate signaling pathways upstream of Kaiso. In aim 3 he describes strategies to 1) elucidate the role of p120 and Kaiso in regulating transcription of a model downstream Kaiso target gene and 2) relate the findings to the biology of metastasis.

5 U54 CA113007-04(Quaranta)
NIH/NCI 9/30/05-8/31/09
"Multiscale Mathematical Modeling of Cancer Invasion"
This was a large multicenter application awarded to Dr. Quaranta. My lab was funded as a project to develop an adhesion assay capable of providing a legitimate quantitative value for their cell model system under various conditions. This value was used by the mathematicians in mathematical algorithms aimed at modeling invasion and metastasis.

U54 CA113007 (Reynolds)
NIH/NCI 09/01/2004-08/31/2009
Confocal Core Facility. This grant provided for two core facilities, one for 3-D culture methodology and another to manage the confocal

Civilian Research and Development Foundation (CRDF) Microscope. 2002-2003

Civilian Research and Development Foundation (CRDF) 2000-2001
"Role of Novel BTB/POZ Domain Zinc Finger Protein KAISO in Transcriptional Control and Tumor Progression ", (CRDF award # RB1-2041)
The CRDF awards were small grants awarded to teams, one US lab and one Russian lab. These turned into a long term collaboration, including a six month exchange of students, between my lab and that of Dr. Egor Prokhortchouk, who discovered Kaiso independently of us.

Department of Defense, Breast Cancer Research Program (BCRP) IDEA Award 1999-2002
"Role of the Catenin p120 in Breast Cancer"
This project funded the generation of our conditional p120 KO mouse and our introduction to the field of breast cancer.

RO1 CA055724-01-11 (Reynolds)
NIH/NCI 04/01/2001- 03/31/2006
P120 and Cell-Cell Adhesion

RO1 CA055724-01-07 (Reynolds)
NIH/NCI 04/01/1997- 03/31/2001
P120 and Cell-Cell Adhesion

R29 CA055724 (Reynolds)
NIH/NCI 04/01/1992 to 03/31/1997
Substrates of p60 SRC protein tyrosine kinase
This project aimed to complete the molecular characterization of p120 cDNA, to determine its subcellular topology and distribution among different cell types, and to biochemically map the major sites of tyrosine phosphorylation within the molecule. An important outcome was the first ever discovery of p120 as a novel catenin.

American Cancer Society (Postdoctoral award – Reynolds), 09/01/1986 to 08/31/1988
"Mechanism of Regulation of p60$^{c\text{-}src}$ " This project identified the mechanism of c-Src regulation (via phosphorylation at Y527 and suppression of the kinase activity).

National Cancer Institute, NIH (NRSA award – Reynolds)
"Mechanism of Regulation of p60$^{c\text{-}src}$ " (Declined in order to accept above ACS award)

PUBLICATIONS:

1. **Reynolds, A**; Roessel, D; Kanner, S; Parsons, J. 1989. Transformation-specific tyrosine phosphorylation of a novel cellular protein in chicken cells expressing oncogenic variants of the avian cellular *src* gene. Mol. Cell Biol. 9:629-638.PMID: 2469003.
2. **Thomas, TS,** Reynolds, AB**. 1984. Evaluation of the site of synthesis of rabbit sperm acrosome stabilizing factor using immunocytochemical and metabolic labeling techniques. Biol Reprod.1984 Apr;30(3):693-705.PMID: 6372878**
3. ***Reynolds, AB,*** Oliphant G. , et al. Production and characterization of monoclonal antibodies to the sperm acrosome stabilizing factor (ASF): utilization for purification and molecular analysis of ASF. Biol Reprod. 1984 Apr;30 (3):775-86. PMID: 6722244
4. Oliphant G**, Reynolds AB**, Smith PF, Ross PR, Marta JS, et al. Immunocytochemical localization and determination of hormone induced synthesis of the sulfated oviductal glycoproteins. Biol Reprod. 1984 Aug;31 (1):165-74. PMID: 6380601.
5. Oliphant G, **Reynolds AB**, Thomas TS., Oliphant G, et al. Sperm surface components involved in the control of the acrosome reaction. AM J Anat. 1985 Nov;174(3):269-83. PMID: 4072942.
6. Kanner SB, Gilmer TM, **Reynolds AB**, Parsons JT., Kanner SB, et al. Novel tyrosine phosphorylation accompany the activation of pp60c-src during chemical carcinogenesis. Oncogene. 1989 Mar;4(3):295-300.PMID: 2469003.
7. Thomas TS, Wilson WL, **Reynolds AB**, Oliphant G. Thomas TS, et al. Chemical and physical characterization of rabbit sperm acrosome stabilizing factor. Biol Reprod. 1986 Oct;35(3):691-703. PMID:3790669
8. Thomas TS, Wilson WL, **Reynolds AB**, Oliphant G. Thomas TS, et al. Chemical and physical characterization of rabbit sperm acrosome stabilizing factor. Biol Reprod. 1986 Oct;35(3):691-703. PMID:3790669
9. **Reynolds AB**, Oliphant G., et al. Quantitation of the rabbit sperm acrosome stabilizing factor utilizing a sensitive immunoradiometric assay. Biol Reprod. 1986 Oct;35(3):705-15.PMID: 3790670

