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Curriculum Vitae

JAMES ROBERT WOODGETT

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A. BIOGRAPHICAL INFORMATION:

1. Degrees:

B. Sc. (1981) (First Class Hons) Department of Biochemistry, University of York

Supervisor: Prof. George L. Kellett

Ph.D. (1984) Department of Biochemistry, University of Dundee. Supervisor: Prof. Philip Cohen

2. Employment:

Feb 2021 -	Senior Scientist, Lunenfeld-Tanenbaum Research Institute
Nov 2005 - Jan 2021	Koffler Director of Research, Lunenfeld-Tanenbaum Research Institute
Sept. 2000 - June 2010	Co-Director, UHN Microarray Centre
June 1997 - Jan 2005	Division Head, Experimental Therapeutics, Ontario Cancer Institute
June 1997 - Oct 2005	Amgen Professor of Cancer Biology, Dept. Med. Biophysics, University of Toronto
Dec. 1992- May 1997	Senior Scientist, Division of Cell and Molecular Biology Ontario Cancer Institute, Toronto, Canada Associate Professor, Dept. Med. Biophysics, University of Toronto
Sept. 1987-Nov. 1992	Ludwig Institute for Cancer Research, Middlesex Hospital/University College London. Group leader, Assistant Member. Head: Growth Regulation laboratory.
Nov. 1986-Sept. 1987	Molecular Biology & Virology Lab., Salk Institute, San Diego American Cancer Society senior postdoctoral fellow in laboratory of Prof. Tony Hunter
Nov. 1984-Oct. 1986	Molecular Biology & Virology Lab., Salk Institute, San Diego SERC/NATO post-doctoral fellow in laboratory of Prof. Tony Hunter

3. Honours/Awards:

2018	Arthur Wynne Gold Medal
2012	Queens Diamond Jubilee Medal
2008	Smith Errington lecture, University of Western Ontario
2003-2008	CIHR Senior Investigator
2003	Eijkman Lecture, Utrecht, NL
2002-2006	Howard Hughes Medical Institute International Research Scholarship
2000	Fellow of Royal Society, Canada
1998-2003	MRC Senior Scientist award: Molecular analysis of signal transduction pathways in development and disease
1998-2005	Amgen Chair of Cancer Biology
1997-2001	Howard Hughes Medical Institute International Research Scholarship
1993-1998	MRC Scientist award: Regulation of protein kinases by mitogens
1992	Rosa Lowie Award, University of Leuven, Belgium
1986-1987	American Cancer Society (California Division) Senior Fellow
1984-1986	Science and Engineering Research Council/NATO postdoctoral fellow
1981-1984	Medical Research Council (London) postgraduate studentship

4. Research Awards:

1993-1996	Principal investigator: MRC operating grant \$138,168 p.a. “Functional role of glycogen synthase kinase-3 in cellular regulation.”
1993-1996	Principal investigator: NCIC operating grant. \$91,028 p.a. “Regulation of nuclear onco-proteins by protein phosphorylation”
1993-1998	MRC Scientist salary award “Regulation of protein kinases by mitogens.”
1993-1994	Principal investigator: Leukaemia Research Fund (Canada) operating grant \$39,000 “Mechanism of transformation of akt oncogene.”
1995-1998	Principal investigator: MRC operating grant \$66,656 p.a. + MRC earmarked studentship “Physiological role of the stress-activated protein kinase pathway.”
1995	Amgen research grant. “Sphingomyelinase-induced signalling.” \$125,465
1996-2001	Principal investigator: NCIC operating grant “Regulation of nuclear oncoproteins by protein phosphorylation” \$103,000
1996	Amgen research grant. “Sphingomyelinase-induced signalling.” \$123,435
1996-1999	Principal investigator: MRC operating grant \$101,000 p.a. “Functional role of glycogen synthase kinase-3 in cellular regulation.”
1996-1999	Co-applicant (with Dr. B. Zanke): NCIC operating grant: \$64,050 p.a. “Role of stress-activated protein kinase pathways in drug resistance”
1997-2001	Howard Hughes International Research Scholarship: \$102,750 p.a. “Stress activated protein kinase cascades in development”
1998-2001	Co-applicant (P.I. Dr. A. Manoukian) NCIC: \$123,121 p.a. “Genetic analysis of the PKB/AKT survival pathway”
1998-2003	Principal investigator: MRC operating grant \$114,620 p.a. “Physiological role of the stress-activated protein kinase pathway.”
1998-2003	MRC Senior Scientist salary award “Molecular analysis of signal transduction pathways in development and disease.”

