

Dominik M. Duelli Ph.D.

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http://www.duelli.li/duelli_lab/Index.html

Education and Positions Held

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| 2008-present | Adjunct Assistant Professor, Department of Cell Biology and Anatomy, School of Graduate and Postdoctoral Studies, Rosalind Franklin University of Medicine and Science, North Chicago, IL. |
| 2007-present | Assistant Professor, Department of Pathology, The Chicago Medical School, Rosalind Franklin University of Medicine and Science, North Chicago, IL. |
| 2009-2010 | Adjunct Assistant Professor, Center for Stem Cell and Regenerative Medicine, School of Graduate and Postdoctoral Studies, Rosalind Franklin University of Medicine and Science, North Chicago, IL. |
| 1999-2007 | Post-Doctoral Fellow with Dr. Yuri Lazebnik, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY. |
| 1993-1999 | Ph.D. in Biology with Dr. K. Dale Noel "Genetic and biochemical analyses of modifications in <i>Rhizobium lipopolysaccharides</i> , and isolation and identification of plant signals that induce such modifications." Marquette University, Milwaukee, WI. |
| 1988-1992 | B.S. Biochemistry and Biophysical Chemistry, CERT Prof. Translation German-English, University of Pittsburgh, Pittsburgh, PA Undergraduate Research with Drs. Roger Hendrix & Susan Godfrey. "Cloning and characterization of GroE of <i>Halobacterium salinarium</i> and <i>Bacillus thermophilus</i> " University of Pittsburgh, Pittsburgh, PA. |

Honors and Awards

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| 2007-2012 | Start-Up Fund RFUMS |
| 2006-2007 | NIH Training Fellow "Cancer Biochemistry and Cell Biology" |
| 2000-2003 | American Leukemia and Lymphoma Society Research Fellow |
| 2000 | Roche Research Foundation Fellow |
| 1999 | Seraph Foundation Fellow |
| 1998 | Pharmacia Graduate Student Award |
| 1997 | Arthur J. Schmitt Fellow |
| 1995-1996 | Marquette University Research Fellow |
| 1995 | Charles O'Hara Tuition Scholar |

Research Support

American Cancer Society, Research Grant #189903, Duelli (PI)
1/01/11-1/31/11.
Mechanism of Selective MicroRNA Release from Cancer Cells.
Role: PI

Department of Defense Breast Cancer Research Program (BCRP), Concept Award BC076659, contract, 0810641, Duelli (PI) 11/01/2008-10/31/2009.
MicroRNAs of Exosomes for Early Detection of Mammary Neoplasms.
Role: PI

American Cancer Society, Research Grant 08-29, Duelli (PI)
5/01/08-8/30/09.

Oncogene-Dependent Apoptosis in Tetraploidy-Induced Tumorigenesis.
Role: PI

Publications

Pigati L, Yaddanapudi S.C.S., Iyengar R, Kim D, Hearn S, Danforth D, Hastings ML, and **Duelli DM**. Selective Release of MicroRNA Species from Normal and Malignant Mammary Epithelial Cells. PLoS One. 2010 Oct 20;5(10):e13515. [PMID: 20976003](#)

Jodelka F, Ebert A, **Duelli DM**, Hastings M. A feedback loop regulates splicing of the spinal muscular atrophy-modifying gene, SMN2. Human Molecular Genetics. 2010 Oct 13. [Epub ahead of print]. [PMID: 20884664](#)

Duelli D and Lazebnik Y. (2007) Cell-to-cell fusion as a link between viruses and cancer. Nature Reviews Cancer. 7(12): 968-976.

Hastings ML, Allemand E, **Duelli DM**, Myers MP, Krainer AR (2007) Control of Pre-mRNA Splicing by the General Splicing Factors PUF60 and U2AF. PLoS ONE 2: e538. [PMID: 17579712](#)

Duelli DM, Padilla-Nash H, Berman D, Murphy KM, Ried T, Lazebnik Y (2007) A virus causes cancer by inducing massive chromosomal instability through cell fusion. Current Biology 17 (5): 431-437. [PMID: 17320392](#)

Selected for Research Highlights, Nature Reviews Cancer 7, 230, Nature Reviews Microbiology, 5, 244, 2007, Comment in New Scientist 12, 2593, 2007.

Duelli DM, Hearn S, Myers MP, Lazebnik Y (2005) A primate virus generates transformed human cells by fusion. Journal of Cell Biology 171 (3): 493-503. [PMID: 16275753](#)

Selected for Research Highlights, Nature 438, 260-261 & Vile RG, News and Commentary, Gene Ther. 2006 13, 1127-30.