10. Wilson WL, **Reynolds AB**, Marta J, Oliphant G., Wilson WL, et al. Correlation of conformational changes in the acrosome stabilizing factor (ASF) with its biological activity. Biol Reprod. 1987 May;36(4):1069-77. PMID: 3593851
11. **Reynolds, A;** Vila, J; Lansing, T; Potts, W; Weber, M; Parsons, J. 1987. Activation of the oncogenic potential of the avian cellular *src* protein by specific structural alteration of the carboxyterminus. EMBO J 6:2359-2364.PMID: 2822389
12. Potts WM, **Reynolds AB**, Lansing TJ, Parsons JT., Potts WM, et al. Activation of pp60c-src transforming potential by mutations altering the structure of an amino terminal domain containing residues 90-95. Oncogene Res. 1988;3(4):343-55. PMID: 2465527
13. **Reynolds AB**, Thomas TS, Wilson WL, Oliphant G. Concentration of acrosome stabilizing factor (ASF) in rabbit epididymal fluid and species specificity of anti-ASF antibodies. Biol Reprod. 1989 Mar;40(3):673-80. PMID: 2758096.
14. Kanner SB, **Reynolds AB**, Parsons JT. Kanner SB, et al. Immunoaffinity purification of tyrosine-phosphorylated cellular proteins. J Immunol Methods. 1989 Jun 2;120(1):115-24.PMID: 2471744.
15. **Reynolds AB**, Kanner SB, Wang HC, Parsons JT. Stable association of activated pp60src with two tyrosine-phosphorylated cellular proteins. Mol Cell Biol. 1989 Sep;9(9):3951-8.PMID: 2476666.
16. Kozma LM, **Reynolds AB**, Weber MJ. Kozma LM, et al. Glycoprotein tyrosine phosphorylation in Rous sarcoma virus transformed chicken embryo fibroblasts. Mol Cell Biol. 1990 Feb;10(2):837-41.PMID: 1689002.
17. Kanner SB, **Reynolds AB**, Parsons JT., Kanner SB, et al. Tyrosine phosphorylation of a 120-kilodalton pp60src substrate upon epidermal growth factor and platelet-derived growth factor receptor stimulation and in polyomavirus middle -T- antigen-transformed cells. Mol Cell Biol. 1991 Feb;11(2):713-20. PMID: 1703631.
18. Kanner, S, **Reynolds, A**; Vines, R; Parsons, J. 1990. Monoclonal antibodies to individual tyrosine-phosphorylated protein substrates of oncogene-encoded tyrosine kinases. Proc. Natl. Acad. Sci. USA 87:3328-3332.PMID: 2110361.
19. **Reynolds, A**; Downing, J. 1991. PDGF, CSF-1, and EGF induce tyrosine phosphorylation of p120, a $pp60^{src}$ transformation-associated substrate. Oncogene 6:607-613.PMID
20. Kanner SB, Reynolds AB, Wang HC, Vines RR, Parsons JT., Kanner SB, et al. The SH2 and SH3 domains of pp60src direct stable association with tyrosine phosphorylated proteins p130 and p110. EMBO J. 1991 Jul;10(7):1689-98.PMID: 1710979.
21. Wu H, **Reynolds AB**, Kanner SB, Vines RR, Parsons JT., Wu H, et al. Identification and characterization of a novel cytoskeleton-associated pp60src substrate. Mol Cell Biol. 1991 Oct;11(10):5113-24.PMID: 1922035.
22. Cobb BS, Payne DM, **Reynolds AB**, Parsons JT., Cobb BS, et al. Regulation of the oncogenic activity of the cellular src protein requires the correct spacing between the kinase domain and the C-terminal phosphorylated tyrosine (Tyr-527). Mol Cell Biol. 1991 Dec;11(12):5832-8.PMID: 1719372.
23. **Reynolds, A**; Herbert, L; Cleveland, J; Berg, S; Gaut, J. 1992. p120, A novel substrate of protein tyrosine kinase receptors and of $p60^{c\text{-}src}$, is related to cadherin-binding factors catenin, plakoglobin and *armadillo*. Oncogene 7:2439-2445.PMID: 1334250.
24. Schaller, M; Borgman, C; Cobb, B; Vines, R; **Reynolds, A**; Parsons, J. 1992. $Pp125^{FAK}$, a structurally distinctive protein-tyrosine kinase associated with focal adhesions. Proc. Natl. Acad. Sci. USA 89:5192-5196.PMID: 1594631.
25. Wong S, **Reynolds AB**, Papkoff J., Wong S, et al. Platelet activation leads to increased c-src kinase activity and association of c-src with an 85-kDa tyrosine phosphoprotein. Oncogene. 1992 Dec;7(12):2407-15.PMID: 1281303
26. Flynn DC, Leu TH, **Reynolds AB**, Parsons JT., Flynn DC, et al. Identification and sequence analysis of cDNAs encoding a 110-kilodalton actin filament-associate pp60src substrate. Mol Cell Biol. 1993 Dec;13(12):7892-900.PMID: 8247004.
27. Pfeifer, M; Berg, S; **Reynolds, A.** 1994. A repeating amino acid motif shared by proteins with diverse cellular roles. Cell 76:789-791.PMID: 7907279.
28. **Reynolds, A;** Daniel, J; McCrea, P; Wheelock, M; Wu, J; Zhang, Z. 1994. Identification of a new catenin: they tyrosine kinase substrate $p120^{cas}$ associates with E-cadherin complexes. Mol. Cell Biol. 14:8333-8342.PMID: 7526156.
29. Parham DM, **Reynolds AB**, Webber BL., Parham DM, et al. Use of monoclonal antibody 1H1, anticortactin, to distinguish normal and neoplastic smooth muscle cells: comparison with anti-alpha-

