

BIOGRAPHICAL SKETCH

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NAME Duckett, Colin S.	POSITION TITLE Associate Professor of Pathology and Internal Medicine		
eRA COMMONS USER NAME (credential, e.g., agency login) colind			
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 London, England	BSc. (Hons)	1989	Molecular Biology
University of London, England	Ph.D.	1993	Biochemistry

A. Positions and Honors

1994 - 1997 Postdoctoral Fellow, Howard Hughes Medical Institute, The University of Chicago
 1998 - 2001 Senior Investigator, Metabolism Branch, National Cancer Institute, Bethesda MD
 2002 - 2006 Assistant Professor of Pathology, University of Michigan Medical School, Ann Arbor MI
 2002 - 2006 Assistant Professor of Medicine, (Division of Molecular Medicine & Genetics) University of Michigan Medical School, Ann Arbor MI
 2002 - present Member, University of Michigan Comprehensive Cancer Center, Ann Arbor MI
 2003 - present Member, University of Michigan Rheumatic Diseases Core Center, Ann Arbor MI
 2006 - present Associate Director, Molecular Mechanisms of Disease Program, University of Michigan Medical School, Ann Arbor, MI
 2006 - present Associate Professor (with tenure) of Pathology, University of Michigan Medical School, Ann Arbor, MI
 2006 - present Associate Professor of Medicine (Division of Molecular Medicine and Genetics), University of Michigan Medical School, Ann Arbor, MI
 2009 - present Co-Director, Division of Cancer Cell Biology, University of Michigan Comprehensive Cancer Center

Other Experience and Professional Memberships

2002 - present Editorial Board, *Journal of Biological Chemistry*
 2002 Organizing Committee, Gordon Research Conference on Cell Death
 2003 Co-chair, AACR Mini-symposium on Intracellular Apoptosis Signaling Molecules
 2003 - present Editorial Board, *Biochemical Journal*
 2004 - 2008 Full Member, NIH Cellular and Molecular Immunology B(CMI-B) Study Section
 2004 - 2007 Full Member, American Cancer Society Cell Cycle Growth Study Section

Honors

1997 Leukemia and Lymphoma Society of America Special Fellowship
 1999 - 2001 NIH Intramural Research Award
 2002 University of Michigan Biomedical Scholar Award
 2005 University of Miami Sylvester Comprehensive Cancer Center Distinguished Lectureship
 2008 - 2009 Selected member of Class XI of the Defense Science Study Group (DSSG), a two-year program in which participants focus on defense policy, related research and development, and the systems, missions and operations of the armed forces.

B. Peer-reviewed publications (Selected from a total of 80 publications)

Schmid RM, Perkins ND, **Duckett CS**, Andrews PC and Nabel GJ Cloning of an NF- κ B subunit which stimulates HIV transcription *in vitro*. *Nature* 352:733-736 (1991).

Duckett CS, Perkins ND, Kowalik TF, Schmid RM, Leung K, Baldwin AS and Nabel GJ. Dimerization of NF- κ B with RelA(p65) regulates DNA binding, transcriptional activation and inhibition by an I κ B- α (MAD-3). *Mol. Cell. Biol.* **13**:1315-1322 (1993).

Duckett CS, Perkins ND, Leung K, Agranoff AB and Nabel GJ. Cytokine induction of nuclear factor κ B in cycling and growth-arrested cells: evidence for cell cycle independent activation. *J. Biol. Chem.* **270**:18836-18841 (1995).

Duckett CS, Nava VE, Gedrich RW, Clem RJ, Van Dongen JL, Gilfillan MC, Shiels H, Hardwick JM and Thompson CB. A conserved family of cellular genes related to the baculovirus IAP gene and encoding apoptosis inhibitors. *EMBO J.* **15**:2685-2694 (1996).

Duckett CS, Gedrich RW, Gilfillan MC and Thompson CB. Induction of nuclear factor κ B by the CD30 receptor is mediated by TRAF1 and TRAF2. *Mol. Cell. Biol.* **17**:1535-1542 (1997).