Duelli D and Lazebnik Y (2003) Cell fusion: A hidden enemy? Cancer Cell 3 (5):445-448. [PMID: 12781362](#)

Duelli DM, Tobin A, Box JM, Kolli VS, Carlson RW, Noel KD (2001) Genetic locus required for antigenic maturation of *Rhizobium etli* CE3 lipopolysaccharide. Journal of Bacteriology 183 (20): 6054-6064. [PMID: 11567006](#)

Duelli DM and Lazebnik YA (2000) Primary cells suppress oncogene-dependent apoptosis. Nature Cell Biology 2 (11): 859-862. [PMID: 11056544](#)

Duelli DM and Noel KD (1997) Compounds exuded by *Phaseolus vulgaris* that induce a modification of *Rhizobium etli* lipopolysaccharide. Mol. Plant-Microbe Interact. 10: 903-910.

Noel KD, **Duelli DM**, Tao H, Brewin NJ (1996) Antigenic change in the lipopolysaccharide of *Rhizobium etli* CFN42 induced by exudates of *Phaseolus vulgaris*. Mol. Plant-Microbe Interact. 9:180-186.

Patents

US Provisional Patent Application titled: MICRO RNAS AS A DIAGNOSTIC FOR THE EXISTENCE OF CANCER AND AS A PROGNOSTIC FOR CANCER TREATMENT, USSN 61/394,953, Filed October 20, 2010, RDL Case No. 112461.00078, Inventor: Dominik M. Duelli

"Methods of Treating Cancer". US Appl. No. 60/857,410, filed November 6, 2006.

"A Method to Detect Cell Fusion in Human Tissues". Preliminary Application Filed August 10, 2007.

Consulting

"Detection, Purification and Selection of Somatic Hybrids". January 26th, 2007

Invited Chapters in Books

Noel, K.D. and D.M. Duelli. (2000) *Rhizobium* lipopolysaccharide and its role in symbiosis. *In: Prokaryotic Nitrogen Fixation: A Model System for Analysis of a Biological Process* (E.W. Triplett, ed.). Horizon Press, Wymondham, U.K. pp. 415-431.

Noel, K.D., D.M. Duelli, and V.J. Neumann. 1997. Changes in *Rhizobium* lipopolysaccharide structure induced by host compounds. *In: Biological Fixation of Nitrogen for Ecology and Sustainable Agriculture* (A. Legoeki, H. Bothe, and A. Puhler, eds.). Springer-Verlag, Berlin, pp. 107-110.

Noel, K.D., D.M. Duelli, and V.J. Neumann. 1996. *Rhizobium etli* lipopolysaccharide alterations triggered by host exudate compounds. *In: Biology of Plant-Microbe Interactions* (G. Stacey, B. Mullin, and P.M. Gresshoff, eds.). ISMPMI, St. Paul, pp. 337-342.

Meetings and Seminars

Isolation of exosomes from human serum and plasma. Joon Cheol Park, Dong Ja Kim, Dominik Duelli, and Joanne Kwak-Kim. Annual Meeting of the American Society for Reproductive Immunology, Pittsburgh, PA. June 2010 (poster)

Effect of exosomes isolated from JEG3 and BEWO cell lines on natural killer cell cytotoxicity. Joon Cheol Park, Dong Ja Kim, Evangelos Ntrivalas, Alice Gilman-Sachs, Dominik Duelli, and Joanne Kwak-Kim. Annual Meeting of the American Society for Reproductive Immunology, Pittsburgh, PA. June 2010 (poster)

Selective MicroRNA Release in a Distinct Extracellular Compartment. Lucy Pigati, Sree Ganapathiraju, Michelle Hastings, Steven Hearn, David Danforth and Dominik M. Duelli. Keystone Meeting, RNA Silencing: Mechanism, Biology and Application, Keystone CO, January 15th, 2010 (poster).

MicroRNAs Released From Cells Differ From the Cellular miRNA Population, Rustbelt RNA Meeting (RRM), OH, October 17th, 2009 (talk).

A Method to Study the Subcellular Localization of Micro-RNA Diagnostic of Breast Cancer, Kenneth L. Weik Undergraduate Life Sciences Research Symposium, Lake Forest College, IL, October, 2009 (poster).