smooth muscle actrin and antimuscle-specific actin. Hum Pathol. 1995 Jul;26(7):776-83.PMID: 7628851.
30. Daniel, J; **Reynolds, A.** 1995. The tyrosine kinase substrate p120^{cas} binds directly to E-Cadherin but not to the adenomatous polyposis coli protein or -Catenin. Mol. Cell Biol. 15:4819-4824.PMID 7651399.
31. **Reynolds, A**; Jenkins, N; Gilbert, D; Copeland, N; Shapiro, D; Wu, J; Daniel, J. 1996. The gene encoding p120^{cas}, a novel catenin, is located on human chromosome 11q11 (CTNNS) and mouse chromosome 2(*Catns*). Genomics 31:127-129.PMID: 8660921.
32. Mo YY, **Reynolds AB.,** Mo YY, et al. Identification of murine p120 isoforms and heterogeneous expression of p120cas isoforms in human tumor cell lines. Cancer Res. 1996 Jun 1;56(11):2633-40.PMID: 8653709.
33. **Reynolds AB**, Daniel JM, Mo YY, Wu J, Zhang Z. **Reynolds AB**, et al. The novel catenin p120cas binds classical cadherins and induces an unusual morphological phenotype in NIH3T3 fibroblasts. Exp Cell Res. 1996 Jun 15;225(2):328-37.PMID: 8660921.
34. Daniel JM, **Reynolds AB.,** Daniel JM, et al. Tyrosine phosphorylation and cadherin/catenin functions. Bioessays. 1997 Oct;19(10):883-91.PMID 9363682.
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36. Dillon, D; D'Aquila, T; **Reynolds, A**; Fearon, E; Rimm, D. 1998. The expression of p120ctn protein in breast cancer is independent of and -caterin and E-cadherin. Am. J. Pathol. 152:75-82.
37. Wu, J; Mariner, D; Thoreson, M; **Reynolds, A.** 1998. Generation and characterization of monoclonal antibodies to p120ctn. Hybridoma 17:175-183. PMID: 9627058.
38. Gold JS, **Reynolds AB**, Rimm DL. Gold JS, et al. Loss of p120ctn in human colorectal cancer predicts metastasis and poor survival. Cancer Lett. 1998 Oct 23;132(1-2):193-201. PMID: 10397474.
39. Paulson AF, Fang X, Ji H, **Reynolds AB**, McCrea PD. Paulson AF, et al. Misexpression of the catenin p120(ctn) 1A perturbs Xenopus gastrulation but does not elicit Wnt-directed axis specification. Dev Biol. 1999 Mar 15;207(2):350-63. PMID:10068468.
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41. Gold, J; **Reynolds, A;** Rimm, D. 1998. Loss of p120ctn in human colorectal cancer predicts metastasis and poor survival. Cancer Letters 132:193-201. PMID: 10397474.
42. Daniel, J; **Reynolds, A;** 1999. The catenin p120ctn interacts with a novel BTB/POZ zinc finger transcription factor, Kaiso. Mol. Cell Biol. 19:3614-3623.PMID: 10207085.
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44. Mariner DJ, Sirotkin H, Daniel JM, Lindman BR, Mernaugh RL, Patten AK, Thoreson MA, **Reynolds AB.** Mariner DJ, et al. Production and characterization of monoclonal antibodies to ARVCF. Hybridoma. 1999 Aug;18(4):343-9 .PMID:10571264.
45. Jin F, **Reynolds AB**, Hines MD, Jensen PJ, Johnson KR, Wheelock MJ. Jin F, et al. Src induces morphological changes in A431 cells that resemble epidermal differentiation through a SH3- and Ras independent pathway. J Cell Sci. 1999 Sep;112 (Pt 17):2913-24. PMID:10444386.
46. Thoreson, M; Anastasiadis, P; Daniel, J; Ireton, R; Wheelock, M; Johnson, K; Hummingbird, D; **Reynolds, A.** 2000. Selective uncoupling of p120ctn from E-cadherin disrupts strong adhesion. J. Cell Biol. 148:189-201.PMID:10629228.
47. Mariner DJ, Wang J, **Reynolds AB.** Mariner DJ, et al. ARVCF localizes to the nucleus and adherent's junction and is mutually exclusive with p120 (ctn) in E-cadherin complexes. J Cell Sci. 2000 Apr;113 (Pt 8):1481-90.PMID: 10725230.
48. Zondag, G; **Reynolds, A**; Moolenaar, W. 2000. Receptor protein tyrosine phosphatase RPTPu binds to and dephosphorylates the catenin p120ctn. J. Biol. Chem. 275:11264-11269. PMID: 10753936.
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50. Anastasiadis, P; Moon, S; Thoreson, M; Mariner, D; Crawford, H; Zheng, Y; **Reynolds, A.** 2000. Inhibition of RhoA by p120catenin. Nature Cell Biology 2:637-644. PMID:10980705.
51. Mariner, D; Anastasiadis, P; Keilhack, H; Bohmer, F; Wang, J; **Reynolds, A.** 2001. Identification of Src Phosphorylation sites in the catenin p120ctn. J. Biol. Chem. 276:28,006-28,013. PMID:11382764.