Duckett CS and Thompson CB. CD30-dependent degradation of TRAF2: implications for the negative regulation of TRAF signaling and the control of cell survival. *Genes Dev.* **11**:2810-2821 (1997).

Duckett CS, Li F, Wang Y, Tomaselli KJ, Thompson CB and Armstrong RC. Human IAP-like protein regulates programmed cell death downstream of Bcl-x_L and cytochrome c. *Mol. Cell. Biol.* **18**:608-615 (1998).

Mir SS, Richter BWM and **Duckett CS**. Differential effects of CD30 activation in anaplastic large cell lymphoma and Hodgkin's disease cells. *Blood* **96**:4307-4312 (2000).

Larisch-Bloch S, Yi Y, Lotan R, Kerner H, Eimerl S, Parks WT, Reffey SB, de Caestecker MP, Danielpour D, Book-Melamed N, Timberg R, **Duckett CS**, Lechleider RJ, Orly J, Kim S-J and Roberts AB. A novel mitochondrial septin, ARTS, mediates apoptosis via its P-loop motif. *Nature Cell Biol.* **2**:915-921 (2000).

Harlin H, Reffey SB, **Duckett CS**, Lindsten T and Thompson CB. Characterization of XIAP-deficient mice. *Mol. Cell. Biol.* **21**:3604-3608 (2001).

Lewis J, Eiben LJ, Nelson DL, Cohen JI, Nichols KE, Ochs HD, Notarangelo LD and **Duckett CS**. Distinct interactions of the X-linked lymphoproliferative syndrome protein SAP with cytoplasmic domains of members of the CD2 receptor family. *Clin. Immunol.* **100**:15-23 (2001).

Richter BWM, Mir SS, Eiben LJ, Lewis J, Frattini A, Tian L, Frank S, Youle RJ, Nelson DL, Notarangelo LD, Vezzoni P, Fearnhead HO and **Duckett CS**. Molecular cloning of ILP-2, a novel member of the inhibitor of apoptosis protein (IAP) family. *Mol. Cell. Biol.* **276**:26542-26549 (2001).

Reffey SB, Wurthner JU, Parks WT, Roberts AB and **Duckett CS**. X-linked inhibitor of apoptosis protein functions as a cofactor in transforming growth factor- β signaling. *J. Biol. Chem.* **276**:26542-26549 (2001).

Salvesen GA and **Duckett CS**. IAP proteins: Blocking the road to death's door. *Nature Rev. Cell Mol. Bio.* **3**:401-410 (2002).

Burstein E and **Duckett CS**. Dying for NF- κ B? Control of cell death by transcriptional regulation of the apoptotic machinery. *Curr. Opin. Cell Biol.* **15**:732-737 (2003).

Ganesh L, Burstein E, Guha-Niyogi A, Louder MK, Mascola JR, Klomp LWJ, Wijmenga C, **Duckett CS** and Nabel GJ. The gene product Murr1 restricts HIV-1 replication in resting CD4+ lymphocytes. *Nature* **426**: 853-857 (2003).

Steinman HA, Burstein E, Lengner C, Gosselin J, Pihan G, **Duckett CS** and Jones SN. An alternative splice form of Mdm2 induces p53-independent cell growth and tumorigenesis. *J. Biol. Chem.* **279**:4877-4886 (2004).

Creagh EM, Murphy BM, Duriez PJ, **Duckett CS** and Martin SJ. Smac/Diablo antagonizes ubiquitin ligase activity of inhibitor of apoptosis proteins. *J. Biol. Chem.* **279**:29606-29614 (2004).

Lewis J, Burstein E, Birkey Reffey S, Bratton SB, Roberts AB and **Duckett CS**. Uncoupling of the signaling and caspase-properties of XIAP. *J. Biol. Chem.* **279**:9023-9029 (2004).

Burstein E, Ganesh L, Dick RD, van De Sluis, B, Wilkinson JC, Klomp, LWJ, Wijmenga C, Brewer, GJ, Nabel GJ and **Duckett CS**. A novel role for XIAP in copper homeostasis through regulation of MURR1. *EMBO J.* **23**:244-254 (2004).