Exosomes and miRNAs for Cancer Diagnosis. Department of Pharmacology, RFUMS, North Chicago, IL January 18th, 2009 (talk)

Cancer Discoveries with Fusion and Exosomes. Marquette University, Milwaukee, WI, November 14th, 2008 (talk)

Virus-Induced Promiscuity and Death in Experimental Tumorigenesis. Department of Microbiology and Immunology, RFUMS, North Chicago, IL January 22nd, 2008 (talk)

The Deadly CIN of Viral Cell Fusion. Workshop on Mechanisms of Viral Oncogenesis: DNA Repair, Genetic Instability, and Micro-RNAs. Lake Tahoe, NV, September 8th, 2007 (talk)

Illicit Cell Fusion, a Mechanism for Chromosomal Instability and Cancer. Gordon Conference on Cell-Cell Fusion, New London, NH, July 5th, 2007 (talk)

Deadly Unions: Cell Fusion and Chromosomal Instability in Cancer. Rosalind Franklin University of Medicine and Science, North Chicago, IL, June 5th, 2007 (talk)

Virus-Induced Cell Fusion, a Cause of Chromosomal Instability and Cancer. Tulane National Primate Research Center, Covington, LA, April 12th, 2007 (talk)

Deadly Viral Cell Fusion. Louisiana State University, Health Sciences Center, New Orleans, LA, March 29th, 2007 (talk)

The Deadly CIN of Illicit Cell Fusion. University of New Orleans, New Orleans, LA. March 26th, 2007 (talk)

The Deadly CIN of Viral Cell Fusion. Duke University, Durham, NC. February 22nd, 2007 (talk)

The Deadly CIN of Illicit Cell Fusion. NIH/NCI, National Naval Medical Center, Bethesda, MD. January 26th 2007 (talk)

Cell fusion and oncogenes synergize to cause aneuploidy and tumorigenicity. Mechanisms & Models of Cancer, Cold Spring Harbor, NY August 17th, 2006 (poster)

Cell Fusion, Viruses & Tumors, Case Western Reserve University, Cleveland, OH. June 22nd 2006 (talk).

A primate virus generates transformed human cells by fusion, BCCR, Bergen Conference on Cancer Research, Bergen, Norway. May 12th 2006 (talk).

Cell Fusion, Viruses & Cancer, Lerner Research Institute, Cleveland Clinic, Cleveland, OH. May 1st 2006 (talk).

Cell Fusion, Viruses & Cancer, Ohio State University, Columbus, OH. February 28th 2006 (talk).

Cell Fusion, Viruses & Cancer, Cleveland State University, Cleveland, OH. February 16th 2006 (talk)

Cell Fusion, Viruses & Oncogenic Transformation, University of Toledo, Toledo, OH. January 30th 2006 (talk)

A primate virus generates transformed human cells by fusion. Target Definition & Vector Design for Molecular Medicine, Cold Spring Harbor, NY. November 2005. (poster)

Transformed hybrids produced by retrovirus-mediated cell fusion. Retroviruses, Cold Spring Harbor, NY. May 2005. (poster)

Cell Fusion and Oncogenic Transformation, 43rd Annual Meeting of the American Society for Cell Biology, San Francisco, CA, December 13th, 2003. (talk)

Primary cells inhibit oncogene-dependent apoptosis, FASEB satellite meeting, Proteolysis and regulation, caspases, apoptosis and disease, Orlando, FL March 30th, 2001. (talk)

Primary cells suppress oncogene-dependent apoptosis. Cancer genetics & tumor suppressor genes, Cold Spring Harbor, NY August 17th, 2000. (talk)

A *Rhizobium* mutant deficient in lipopolysaccharide epitopes normally lost in association with the plant host. Annual Meeting of the American Society of Plant Physiologists, Madison, WI. June 1998. (poster)

Inducers of *Rhizobium* lipopolysaccharide modification exuded by legume hosts, Milwaukee Microbiology Society Seminars, Milwaukee, WI, November, 1996. (talk)

Change in *Rhizobium etli* lipopolysaccharide induced by anthocyanins exuded from seed of a black common bean (*Phaseolus vulgaris*), 8th International Meeting of Plant-Microbe Interactions, Knoxville, TN, July 1996. (poster)

N₂ Fixation Seminars, University of Wisconsin, Madison. Anthocyanins released from seeds of a common bean induce a *Rhizobium etli* O-Ag change. April, 1996. (talk)