1999-2001 Co-applicant (Dr. Aled Edwards, PI), NRC/NSERC/MRC research partnership program. “Development and application of gene chip technologies” \$475,000

1999 Canadian Foundation for Innovation. Equipping a microarray facility. Infrastructure grant \$800,000 (40% funded by CFI, 40% matched by OIT)

1999-2001 NCIC Program grant co-ordinator: “Molecular Genetics of Breast Cancer Development”. Total budget: \$681, 295 (year 1); \$670, 267 (ea. years 2 and 3) Specific project: Role of Wnt and phosphatidylinositol 3’ kinase signalling pathways in mouse and human mammary tumorigenesis” \$74,776 + \$118,928 core.

1999-2001 Co-applicant (PI, Dr. Brian Wilson), Ontario Research and Development Challenge Fund: \$300,000 “Development, evaluation and applications of technologies for producing and reading gene microarrays”

1999-2003 Co-PI (Kathy Siminovitch, PI, Cheryl Arrowsmith, Co-PI): CFI Genes, Proteins, People program – clinical genomics centre. Infrastructure grant Microarray component: \$4,400,000

1999-2004 Principal investigator: MRC operating grant: \$134,154 p.a. “Functional role of glycogen synthase kinase-3 in cellular regulation”

2000-2004 Principal investigator: Ontario Research and Development Challenge Fund operating grant. \$5,500,000 “Establishment of the Ontario microarray network”

2000-2003 Project leader CBCRI Streams of Excellence program: “Discovery and use of clinically relevant molecular changes in breast cancer.” Whelan, T. and Andrulis, I, Program leaders).

2000-2004 Canvac NCE Microarray core. \$100,000

2002-2006 Howard Hughes International Research Scholarship. US\$70,000 p.a.

2002-2007 NCIC Program grant co-ordinator: “Molecular Genetics of Breast Cancer Development”. Total budget: \$962,514 (yr 1) – 1,037,209 (yr 5) Specific project: “Role of Wnt and phosphatidylinositol 3’ kinase signaling pathways in mouse and human mammary tumorigenesis” \$151,000 + \$130,900 core.

2002-2005 Principal investigator: NCIC “Relationship of signalling and extracellular matrix to gene expression and cellular responses.” \$121,760 p.a.

2002-2005 Principal Investigator: Genome Canada: \$1,450,000 “Development and applications of functional genomics technologies.”

2003-2008 Principal Investigator: CIHR operating grant: \$141,326 p.a. “Dealing with stress: signaling conflicts and cell fate determination.” FRN:12858

2003-2008 CIHR Senior Investigator salary award “Molecular analysis of signalling pathways in disease and development”

2004-2005 Principal Investigator: Banting & Best Diabetes Centre, pilot operating grant: \$29,970 “Role of glycogen synthase kinase-3 in diabetes”

2005-2006 Principal Investigator: Health & Technology Exchange (HTx) industrial collaboration grant: \$127,300 “Streamlined Sample Prep for Microarray-based Diagnostic/Prognostic Assays”

2005-2008 Principal Investigator: NCIC operating grant \$131,329 p.a. “Protein kinase profiling – towards individualized therapeutic intervention”

2005-2010 Principal Investigator: CIHR operating grant: \$134,726 p.a. “Functional roles of GSK-3 in cellular regulation and disease” FRN 74711

- 2007-2012 Principal Investigator (with Linda Penn): Ontario Research Fund
“Development of third generation technologies for functional genomics and proteomics” \$1,250,000 p.a.
- 2007-2010 Principal Investigator: Canadian Diabetes Association operating grant: \$75,789 p.a. "Characterisation of the tissue- and isoform-specific roles of glycogen synthase kinase 3 in the pathogenesis of insulin resistance and Type 2 Diabetes Mellitus".
- 2008-2013 Principal Investigator: CIHR operating grant \$174,530 p.a. “Signal transduction pathways controlling cell fate determination” FRN:12858
- 2008-2013 Principal Investigator: CBCRA operating grant: \$146,563 p.a. “Pathways modulating breast tumour initiating cells: investigating the roles of GSK-3 and SGK3”
- 2010-2015 Principal Investigator: CIHR operating grant: \$200,795 p.a. “Functional roles of GSK-3 in cellular regulation and disease” FRN 74711
- 2009-2013 Co-applicant: Ontario Research Fund (PI: Andras Nagy). Molecular pathways of reprogramming - from discovery to novel therapeutics. \$145,000 p.a.
- 2011-2014 Co-Principal Investigator Terry Fox Foundation Program Project (Lead PI: Sean Egan). Assessment of Wnt and PI3K signaling components as shared maintenance genes in primary and metastatic medulloblastoma and breast cancer. \$167,852 p.a.
- 2012-2015 Co-principal Investigator: Ontario-China Research Innovation Fund. “Roles of GSK-3 isoforms in memory and neurological deficits.” \$60,500 p.a.
- 2013-2016 Principal Investigator: CIHR-China team grant. “Investigation of the roles of GSK-3 isoforms in mediating Abeta, tau and insulin related Alzheimer-like synaptic, cholinergic impairments”. \$250,000 p.a.
- 2013-2015 Co-Principal Investigator: CIHR/Centre of Excellence in Neurodegeneration team. “WNT signaling: biomarker and target evaluation in Alzheimer’s disease” \$155,000 p.a.
- 2014-2019 Co-Principal Investigator Terry Fox Foundation Program Project (Lead PI: Sean Egan). “Contributions of Wnt and PI3K signaling in breast and brain tumor dissemination” ~\$175,000 p.a.
- 2015-2022 Principal Investigator CIHR Foundation scheme. “Genetic analysis of signal transduction pathways involved in human diseases” \$367,466 p.a.
- 2021 Principal Investigator Pooler Charitable Foundation. “J. Molecular Medicine” \$63,500.

