

CURRICULUM VITAE

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EMPLOYMENT HISTORY:

2015-Current Assistant Professor, Cellular & Molecular Medicine, University of Ottawa
2010-2015 Postdoctoral Fellow, Pharmacology, University of California San Diego
2004-2009 PhD Student, Laboratory Medicine and Pathobiology University of Toronto

EDUCATION:

2009 Ph.D. Department of Laboratory Medicine and Pathobiology
University of Toronto
Toronto, Ontario, Canada

2004 B.Sc. Department of Biochemistry
University of British Columbia
Vancouver, British Columbia, Canada

AWARDS:

2015 Sanofi Pasteur Review Article of the Year
2011-2014 Canadian Institute of Health Research Postdoctoral Fellowship
2009 Dr. Rajalakshmi S. Dittakavi and Dr. Prema M. Rao Graduate Awards in
Laboratory Medicine and Pathobiology
2009 Top presentation award, Graduate Student Research Day
2008 Laboratory Medicine and Pathobiology Visiting Trainee Award
2008 Signaling in Normal and Cancer Cells presentation award
2008 National Cancer Institute of Canada travel award
2006-2009 Natural Sciences and Engineering Research Council of Canada
Post Graduate Doctoral Fellowship
2007 Laboratory Medicine and Pathobiology travel award
2006 Laboratory Medicine and Pathobiology travel award
2005 University of Toronto Fellowship
2004 University of Toronto Fellowship

EXTERNAL FUNDING:

<u>Year</u>	<u>Source</u>	<u>Purpose</u>
2017-2021	CRS Operating grant	Operating
2017-2021	CIHR Project grant	Operating
2016-2021	NSERC Discovery grant	Operating

INVITED TALKS:

5. Cross-talk between starvation and antimicrobial autophagic signalling: Implications for inflammatory bowel disease, Université de Sherbrooke 2017
4. A novel role for AMPK in anti-microbial autophagy. University of Toronto, 2017
3. Nutrient restriction in the tumour microenvironment regulates autophagy through ULK kinase. Global Cancer Conference. Warsaw Poland 2015
2. Mechanisms underlying starvation induced autophagy. University of Ottawa, 2014
1. ULK1-mediated regulation of autophagy. University of California San Diego, 2013

CONFERENCE PRESENTATIONS:

9. Russell RC. Regulation of antimicrobial autophagy by AMPK signalling. EMBO Autophagy conference. Dubrovnik, Croatia
8. Russell RC. Nutrient sensing regulates VPS34 kinase activity through mTORC1 and ULK kinases. Keystone Conference Autophagy: Molecular and Physiological Mechanisms. Vancouver Canada, 2016
7. Russell RC, Yuan H, Hernandez DP, Noh YJ, Guan KL. Nutrient sensing regulates pro-autophagic VPS34 kinase activity through mTORC1 and ULK kinases. Banff, Alberta, 2014
6. Russell RC, Tian Y, Yuan H, Park, HW, Chang YY, Kim J, Kim H, Neufeld TP, Dillin A, Guan KL. ULK1 induces autophagy by phosphorylating Beclin-1 and activating Vps34 lipid kinase. Ubiquitin and Autophagy. Amsterdam, Netherlands, 2013
5. Russell RC, Sufan RI, Zhou B, Bunda S, Heir P, Sybingco SS, Heathcote SA, Roche O, Metcalf JL, Chow VW, Richmond TD, Hickey MM, Fuller FH, Barber DL, Cheresh DA, Simon CM, Kim WY, Irwin MS, and Ohh M. Loss of JAK2 regulation via a heterodimeric VHL-SOCS1 E3 ubiquitin ligase underlies Chuvash polycythemia. Keystone Hypoxic Signaling: From Bench to Bedside. Banff Alberta, 2012.
4. Russell RC, Ohh M. NEDD8 acts as a 'molecular switch' defining the functional selectivity of VHL. Signaling in Normal and Cancer Cells. Banff Alberta, 2008.
3. Russell RC, Ohh M. NEDD8 acts as a 'molecular switch' defining the functional selectivity of VHL. Mechanisms & Models of Cancer Meeting. San Diego California, 2007. **Oral presentation**
2. Russell RC, Evans AJ, Roche O, Burry TN, Fish JE, Chow VW, Kim WY, Saravanan A, Maynard MA, Gervais ML, Sufan RI, Roberts AM, Wilson LA, Betten M, Vandewalle C, Berx G, Marsden PA, Irwin MS, Teh BT, Jewett MA, Ohh M. VHL promotes E2 box-dependent E-cadherin transcription by HIF-mediated regulation of SIP1 and snail. Mechanisms & Models of Cancer Meeting. San Diego California, 2007.