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53. Anastasiadis, P; **Reynolds, A.** 2001. Regulation of Rho GTPases by p120-catenin.Current Opinion in Cell Biology 13:604-610. PMID: 11544030.
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57. Xia, X., Mariner, D. J., and **Reynolds, AB**. 2003. Adhesion-associated and PKC-modulated changes in serine/threonine phosphorylation of p120-catenin. Biochemistry, 42*:* 9195-9204. PMID: 12885254.
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59. Davis, MA, Ireton, RC, and **Reynolds, AB**. 2003. A core function for p120-catenin in cadherin turnover. J Cell Biol. 163:525-534. PMID: 14610055.
60. Yoon G, Chan DW, **Reynolds AB**, Qin J, Wong J. 2003. The association with Kiaso reveals the connection of corepressor N-CoR complex with DNA methylation mediated repression. Molecular Cell, 12: 723-734.PMID: 14527417.
61. Goddwin M, Kovacs EM, Thoreson MA, **Reynolds AB**, Yap AS. 2003. Minimal mutation of the cytoplasmic tail inhibits the ability of E-cadherin to activate rac but not PI3-kinase. Direct evidence of a role for cadherin activated Rac signaling in adhesion and contact formation. J Biol Chem. 278:20533-20539. PMID: 12672818.
62. Yanagisawa M, Kaverina IN, Wang A, Fujita Y, **Reynolds AB**, Anastasiadis PZ. 2003. A novel interaction between kinesin and p120 modulates p120 localization and function. J. Biol. Chem. 279:9512-21. PMID:14676216.
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133. *Accepted for publication pending minor revision*
Sarah J. Kurley, Verena Tischler, Brian Bierie, Sergey V. Novitskiy, Aurelia Noske, Zsuzsanna Varga, Ursina Zürrer-Härdi, Simone Brandt, Robert H. Carnahan, Rebecca S. Cook, William J. Muller, Ann Richmond, **Albert B. Reynolds**. Pulmonary metastasis of invasive ductal breast cancer is dependent on p120-catenin. J. Cell Science. 2020.