5. Committee responsibilities:

- 2019- Chair, ERC Consolidator Grant LS4 panel
- 2018-2021 TCP Governing Board member
- 2018 Member, ERC Consolidator Grant LS4 panel
- 2017- Member, CIHR MCC grant panel
- 2016 BBSRC ISPG committee
- 2016-2018 Member, Terry Fox Research Institute SCORE committee
- 2015- Board Member, Ontario Institute for Regenerative Medicine
- 2014-2018 Board member, Centre for Commercialization of Antibodies and Biologics

2013-2015	Chair, CIHR MCC grant panel
2013, 2016	Co-chair, Canadian Cancer Society Impact panel
2013	Chair, Leukemia & Lymphoma Society grant panel
2012-2016	Co-Chair, CAHO Research Committee
2013	Member, Terry Fox Advisory Council on Research
2011-2012	Member, Terry Fox Program Grant review committee
2011-	Baycrest Hospital Academic Advisory Committee
2009-2011	Chair, CCS Panel H
2009-2010	Member, Terry Fox Program Grant review committee
2008-2010	Member, Canadian Diabetes Association review panel
2007-2011	Co-Chair, TAHSN Research Committee
2008-2009	Member, Alberta Strategic Research Infrastructure Program SAB
2007-2010	Research Advisory Committee, CBCRA
2007- 2009	Member, Canadian Breast Cancer Foundation Fellowship Review Panel
2007-2008	Member, CIHR Michael Smith Award in Health Research panel
2006-2016	Member, Ontario Cancer Biomarker Network Board
2006-2009	Chair, CIHR MCC grant panel
2005-2021	Member, Mount Sinai Hospital Foundation Board
2005-2006	Invited member, CIHR MCC grant panel
2003-2005	Chair CBCRA IDEA grant panel
2003-2006	Canadian Cancer Society - Ontario Division Board
2003-2007	Member, Structural Genomics Consortium SIAC
2002-2006	Member, Ontario Cancer Research Network SAB
2002-2005	Member, Ontario Genomics Institute SAB
2002-2003	Chair, CIHR Michael Smith Award in Health Research panel
2001-2006	Member, CIHR Institute of Cancer Research Advisory Board
2001-2002	Chair, CIHR Senior Investigator awards panel
1998-2002	Member, Ontario Genome Initiative Executive committee
1998-2000	Member, MRC (Canada) Scientists B panel
1997-2000	Member, NCIC Panel F
1997-2003	MRC (UK) Medical Advisory Board member
1995-1998	Member, MRC (Canada) Cancer A grants panel
1997-2002	Member, Student Affairs Committee, Dept. Medical Biophysics
1997-2005	Member, Student Admissions Committee
1997-2005	Chair, Scientific Advisory Board, Toronto Microarray Consortium
1995-2002	Chair, Amgen Awards Committee
1993-2003	Chair, Biosafety Committee, Ontario Cancer Institute

6. Professional Affiliations:

Editorial board:	Oncogene 2009 - EMBO J 2020 - Trends in Cell Biology 1997-2019 Current Biology 2002-08 Facets Journal 2015 -
Editor:	Biochemical Journal 1992-99

Biochimica et Biophysica Acta 1992-97
Co-head (with David Vaux) Faculty of 1000 Apoptosis and Signalling section
Advisor: BioMed Central 2002 -

B. PUBLICATIONS: h-index 115, citations 59,778, avg cites/article 171 (Google Scholar); h-index 104, citations 44,600, avg cites/article 127 (Web of Science)

Scopus ID: 7007172260 ResearcherID: F-1087-2010 ORCID: 0000-0003-3731-5797

1. Refereed Publications (350):

a) Articles:

Woodgett, J.R., Tonks, N.K. and Cohen, P. (1982) Identification of a calmodulin-dependent glycogen synthase kinase in rabbit skeletal muscle distinct from phosphorylase kinase. *FEBS Lett.* **148**, 5-11.

Picton, C., Woodgett, J.R., Hemmings, B.A. and Cohen, P. (1982) Multisite phosphorylation of glycogen synthase from rabbit skeletal muscle. Phosphorylation of site-5 by glycogen synthase kinase-5 (casein kinase II) is a prerequisite for phosphorylation of sites-3 by glycogen synthase kinase-3. *FEBS Lett.* **150**, 191-196.