Wilkinson JC, Cepero E, Boise LH and **Duckett CS**. Upstream regulatory role for XIAP in receptor-mediated apoptosis. *Mol. Cell. Biol.* **24**:7003-7014 (2004).

Wilkinson JC, Wilkinson AS, Scott FL, Csomos RA, Salvesen GS and **Duckett CS**. Neutralization of Smac/DIABLO by IAPs: a caspase-independent mechanism for apoptotic inhibition. *J. Biol. Chem.* **279**:51082-51090 (2004).

Wilkinson JC, Richter BWM, Wilkinson AS, Burstein E, Rumble JM, Balliu B and **Duckett CS**. VIAF: a conserved inhibitor of apoptosis (IAP) interacting factor that modulates caspase activation. *J. Biol. Chem.* **279**:51091-51099 (2004).

Burstein E, Hoberg JE, Wilkinson AS, Rumble JM, Csomos RA, Komarck CM, Maine GN, Wilkinson JC, Mayo MW and **Duckett CS**. COMMD proteins: A novel family of structural and functional homologs of MURR1. *J. Biol. Chem.* **280**:22222-22232 (2005).

Mufti AR, Burstein E, Csomos RA, Graf PCF, Wilkinson JC, Dick RD, Challa M, Son J-K, Bratton SB, Su GL, Brewer GJ, Jakob, U and **Duckett CS**. XIAP is a copper binding protein deregulated in Wilson's Disease and other copper toxicosis disorders. *Mol. Cell* **21**:775-785 (2006).

Wright CW, Rumble JM and **Duckett CS**. CD30 activates both the canonical and alternative NF- κ B pathways in anaplastic large cell lymphoma cells. *J. Biol. Chem.* **282**:10252-10256 (2007).

Hwang C, Giri VN, Wilkinson JC, Wright CW, Willkinson AS, Cooney KA and **Duckett CS**. EZH2 regulates the transcription of estrogen-responsive genes through association with REA, and estrogen corepressor. *Breast Canc. Res. Treat.* **107**:235-242 (2008).

Wilkinson JC, Wilkinson AS, Csomos RA, Galban S and **Duckett CS**. AIF is a target for ubiquitination through interaction with XIAP. *Mol. Cell. Biol.* **28**:237-247 (2008).

Hwang C, Oetjen KA, Kosoff D, Wojno KJ, Albertelli MA, Robins DM, Cooney KA and **Duckett CS**. X-linked inhibitor of apoptosis deficiency in the TRAMP mouse prostate cancer model. *Cell Death Diff.* **15**:831-840 (2008).

Wright CW and **Duckett CS**. New insights into the function of IAP modulation of the MYC/MAX/MAD network. *Dev. Cell* **14**:3-4 (2008).

Wilkinson, J.C., Wilkinson, A.S., Csomos, R.A., Galban, S. and **Duckett, C.S.** AIF is a target for ubiquitination through interaction with XIAP. *Mol. Cell. Biol* **28**:237-247 (2008).

Hwang, C., Oetjen, K.A., Kosoff, D, Wojno, K.J., Albertelli, M.A., Robins, D.M., Cooney, K.A. and **Duckett, C.S.** X-linked inhibitor of apoptosis deficiency in the TRAMP mouse prostate cancer model. *Cell Death Diff.* **15**:831-840 (2008).

Rumble, J.M., Bertrand, M.J.M., Csomos, R.A., Wright, C.W., Albert, L., Mak, T.W., Barker, P.A. and **Duckett, C.S.** Apoptotic sensitivity of murine IAP-deficient cells. *Biochem J.* **415**:21-25 (2008).

O'Riordan, M.X.D., Bauler, L.D., Scott, F.L. and **Duckett, C.S.** Inhibitor of apoptosis (IAP) proteins in eukaryotic evolution and development: a model of thematic conservation. *Dev. Cell* **15**:497-508 (2008).

Galbán, S., Brady, G.F. and **Duckett, C.S.** Caspases and IAPs: A dance of death ensures cell survival. *Mol. Cell* **32**:462-463 (2008).

Wright, C.W. and **Duckett, C.S.** ARNT modulates CD30-mediated NF- κ B transactivation through regulation of RelB. *Science* **323**:251-255 (2009).