ACADEMIC ACTIVITIES:
TRAINEES:

Faculty Member Past and Current Students[2]	Pre or Post	Training Period Start	Training Period End	Prior Academic Degree			Research Project	Current Position or Source of Support[3]
				Degree	Year	Institution		
Albert B. Reynolds, Ph.D.								
Past Trainees								
Deborah Mariner-Rexer **	Pre	1996	2001	BS	1996	Furman University	Role of p120 in cell-cell adhesion	Homeschooling mother of four
Renee Ireton	Pre	1998	2003	BS/BA	1998 / 1998	University of Notre Dame/University of Notre Dame	Role of Kaiso in metastasis	Science/Grant writer for large research group - Fred Hutchinson CRC

Molly Thoreson	Pre	1996	2003	BS	1996	Texas Lutheran	Role of p120 in Cadherin cell adhesion and Metastasis	Regional Manager, Project relations, Amgen
Michael Davis	Pre	1998	2005	BS	1998	Mississippi State University	Conditional knock-out of p120	Research Asst. Prof. - Fred Hutchinson CRC
G Wildenberg	Pre	2000	2006	PhD	2006	Norbert College	Regulation of RhoA by p120	Asst. Prof., M.D. Anderson
J. Daniel	Post	1996	1999	PhD	1993	University of British Columbia	Identification of Kaiso, a novel p-120 binding partner	Professor/ (tenured) McMaster Univ., Ontario
Panos Anastasiadis	Post	1996	2001	Ph.D.	1993	Wayne State	Role of p120 in cell-cell adhesion	Professor & Dept. Chair, Metastasis Div., Mayo Clinic - Jacksonville
Agnes Roczniak-Ferguson	Post	1999	2004	PhD	1999	Univ of Ottawa	role of Kaiso in p120 signaling	Research Scientist, Harvard
Xiaobo Xia	Post	2001	2005	MD	1999	Suzhou Med College	role of serine phosphorylation on p120 signaling	Research Scientist, Novartis
Robert Carnahan	Post	2003	2007	PhD	2003	Vanderbilt University	Regulation of p120 activity by Fer kinase	Associate Prof. w/ Crowe & Vaccine Center
Meredith Vaughan *	Pre	2002	2008	BS	2002	Lenoir-Rhyne College	p120 phosphorylation of PKC alpha	Project Manager, Metabolomics, Inc., NC
Nicholas Markham	Pre	2007	2013	BA	2007	Colby College	Role of APC in the regulation of p120 in Kaiso	MD/PhD trainee, VUMC, Medical Resid.
Sarah Kurley	Pre	2006	2012	BA	2005	Northwestern University	The role of p120 in Breast Cancer Tumor progressi and Metastasis	Research Scientist at Castle Bio-Sciences
Whitney Smalley	Pre	2002	2009	BA	2002	Macalester College	The role of p120 in colon cancer	Science Writer, self employed,
Andrew L Smith	Pre	2005	2011	BS	2004	Loyola College	Functional interaction between p120 and myosin	Review Coordinator, Komen Race for the Cure