Holland, R., Woodgett, J.R. and Hardie, D.G. (1983) Evidence that amiloride antagonizes insulin-stimulated protein phosphorylation by inhibiting protein kinase activity. *FEBS Lett.* **154**, 269-273.

Woodgett, J. R., Davison, M.T. and Cohen, P. (1983) The calmodulin-dependent glycogen synthase kinase from rabbit skeletal muscle. Purification, subunit structure and substrate specificity. *Eur. J. Biochem.* **136**, 481-487.

McGuinness, T.L., Lai, Y., Greengard, P., Woodgett, J.R. and Cohen, P. (1983) A multifunctional calmodulin-dependent protein kinase. Similarities between skeletal muscle glycogen synthase kinase and a brain synapsin-1 kinase. *FEBS Lett.* **163**, 329-334.

Woodgett, J.R., Cohen, P., Yamauchi, T. and Fujisawa, H. (1984) Comparison of a calmodulin-dependent glycogen synthase kinase from skeletal muscle and calmodulin-dependent protein kinase-II from rat brain. *FEBS Lett.* **170**, 49-54.

Woodgett, J.R. and Cohen, P. (1984) Multisite phosphorylation of glycogen synthase. Molecular basis for the substrate specificity of glycogen synthase kinase-3 and casein kinase-II (glycogen synthase kinase-5). *Biochim. Biophys. Acta.* **788**, 339-347.

Vulliet, P.R., Woodgett, J.R. and Cohen, P. (1984) Phosphorylation of tyrosine monooxygenase by calmodulin-dependent multi-protein kinase. *J. Biol. Chem.* **259**, 13680-13683.

Vulliet, P.R., Woodgett, J.R., Ferrari, S. and Hardie, D.G. (1985) Characterization of the sites

phosphorylated on tyrosine hydroxylase by Ca²⁺ and phospholipid-dependent protein kinase, calmodulin-dependent multiprotein kinase and cyclic AMP-dependent protein kinase. *FEBS Lett.* **182**, 335-339.

Newton, D., Klee, C., Woodgett, J.R. and Cohen, P. (1985) Selective effects of CAPP1-calmodulin on its target proteins. *Biochim. Biophys. Acta.* **845**, 533-539.

Pearson, R.B., Woodgett, J.R., Cohen, P. and Kemp, B.E. (1985) Substrate specificity of a multifunctional calmodulin-dependent protein kinase. *J. Biol. Chem.* **260**, 14471-14476.

Kuret, J., Woodgett, J.R. and Cohen, P. (1985) Multisite phosphorylation of glycogen synthase from rabbit skeletal muscle: identification of the sites phosphorylated by casein kinase-I. *Eur. J. Biochem.* **151**, 39-48.

Gould, K.L., Woodgett, J.R., Cooper, J.A., Buss, J.E., Shalloway, D. and Hunter, T. (1985) Protein kinase C phosphorylates pp60src at a novel site. *Cell* **42**, 849-857.

Gould, K.L., Woodgett, J.R., Isacke, C.M. and Hunter, T. (1986) The protein-tyrosine kinase substrate, p36, is also a substrate for protein kinase C *in vitro* and *in vivo*. *Mol. Cell. Biol.* **6**, 2738-2344.

Woodgett, J.R., Gould, K.L. and Hunter, T. (1986) Substrate specificity of protein kinase C. Use of synthetic peptides corresponding to physiological phosphorylation sites as probes for substrate recognition requirements. *Eur. J. Biochem.* **161**, 177-184.

Woodgett, J.R., and Hunter, T. (1987) Immunological evidence for two distinct forms of protein kinase C. *Mol. Cell. Biol.* **7**, 85-96.

Woodgett, J.R., and Hunter, T. (1987) Isolation and characterization of two distinct forms of protein kinase C. *J. Biol. Chem.* **262**, 4836-4843.

Bilezikjian, L., Woodgett, J.R., Hunter, T. and Vale, W. (1987) Phorbol ester-induced down-regulation of protein kinase C abolishes vasopressin-mediated responses in rat anterior pituitary cells. *Mol. Endocrinol.* **1**, 555-560.

Woodgett, J.R. (1989) Use of peptide substrates for the affinity purification of protein-serine kinases. *Anal. Biochem.* **180**, 237-241.

Woodgett, J.R. (1990) Molecular cloning and expression of glycogen synthase kinase-3/Factor A. *EMBO J.* **9**, 2431-2438.

Marais, R.M., Nguyen, O., Woodgett, J.R., and Parker, P.J. (1990) Studies on the primary sequence requirements for PKC- α , - β 1 and - γ peptide substrates. *FEBS Lett.* **277**, 151-155.

Boyle, W.B., Smeal, T., Defize, L.H.K., Angel, P., Woodgett, J.R., Karin, M. and Hunter, T. (1991) Activation of protein kinase C decreases phosphorylation of cJun at sites that negatively

regulate its DNA binding activity. *Cell* **64**, 573-584.