1. Russell RC, Ohh M. NEDD8 acts as a 'molecular switch' defining the functional selectivity of VHL. Ubiquitin and Ubiquitin like Proteins and Cancer. Houston Texas, 2006.

SUBMITTED / IN PRESS:

PUBLICATIONS:

25. Abd-Elrahman KS, Hamilton A, Hutchinson SR, Liu F, **Russell RC**, Ferguson SSG. mGluR5 antagonism increases autophagy and prevents disease progression in the zQ175 mouse model of Huntington's disease. **Science Signaling**. 2017 Dec 19;10(510) doi: 10.1126/scisignal.aan6387. PMID:29259100

24. Guo H, Chitiprolu M, Roncevic L, Javalet C, Hemming FJ, Trung MT, Meng L, Latreille E, Tanese de Souza C, McCulloch D, Baldwin RM, Auer R, Côté J, Russell RC, Sadoul R, Gibbings D. Atg5 Disassociates the V1V0-ATPase to Promote Exosome Production and Tumor Metastasis Independent of Canonical Macroautophagy. **Developmental Cell**. 2017 Dec 18;43(6):716-730 doi: 10.1016/j.devcel.2017.11.018. PMID:2925791

23. McKee-Muir OC, Russell RC. mTOR: The Alpha and Omega of Autophagy Regulation Book Chapter: Autophagy: Cancer, Other Pathologies, Inflammation, Immunity, Infection, and Aging Science. Elsevier Publishing Company. 2017 pg231-250

22. Yuan HX, Wang Z, Yu FX, Li F, Russell RC, Jewell JL, Guan KL. NLK phosphorylates Raptor to mediate stress-induced mTORC1 inhibition. **Genes Dev**. 2015 Nov 15;29(22):2362-76. doi: 10.1101/gad.265116.115. PMID:26588989

21. Nemazanyy I, Montagnac G, Russell RC, Morzyglod L, Burnol AF, Guan KL, Pende M, Panasyuk G. Class III PI3K controls insulin receptor signalling and glucose homeostasis in hepatocytes. **Nature Commun**. 2015 Sep 21;6:8283. doi: 10.1038/ncomms9283. PMID:26387534

20. Jewell JL, Kim YC*, Russell RC*, Yu FX, Park HW, Plouffe SW, Tagliabracci VS, Guan KL. Differential regulation of mTORC1 by leucine and glutamine. **Science**. 2015 Jan 9;347(6218):194-8. doi: 10.1126/science.1259472. PMID:25567907
*Equal contribution

19. Kim YC, Park HW, Sciarretta S, Mo JS, Jewell, JL, Russell RC, Wu X, Sadoshima J, Guan KL. Essential role of Rag GTPases in heart by regulating lysosomal function **Nature Communications**. 2014 Jul. 1. PMID:24980141

18. Russell RC, Yuan HX, Guan KL. Autophagy regulation by nutrient signaling. **Cell Research**. 2013 Dec. 17 Review. PMID:24343578

17. Yuan H, Russell RC, Guan KL. Regulation of Vps34 complexes by mTOR in nutrient stress-induced autophagy. **Autophagy**. 2013 Sep 5;9(12). PMID:24013218

16. Russell RC, Tian Y, Yuan H, Park, HW, Chang YY, Kim J, Kim H, Neufeld TP, Dillin A, Guan KL. ULK1 induces autophagy by phosphorylating Beclin-1 and activating Vps34 lipid kinase. **Nature Cell Biology**. 2013 Jul;15(7):741-50 PMID:23685627

Highlighted in: **Nat Rev Mol Cell Biol** “Kinase crosstalk through Beclin-1”
Nature Cell Biology “ULK1 targets Beclin-1 in autophagy”

15. Nemazanyy I, Caillaud C, Blaauw B, Paolini C, Protasi F, Mueller A, Proikas-Cezanne T, Russell RC, Guan KL, Nishino I, Sandri M, Pende M, Panasyuk G. Defects of Vps15 in skeletal muscles lead to autophagic vacuolar myopathy and lysosomal disease. **EMBO Mol Med**. 2013 Jun 5. PMID:23630012

14. Jewell JL, Russell RC, Guan KL. Amino acid signaling upstream of mTOR. **Nat Rev Mol Cell Biol**. 2013 Jan 30. Review. PMID:23361334

13. Kim J, Kim YC, Fang C, Russell RC, Kim JH, Fan W, Liu R, Zhong Q, Guan KL. Differential Regulation of Distinct VPS34 complexes by AMPK in Nutrient Stress and Autophagy. **Cell**. Jan 2013;152(1-2):290-303. PMID:23332761

12. Tumaneng K, Schlegelmilch K, Russell RC, Yimlamai D, Basnet H, Mahadevan N, Fitamant J, Bardeesy N, Camargo F, Guan KL. YAP mediates crosstalk between the Hippo and TOR pathways by suppressing PTEN via miR-29. **Nature Cell Biology**. 2012 Dec;14(12):1322-9. PMID:23143395