Michael Dohn *	Post	2002	2011	PhD	2001	Medical College of Georgia	Role of p120 in tumorigenesis	Attorney
Andre Efimov	Post	2005	2010	PhD	2005	Moscow Inst of Physics abd Technology	Microtubule dynamics modulations in motile cells	Director, Imaging Shared Resource, Fox Chase
Sarah Short	Pre	2008	2014	PhD	2006	Middle Tennesse St.	Haploinsufficient Tumor suppressor role for p120	Instructor, VUMC
Huapeng Yu	Pre	2008	2014	PhD	2008	Wuhan University	Separating p120s roles in cadherin stability and motility	Postdoc fellow with Jennifer Zallen, NYU
Manishi Tripathi	Post	2014	2017	PhD		Vanderbilt University	Kaiso function in transcription	Res Asst Prof. Texas A&M

TEACHING:

Leadership roles in Vanderbilt Graduate Programs

1997-2004 Interdepartmental Graduate Program Recruitment Committee
1997-2000 Director of Graduate Studies (DGS), Dept. of Cell Biology
2000-2007 Director of Graduate Studies (DGS), Dept. of Cancer Biology
1998-2008 Executive Graduate Education Committee (Chair, Roger Chalkley),
2000-2007 Director, Program in Cancer Biology
Ongoing Graduate Phase I and Phase II exam committees
Ongoing Interviewer, IGP and MSTP candidates

Course organization and didactic lecture

1996-2010	Lecturer; Cancer Biology, Vanderbilt University,
1996-2010	Lecturer and Flex participation, Interdepartmental Graduate Program, Vanderbilt,
Spring 2000	Lecturer; Departmental CBIO338 Special Topics in Cell Biology
2002, 2003, 2004	Course Organizer: Intro to Cancer Biology (Interdepartmental Grad Program)(Spring)
2007-2011	Lecturer: Epithelial Cell Biology
2017 -2020	Organized and Directed the first “Cancer Immunotherapy” course at Vanderbilt for the CANB Graduate program

INVITED TALKS / FORMAL RESEARCH PRESENTATIONS:

Eastern Virginia Medical College, Department of Biochemistry, January 1992
Yale University, Department of Pathology, May 1992
New York University, Dept. of Dermatology, November 1992
University of North Carolina (Greensboro), Dept. of Biology, November 1993
Case Western Reserve University, Dept. of Molecular Biology and Microbiology, March 1995
University of North Carolina (Chappel Hill), Dept. of Cell Biology, September 1995
Moffitt Cancer Research Center, Dept. of Molecular Oncology, October 1995
Mt. Sinai Cancer Research Center, November 1995
Albert Einstein College of Medicine, Dept. of Pathology, December 1995
Purdue University, Department of Comparative Medicine, December 1995
Minisymposium - *Cell Adhesion and Signaling*, Invited Speaker, ASCB meeting, December 1995