Jang, K.L., Pulverer, B., Woodgett, J.R. and Latchman, D.S. (1991) Activation of the cellular transcription factor AP-1 in herpes simplex virus infected cells is dependent on the viral immediate-early protein ICP0. *Nucl. Acids Res.* **19**, 4879-4883.

Pulverer, B., Kyriakis, J., Avruch, J., Nikolakaki, H. and Woodgett, J.R. (1991) Phosphorylation of c-jun by MAP kinases. *Nature* **353**, 670-674.

Coffer, P.J. and Woodgett, J.R. (1991) Molecular cloning and characterisation of pkb: a novel putative protein-serine kinase related to protein kinases A and C. *Eur. J. Biochem.* **201**, 475-481.

Grove, J.R., Banerjee, P., Coffer, P.J., Balasubramanyam, A., Price, D.J., Avruch, J. and Woodgett, J.R. (1991) Cloning and expression of two human p70 S6 kinase polypeptides differing only at their amino termini. *Mol. Cell. Biol.* **11**, 5541-5550.

Hughes, K., Pulverer, B., Theocharous, P. and Woodgett, J.R. (1992) Baculovirus-mediated expression and characterisation of glycogen synthase kinase-3 β , the mammalian homologue of the *Drosophila melanogaster* zeste-white3^{sgg} homeotic gene product. *Eur. J. Biochem.* **203**, 305-311.

Saksela, K., Makela, T.P., Hughes, K., Woodgett, J.R. and Alitalo, K. (1992) Activation of PKC increases phosphorylation of the L-myc trans-activator domain at a GSK-3 target site. *Oncogene* **7**, 347-353.

Prigent, C., Lasko, D.D., Kodama, K., Woodgett, J.R. and Lindahl, T. (1992) Activation of mammalian DNA ligase I through phosphorylation by casein kinase II. *EMBO J.* **11**, 2925-2933.

Franklin, C.C., Sanchez, V., Wagner, F., Woodgett, J.R. and Kraft, A.S. (1992) Phorbol ester-induced amino terminal phosphorylation of c-Jun but not JunB regulates transcriptional activation. *Proc. Natl. Acad. Sci. USA* **89**, 7247-7251.

Goode, N., Hughes, K., Woodgett, J.R. and Parker, P.J. (1992) Differential regulation of glycogen synthase kinase-3 β by protein kinase C isotypes. *J. Biol. Chem.* **267**, 16878-16882.

Hughes, K., Ramakrishna, S., Benjamin, W.B. and Woodgett, J.R. (1992) Multifunctional ATP-citrate lyase kinase is a member of the glycogen synthase kinase-3 sub-family. *Biochem. J.* **288**, 309-314.

Hanger, D.P., Hughes, K., Woodgett, J.R., Brion, J.-P. and Anderton, B.H. (1992) Glycogen synthase kinase-3 induces Alzheimer's disease-like phosphorylation of tau: generation of paired helical filament epitopes and neuronal localisation of the kinase. *Neurosci. Lett.* **147**, 58-62.

Pulverer, B., Hughes, K., Franklin, C.C., Kraft, A.S., Leever, S.A. and Woodgett, J.R. (1993) Co-purification of mitogen activated protein kinases with phorbol ester-induced cJun kinase in U937 leukaemic cells. *Oncogene* **8**, 407-415.

Hughes, K., Nikolakaki, E., Plyte, S.E., Totty, N.F. and Woodgett, J.R. (1993) Modulation of the glycogen synthase kinase-3 family by tyrosine phosphorylation. *EMBO J.* **12**, 803-808.

Nikolakaki, E., Coffey, P., Hemelsoet, R., Woodgett, J. R. and Defize, L.H.K. (1993) Glycogen synthase kinase-3 phosphorylates Jun-family members *in vitro* and negatively regulates their transactivating potential in intact cells. *Oncogene* **8**, 833-840.

Bianchi, M.W., Plyte, S.E., Kreis, M. and Woodgett, J.R. (1993) A *Saccharomyces cerevisiae* protein-serine kinase related to mammalian glycogen synthase kinase-3 and *Drosophila melanogaster* shaggy genes. *Gene* **134**, 51-56.

Pulverer, B. J., Fisher, C., Vousden, K., Littlewood, T., Evan, G. and Woodgett, J.R. (1994) Site-specific modulation of cMyc cotransformation by residues phosphorylated *in vivo*. *Oncogene* **9**, 59-70.

Bianchi, M.W., Guivarc'h, D., Thomas, M., Woodgett, J.R. and Kreis, M. (1994) *Arabidopsis* homologs of the shaggy and GSK-3 protein kinases: molecular cloning and functional expression in *Escherichia coli*. *Mol. Gen. Genet.* **242**, 337-345.