Galbán, S., Hwang, C., Rumble, J.M., Oetjen, K.A., Wright, C.W., Boudreault, A., Durkin, J., Gillard, J.W., Jaquith, J.B., Morris, S.J. and **Duckett, C.S.** Cytoprotective effects of IAPs revealed by a small molecule antagonist. *Biochem J.* **417**:765-771 (2009).

Csomos, R.A., Wright, C.W., Galbán, S., Oetjen, K.A. and **Duckett, C.S.** Two distinct signaling cascades target the NF- κ B regulatory factor c-IAP1 for degradation. *Biochem J* **420**:83-91 (2009).

Choi, Y.E., Butterworth, M., Malladi, S., **Duckett, C.S.**, Cohen, G.M., and Bratton, S.B. The E3 ubiquitin ligase CIAP1 binds and ubiquitinates caspases-3 and -7 via unique mechanisms at distinct steps in their processing. *J. Biol. Chem* **284**:12772-12782 (2009).

Rumble, J.M., Oetjen, K.A., Stein, P.L., Schwartzberg, P.L., Moore, B.B. and **Duckett, C.S.** Phenotypic differences between mice deficient in XIAP and SAP, two factors targeted in X-linked lymphoproliferative syndrome (XLP). *Cell. Immunol.* **259**:82-89 (2009).

C. Research Support

Ongoing Research Support

Cancer Research Center Discovery Research Fund (Duckett) 11/01/2008-12/31/2009

University of Michigan Comprehensive Cancer Center

"Preclinical Analysis of a small-molecule IAP antagonist for the treatment of Hodgkin's and anaplastic large cell lymphoma."

Role: PI

R01 GM067827 (Duckett)

04/01/2005-03/31/2010

NIH/NIGMS

“Control of signaling and apoptosis by XIAP”

This study is focused on the mechanism by which XIAP participates in caspase-independent signaling. The major goals are 1) define the domains involved in caspase-independent signaling and in several recently-identified associated proteins, 2) define the functional consequences of the interactions between XIAP and validated associated proteins and 3) to ascertain with properties of XIAP are required to support oncogenesis.

Role: PI

Early Excellence Award 07-0078 (Duckett)

07/01/2007-06/30/2010

American Asthma Foundation

"IAP Proteins as Novel Molecular Targets for the Treatment of Asthmatic Disease"

The goals of this project are to explore the role of the IAPs in asthma using genetically targeted, IAP-deficient mice, and a range of IAP antagonists available to our laboratory.

Role: PI

R01 HL59178 05 Lukacs (PI)

05/01/2004-04/30/2009

NIH/NIAID

“SCF in eosinophilic airway inflammation”

The major goals of this grant are to activate the eosinophils via Stem cell Factor (SCF) production within the airway during allergen introduction, leading to the activation of mucus overproduction via EGFR.

Role: Co-Investigator

Completed within the last three years

University of Michigan Office of the Vice President of Research

11/01/2006-10/31/2007

New Initiatives Award (Duckett)

“New insights into the signaling properties of the Hodgkin’s lymphoma associated molecule, CD30.”

Role: PI

DOD Prostate Cancer IDEA Award PC040215 (Duckett)

10/01/2004-09/30/2007

USARMC

“XIAP as a molecular target for therapeutic intervention in prostate cancer.”

This study supported a project to evaluate the potential of XIAP to be a target for therapy in prostate cancer. The major goals were 1) to evaluate the role of XIAP in tumorigenesis using a human xenograft model 2) to directly evaluate the contribution of XIAP to tumorigenesis in an immunocompetent animal using a mouse transgenic model of prostate cancer.

Role: PI

Prostate Cancer IDEA Award PC030653 (Cooney/Duckett)

06/01/2004-05/31/2007

USARMC

“Prostate cancer aggressiveness genes in hereditary prostate cancer”

This award supported a project to examine the expression and function of the transcriptional repressor, EZH2, in hereditary prostate cancer. The major goals were 1) to further define a genetic locus that encompasses the EZH2 gene, 2) to identify and characterize EZH2-associated factors.

Role: Co-PI with Dr. Kathleen Cooney.