Mayo Clinic- Scottsdale, January 1996
Vanderbilt University, Cancer Center, February 1996
Lankenau Medical Research Center, February 1996
Purdue University, Dept. of Microbiology, March 1996
Vanderbilt University, October 1998
Yale University, April 1999
Harvard University, May 1999
University of West Virginia, August 1999
Minisymposium - Cell Adhesion and Signaling, Invited Speaker, ASCB meeting, December 1999
Max Delbuck Center, Berlin, March 2000
University of Ghent, March 2000
University of Edinburgh, June 2000
Gordon Conference, Invited talk, July 2000
Epithelial-Stromal Interactions and Tumor Progression Workshop (NCI), Invited Speaker, September 2000
Case Western University, October 2000
Emory University, November 2000
Vanderbilt Microbiology Dept., January 2001
Sugen Pharmaceuticals, March 2001
Rockefeller University, March 2001
Jefferson University, April 2001
Mt. Sinai, March 2002
Vanderbilt Cell Biology Dept., March 2002
Eppley Cancer Center, October 2002
Millenium Pharmaceuticals, April 2003
GI SPORE site visit, Vanderbilt, May 2003
Gordon Conference, Invited Speaker, June 2003
Gordon Conference, p120 overview for Special Session on p120, session chair, June 2003
GI SPORE Plenary Talk, NIH SPORE meeting, July 2003
National Institutes of Health, July 2003
M.D. Anderson, September 2003
University of Wisconsin, September 2003
University of Pennsylvania, October 2003
Keynote Address, “Cell Adhesion in Development and Disease” ASMR Conference, Australia, November 2003
University of Queensland, Brisbane Australia, November 2003
ASCB Minisymposium, Chair and organizer, December 2003
Keynote address, co-organizer, ASCB p120 special interest session, December 2003
Duke Univ. Med Ctr, Signal Transduction Colloquium (Dept. of Pharmacology and Cancer Biology), Febr. 2004
University of Kansas, April 2004
University of Arizona, invited speaker, Prostate Cancer Symposium, May 2004
Invited Speaker, Gordon Conference on “Signaling by Adhesion Receptors” June 2004
Yale University, October 2004
Invited Speaker, CNIO Cancer Conference in Madrid, November 2004.
Minisymposium - Cell Migration and Signaling, Invited Speaker, ASCB meeting, December 2004
University of Tennessee-Knoxville, February 2005
Harvard University, March 2005
University of North Carolina, March, 2005
Gordon Conference on “Cell Contact and Adhesion”, Invited speaker, July 2005.
Meharry Medical College, September, 2005
Minisymposium,-Cell Migration and signaling, Invited Speaker, December 2005

Minisymposium,-Cell-cell adhesion, Invited Speaker, December 2005
Mayo clinic - Jacksonville, January 2006
Gordon Conference, Invited Speaker, Cell Adhesion and Signaling, June 2006
Vanderbilt University, GI SPORE, September 2006
NCRI Conference, Invited Speaker - Birmingham, England, October 2006
MRC Laboratory for Molecular Cell Biology Unit, University of London, October 2006.
The Netherlands Cancer Institute, Amsterdam, Holland. October 2006.
University of Pennsylvania, April 2007.
Gordon Conference, Invited Speaker, Cell Contact and Adhesion, Italy, July 2007
University of Chicago, October 2007
Vanderbilt, Pathology Seminar Series, June 2008
Recerca Biomedica de Barcelona, Barcelona, Spain, July 2008
Albany Medical College, July 2008
Vanderbilt, Program for Signal Transduction and Cell Proliferation, July 2008
Gordon Conference, Invited Speaker, Signaling by Adhesion Receptors, July 2008
University of Iowa, September 2008
Louisiana State University, October 2008
University of Virginia, November 2008
Vanderbilt University, Breast Cancer SPORE, December 2008
University of Illinois at Chicago, April 2009
University of North Carolina, April 2009
Gordon Research Conference, Invited Speaker, June 2009
Fred Hutchison Cancer Research Center, Seattle, November 2009
ASCB Invited Speaker, Cancer Signaling Minisymposium, December 2009
Vanderbilt, Epithelial Biology Program, January 2010
University of Iowa, April 2010
Gordon Conference, Invited Speaker, Signaling by Adhesion Receptors, July 2010
Gordon Conference, Invited Speaker, Signaling by Adhesion Receptors, July 2012
Gordon Conference, Invited Speaker, Signaling by Adhesion Receptors, July 2014
Invited Speaker, Cell Adhesion Symposium, Muenster Germany, April 2015
Gordon Conference, Invited Speaker, Signaling by Adhesion Receptors, July 2016
Invited Speaker, Chulalongkorn University, Bankok, Thailand, November 2016
Keynote Speaker, Mayo Cancer Center, Tumor Progression and Metastasis Retreat, May 2018