Coffey, P.J. and Woodgett, J.R. (1994) Differential subcellular localisation of two isoforms of p70 ribosomal S6 kinase. *Biochem. Biophys. Res. Commun.* **198**, 780-786.

Benjamin, W.B., Pentylala, S.N., Woodgett, J. R., Hod, Y. and Marshak, D. (1994) ATP-citrate lyase and glycogen synthase kinase 3 β in 3T3-L1 cells during differentiation into adipocytes. *Biochem. J.* **300**, 477-482.

Kyriakis, J.M., Banerjee, P., Nikolakaki, E., Dai, T., Rubie, E.A., Ahmad, M.F., Avruch, J. and Woodgett, J.R. (1994) The stress-activated protein kinase subfamily of c-Jun kinases. *Nature* **369**, 156-160.

Black, E.J., Catling, A.D., Woodgett, J. R., Kilbey, A. and Gillespie, D.A.F. (1994) Transcriptional activation by the v-Jun oncoprotein is independent of positive regulatory phosphorylation. *Oncogene* **9**, 2363-2368.

Stambolic, V. and Woodgett, J.R. (1994) Negative regulation of glycogen synthase kinase 3 in intact cells. *Biochem. J.* **303**, 701-704.

Pombo, C.M., Bonventre, J. V., Woodgett, J.R., Kyriakis, J.M. and Force, T. (1994) The stress-activated protein kinases (SAPKs) are major c-Jun amino terminal kinases activated by ischemia and reperfusion. *J. Biol. Chem.* **269**, 26546-26550.

Mulot, S.F.C., Hughes, K., Woodgett, J. R., Anderton, B. H. and Hanger, D. P. (1994) PHF-tau from Alzheimer's brain comprises four species on SDS-PAGE which can be mimicked by *in vitro* phosphorylation of human brain tau by glycogen synthase kinase-3 β . *FEBS Lett.* **349**, 359-364.

Sanchez, I., Hughes, R., Mayer, B., Yee, K., Woodgett, J., Avruch, J., Kyriakis, J. and Zon, L. (1994) SAP/ERK kinase-1 (SEK1) defines the SAPK pathway regulating c-Jun N-terminal phosphorylation. *Nature* **372**, 794-798.

Yan, M., Dai, T., Deak, J., Kyriakis, J., Zon, L., Woodgett, J. and Templeton, D. (1994) MEKK1 activates the stress activated protein kinase (SAPK) *in vivo*, not MAP kinase, via direct phosphorylation of the SAPK activator SEK1. *Nature* **372**, 798-800.

Lovestone, S., Latimer, D., Anderton, B. H., Hanger, D., Gallo, J.-M., Marquardt, B., Mulot, S., Reynolds, H., Stabel, S., Woodgett, J. R. and Miller, C.J.C. (1994) Alzheimer's disease-like phosphorylation of tau is regulated by glycogen synthase kinase-3 activity in cultured mammalian cells. *Current Biology* **4**, 1077-1086.

Coso O.A., Chiariello, M., Kalinec, G., Kyriakis, J.M., Woodgett, J. and Gutkind J.S. (1995) Transforming G protein-coupled receptors potently activate JNK (SAPK). Evidence for a divergence from the tyrosine kinase signaling pathway. *J. Biol. Chem.*, **270**, 5620-5624.

Harwood, A.J., Plyte, S. E., Woodgett, J., Strutt, H. and Kay, R.R. (1995) Glycogen synthase kinase 3 (GSK-3) regulates cell fate in *Dictyostelium*. *Cell*, **80**, 139-148.

Dai, T., Rubie, E.A., Franklin, C.C., Kraft, A., Gillespie, D.A.F., Avruch, J., Kyriakis, J.A. and Woodgett, J.R. (1995) SAP kinases bind directly to the δ domain of c-Jun in resting cells: implications for repression of c-Jun function. *Oncogene*, **10**, 849-855.

He, X., Saint-Jeannet, J.-P., Woodgett, J.R., Varmus, H.E. and Dawid, I.B. (1995) Glycogen synthase kinase 3 and dorsoventral patterning in *Xenopus* embryos. *Nature*, **374**, 617-622.

Latimer, D.A., Gallo, J. -M., Lovestone, S., Miller, C.C.J., Reynolds, C.H., Marquardt, B., Stabel, S., Woodgett, J. R. and Anderton, B. H. (1995) Stimulation of MAP kinase by v-raf transformation of fibroblasts fails to induce hyperphosphorylation of transfected tau. *FEBS Lett.* **365**, 42-46.

Kharbanda, S., Saleem, A., Shafman, T., Emoto, Y., Taneja, N., Rubin, E., Weichselbaum, R., Woodgett, J., Avruch, J., Kyriakis, J. and Kufe, D. (1995) Ionizing radiation stimulates a Grb2-mediated association of the stress-activated protein kinase with phosphatidylinositol 3-kinase. *J. Biol. Chem.* **270**, 18871-18875.