11. Tumaneng K, Russell RC, Guan KL. Organ size control by Hippo and TOR pathways. **Current Biology**. 2012 May 8;22(9):R368-79. Review. PMID:22575479

10. Russell RC, Fang C, Guan KL. An emerging role for TOR signaling in mammalian tissue and stem cell physiology. **Development**. 2011 Aug;138(16):3343-56. Review. PMID:21791526

9. Russell RC, Sufan RI, Zhou B, Heir P, Bunda S, Sybingco SS, Greer SN, Roche O, Heathcote SA, Chow VW, Boba LM, Richmond TD, Hickey MM, Barber DL, Cheresch DA, Simon MC, Irwin MS, Kim WY, Ohh M. Loss of JAK2 regulation via a heterodimeric VHL-SOCS1 E3 ubiquitin ligase underlies Chuvash polycythemia. **Nature Medicine**. 2011 Jun 19;17(7):845-53.

8. Niemeyer CM, Kang MW, Shin DH, Furlan I, Erlacher M, Bunin NJ, Bunda S, Finklestein JZ, Sakamoto KM, Gorr TA, Mehta P, Schmid I, Kropshofer G, Corbacioglu S, Lang PJ, Klein C, Schlegel PG, Heinzmann A, Schneider M, Starý J, van den Heuvel-Eibrink MM, Hasle H, Locatelli F, Sakai D, Archambeault S, Chen L, Russell RC, Sybingco SS, Ohh M, Braun BS, Flotho C, Loh ML. Germline CBL mutations cause developmental abnormalities and predispose to juvenile myelomonocytic leukemia. **Nature Genetics**. 2010 Sep;42(9):794-800.

7. Koeman JM*, Russell RC*, Tan MH*, Petillo D, Westphal M, Koelzer K, Metcalf JL, Zhang Z, Matsuda D, Dykema KJ, Houseman HL, Kort EJ, Furge LL, Kahnoski RJ, Richard S, Vieillefond A, Swiatek PJ, Teh BT, Ohh M, Furge KA. 2008. Somatic pairing of chromosome 19 in renal

oncocyoma is associated with deregulated ELGN2-mediated oxygen-sensing response. **PLoS Genetics** 4: e1000176. *Equal contribution.

6. Russell RC, Ohh M. 2008. NEDD8 acts as a 'molecular switch' defining the functional selectivity of VHL. **EMBO Reports** 9:486-91.

5. Russell RC, Ohh M. 2007. The role of VHL in the regulation of E-cadherin: a new connection in an old pathway. **Cell Cycle**. 6:56-9. Review.

4. Evans AJ*, Russell RC*, Roche O*, Burry TN, Fish JE, Chow VW, Kim WY, Saravanan A, Maynard MA, Gervais ML, Sufan RI, Roberts AM, Wilson LA, Betten M, Vandewalle C, Berx G, Marsden PA, Irwin MS, Teh BT Jewett MA, Ohh M. 2007. VHL promotes E2 box-dependent E-cadherin transcription by HIF-mediated regulation of SIP1 and snail. **Mol Cell Biol**. 27:157-69. *Equal contribution.

3. Maeda M, Carpenito C, Russell R, Dasanji J, Veinotte L, Ohta H, Yamamura T, Tan R, and Takei F, 2005 Murine CD160, Ig-like receptor on NK cells and NKT cells, recognizes classical and nonclassical MHC class I and regulates NK cell activation. **J Immunol**. 175:4426-32.

2. Russell RC and Ohh M, 2005, Role of VHL in Mammalian Oxygen Sensing, **J Biol Sci**. 5: 66-69. Review.

1. Book chapter: Gervais ML, Stickle NH, Russell RC, and Ohh M, 2004, The von Hippel-Lindau Tumour Suppressor Complex and Oxygen Sensing, **Research Advances in Biological Chemistry**, pg43-48

PRESS RELEASE:

William Kim MD. "Genetic finding offers hope for orphan disease" *ScienceDaily*, 23 Jun. 2011, Web. 5 Jul. 2012 Print.

Journal reference "Loss of JAK2 regulation via a heterodimeric VHL-SOCS1 E3 ubiquitin ligase underlies Chuvash polycythemia" *Nature Medicine*. 2011 Jun 19;17(7):845-53.

University of California, San Diego Health Sciences. "How cells know when it's time to eat themselves." *ScienceDaily*, 17 Jan. 2013. Web. 12 Mar. 2013.

Journal Reference "Differential Regulation of Distinct Vps34 Complexes by AMPK in Nutrient Stress and Autophagy" *Cell*, 2013; 152 (1-2): 290