Anthocyanin-induced O-Ag modifications diminished in a nodulation-deficient *Rhizobium* mutant. In: Nitrogen Fixation: Fundamentals and Applications, I.A. Tikhonovich, ed. Kluwer Academic Publishers, Dordrecht, NL. 10th International Symposium on Nitrogen Fixation, St. Petersburg, Russia, June 1995. (poster)

LPS modification in response to plant signals, Milwaukee Microbiology Society Seminars, Milwaukee, WI, March, 1995. (talk)

Teaching Experience

- 2010 Course Director and Lecturer, Pathology Elective. MPAT 605 Molecular Basis of Disease.
- 2009-present Lecturer, Scholl, RFUMS, Pathology, all lectures on the basics of Neoplasia.
- 2009-present Lecturer, CMS and CHP, RFUMS, Pathology, all lectures on the basics of Neoplasia.
- 2008-2009 Lecturer, CMS, RFUMS, Pathology, lectures on The Molecular Basis of Neoplasia and a series of lectures in Horizons in the Molecular Basis of Neoplasia: 1. WBC Disorders, 2. Lung and Bronchus, 3. GI and Liver, 4. Endocrine Cancers

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| 2009 | Lecturer, IGPBS, RFUMS, MIC, Cancer Course, Lecture on “MicroRNAs in Cancer”. |
| 2008 | Guest-Lecturer, IGPBS, RFUMS, MIC, Cancer Course, Lecture on “Genomic Instability”. |
| 2008 | Instructor, IGPBS, RFUMS, CB&A, Practical Approaches in Cell Biology “Apoptosis Detection”. |
| 2008 | Lecturer, IGPBS, RFUMS, CB&A, Developmental Biology “Cell Death in Development”. |
| 2007-2008 | Preceptor, Sophomore Pathology Course, Department of Pathology, Chicago Medical School, RFUMS. |
| 1999 & 1993-1995 | Teaching Assistant for Undergraduate courses in Biology, Microbiology, Biochemistry, Genetics, and Biology laboratory. Marquette University. |

Mentoring

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| 2010 | Sarah Jeong, B.S., M.S., MD1; Daniel Barrido, B.S., DePaul University, Summer Intern. |
| 2009-2010 | Brian Ahlstrand, MD2; Ravi Iyengar, MD2; Dong-Ja Kim, MD/PhD; Joel Park, MD; Pushpa Otageri, Intern |
| 2008-2010 | Sree Yaddanapudi, graduated with MS August 2010. “Vesicle-Dependent Sorting of microRNAs Allows For Their Selective Release in Response to DNA-Damage-Induced Stress Stimuli”. |
| 2008 | Wand Gan, MD2; Brittany Stern LFC Undergraduate, Intern |
| 2007 | John Vitale, PhD candidate track II |
| 2007 | Ilya Krutoryarskyi, LFC Undergraduate, Intern |
| 2007-2009 | Geoff Weiner, LFC Undergraduate, Intern |
| 2000-2005 | Mentored five members of the Partners For the Future program (PFF), which allows selected high school students to participate in research at CSHL, as well as two volunteers. |
| 2000-2005 | Mentored five members of the CSHL Undergraduate Research Program (URP). |

Committees

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| 2010-present | Examination Committee; Y1/2 Committee |
| 2009-2010 | Dissertation Committee Mallory Heaven, RFUMS |
| 2009 | Faculty Compensation Committee |
| 2009-present | University Faculty Senate, RFUMS Committee, MD with Distinction Alexander Ksendzovsky, RFUMS and UIC Dissertation Committee, Laura Shin, MD/PhD candidate Scholl, RFUMS |
| 2008-present | Institutional Animal Care and Use Committee, member Graduate Advisory Council, University Research Committee, alternate representative, RFUMS |
| 2008 | Committee, MD with Distinction Wand Gan, RFUMS |
| 2007-present | University Research Committee, alternate representative, RFUMS |
| 2007-2010 | Dissertation Committees for Jillian Theobald and Sree Ganapathiraju, RFUMS |
| 2007-present | Srividya Venkitachalam, RFUMS |

Reviewing Activity, Journals

Archives of Medical Research, Cancer Letters, Genes and Development, Journal of Biological Chemistry, Journal of Cell Biology, Journal of Cell Science, Nature Immunology.

Reviewing Activity, Grants

Agence Nationale de la Recherche France, Programme BLANC/JCJC.

Membership

American Society for Investigative Pathology

Science-Related Volunteering

Research Ambassador, Speaker at American Cancer Society Programs, 11/14/2010.
Active Participant American Cancer Society Cancer Action Network.