Pombo, C. M., Kherl, J.H., Sanchez, I., Katz, P., Avruch, J., Zon, L.I., Woodgett, J.R., Force, T. and Kyriakis, J. M. (1995) Activation of the SAPK pathway by the human STE20 homologue germinal centre kinase. *Nature* **377**, 750-754.

Baum, L., Seger, R., Woodgett, J. R., Kawabata, S., Maruyama, K., Koyama, M., Silver, J. and Saitoh, T. (1995) Overexpressed tau protein in cultured cells is phosphorylated without formation of PHF: implication of phosphoprotein phosphatase involvement. *Molecular Brain Research*, **34**, 1-17.

- Berberich, I., Shu, G., Siebelt, F., Woodgett, J.R., Kyriakis, J.M. and Clarke, E.A. (1996) Crosslinking CD40 on B cells induces stress-activated protein kinases but not mitogen activated protein kinases. *EMBO J.* **15**, 92-101.
- Plyte, S.E., Feokstiva, A., Burke, J.D., Woodgett, J.R. and Gould, K.L. (1996) *Schizosaccharomyces pombe* *skp1+* encodes a protein kinase related to mammalian glycogen synthase kinase-3 and complements the *cdc14* cytokinesis mutant. *Mol. Cell. Biol.* **16**, 179-191.
- Nunes, J.A., Battifora, M., Woodgett, J.R., Truneh, A., Olive, D. and Cantrell, D. A. (1996) CD28 signal transduction pathways. A comparison of B7-1 and B7-2 regulation of the MAP kinases: ERK2 and Jun kinases. *Molecular Immunology* **33**, 63-70.
- Guidato, S., Tsai, L.-H., Woodgett, J., and Miller, C.C.J. (1996) Differential cellular phosphorylation of neurofilament heavy side-arms by glycogen synthase kinase-3 and CDK-5. *J. Neurochem.* **66**, 1698-1706.
- Zanke, B., Boudreau, K., Rubie, E., Zon, L.I., Kyriakis, J.M., Liu, F.F. and Woodgett, J.R. (1996) The stress-activated protein kinase pathway mediates cell death following thermal injury. *Current Biology* **6**, 606-613.
- Cook, D., Fry, M.J., Hughes, K., Sumathipala, R., Woodgett, J.R. and Dale, T.C. (1996) Wingless inactivates glycogen synthase kinase-3 via an intracellular signalling pathway which involves a protein kinase C. *EMBO J.* **15**, 4526-4536.
- Kiefer, F., Tibbles, L.A., Anafi, M., Janssen, A., Zanke, B.W., Lassam, N., Pawson, T., Woodgett, J.R. and Iscove, N. (1996) HPK1, a hematopoietic protein kinase activating the SAPK/JNK pathway. *EMBO J.* **15**, 7013-7025.
- Tibbles, L.A., Ing, Y.L., Kiefer, F., Iscove, N., Woodgett, J.R. and Lassam, N. (1996) MLK-3 activates the SAPK/JNK and p38/RK pathways via SEK1 and MKK3/6. *EMBO J.* **15**, 7026-7035.
- Stambolic, V., Ruel, L. and Woodgett, J.R. (1996) Lithium inhibits glycogen synthase kinase-3 activity and mimics wingless signalling in intact cells. *Current Biology* **6**, 1664-1668.
- Zanke, B.W., Rubie, E.A., Winnett, E., Chan, J., Parsons, M., Boudreau, K., McGinnis, M., Yan, M., Templeton, D.J. and Woodgett, J.R. (1996) Mammalian MAP kinase pathways are regulated through formation of specific kinase : activator complexes *J. Biol. Chem.* **271**, 29876-29881.
- Natoli, G., Costanzo, A., Ianni, A., Templeton, D.J., Woodgett, J.R., Balsano, C. and Levrero, M. (1997) Activation of SAPK/JNK by TNF receptor 1 through a non-cytotoxic TRAF2-dependent pathway. *Science* **275**, 200-203.
- Nishina, H., Fischer, K.D., Radvanyi, L., Shahinian, A., Hakem, R., Rubie, E.A., Bernstein, A., Mak, T.W., Woodgett, J.R. and Penninger, J.M. (1997) The stress signaling kinase SEK1

protects thymocytes from CD95- and CD3-mediated apoptosis. *Nature* **385**, 350-353.

Shrode, L.D., Rubie, E.A., Woodgett, J.R. and Grinstein, S. (1997) Cytosolic alkalization increases SAPK (JNK) and p38 MAPK activity by a calcium-independent mechanism. *J. Biol. Chem.* **272**, 13653-13659.

Hansen, L., Viars, C.S., Rasmussen, S.B., Arden, K.C., Vestergaard, H., Hansen, T., Müller, A.M., Woodgett, J.R. and Pedersen, O. (1997) Chromosomal mapping and mutational analysis of the coding region of the glycogen synthase kinase-3 α and β isoforms in patients with non-insulin dependent diabetes mellitus. *Diabetologia* **40**, 940-946.

Nishina, H., Bachmann, M., Oliveiras-dos-Santos, A. J., Kozieradzki, I., Fischer, K.D., Odermatt, B., Wakeham, A., Shahinian, A., Takimoto, H., Bernstein, A., Mak, T.W., Woodgett, J.R., Ohashi, P.S. and Penninger, J.M. (1997) Impaired CD28-mediated IL2 production and proliferation in stress kinase SEK1/MKK4 deficient T lymphocytes. *J. Exp. Med.* **186**, 941-953.

Gutstein, H.B., Rubie, E.A., Mansour, A., Akil, H. and Woodgett, J.R. (1997) Opioid effects on protein kinase signalling cascades. *Anesthesiology* **87**, 1118-1126.

Brownlees, J., Irving, N.G., Brion, J.P., Gibb, B.J., Wagner, U., Woodgett, J.R. and Miller, C.C. (1997) Tau phosphorylation in transgenic mice expressing glycogen synthase kinase-3 β transgenes. *Neuroreport* **8**, 3251-3255.

Yao, Z., Diener, K., Wang, X.S., Zukowski, M., Matsumoto, G., Zhou, G., Mo, R., Tibbles, L.A., Sasaki, T., Nishina, H., Hui, C.C., Tan, T.-S., Woodgett, J.R. and Penninger, J. (1997) Activation of c-Jun N-terminal protein kinase by a novel mitogen-activated protein kinase kinase (MKK7). *J. Biol. Chem.* **272**, 32378-32383.

May, G.H.W., Funk, M., Black, E.J., Clark, W., Hussain, S., Woodgett, J.R. and Gillespie, D.A.F. (1998) An oncogenic mutation uncouples the v-Jun oncoprotein from positive regulation by the SAPK/JNK pathway *in vivo*. *Current Biology* **8**, 117-120.

Staveley, B.E., Ruel, L., Jin, J., Stambolic, V., Mastronardi, F.G., Heitzler, P., Woodgett, J.R. and Manoukian, A.S. (1998) Genetic analysis of the PKB/AKT cell survival pathway in *Drosophila*. *Current Biology* **8**, 599-602.

Delcommenne, M., Tan, C., Gray, V., Ruel, L., Woodgett, J.R. and Dedhar, S. (1998) Phosphoinositide-3-OH kinase-dependent regulation of GSK-3 and PKB/AKT by the integrin linked kinase (ILK). *Proc. Natl. Acad. Sci. USA* **95**, 11211-11216.

Plyte, S.E., O'Donovan, E., Woodgett, J.R. and Harwood, A.J. (1999) Glycogen synthase kinase-3 (GSK-3) is regulated during *Dictyostelium* development via the serpentine receptor cAR3. *Development* **126**, 325-333.

Nishina, H., Vaz, C., Billia, P., Zhang, L., Nghiem, M., Sasaki, T., Furlonger, K., Paige, C., Hui, C., Fischer, K.-D., Kishimoto, H., Iwatsubo, T., Katada, T., Woodgett, J.R. and Penninger, J.M.

(1999) Defective liver formation and massive liver cell apoptosis in mice lacking the stress signalling kinase SEK1/MKK4. *Development* **126**, 505-516.

Nishimura, M., Yu, G., Levesque, G., Zhang, D.M., Ruel, L., Chen, F., Millman, P., Holmes, E., Liang, Y., Kawarai, T., Jo, E., Supala, E., Westaway, D., Mount, H.T.J., Woodgett, J.R., Fraser, P.E. and St. George-Hyslop, P. (1999) Presenilin mutations associated with Alzheimer disease cause defective intracellular trafficking of β -catenin - a component of the presenilin protein complex. *Nature Medicine* **5**,164-169.

Wang, Q., Somwar, R., Bilan, P.J., Liu, Z., Jin, J., Woodgett, J.R. and Klip, A. (1999). Protein kinase B/Akt participates in GLUT4 translocation by insulin in L6 myoblasts. *Mol. Cell. Biol.* **19**, 4008-4018.

Lee, S.T., Hoeflich, K.P., Wasfy, G.W., Woodgett, J.R., Leber, B., Andrews, D.W., Hedley, D.W. and Penn, L.Z. (1999) Bcl-2 targeted to the endoplasmic reticulum can inhibit apoptosis induced by Myc but not etoposide in Rat-1 fibroblasts. *Oncogene* **18**, 3520-3528.

Al-Murani, S.W.K., Woodgett, J.R. and Damuni, Z. (1999) Expression of I2PP2A, an inhibitor of protein phosphatase 2, induces c-Jun and AP-1 activity. *Biochem. J.* **341**, 293-298.

Cannon, J.L., Hoeflich, K.P., Woodgett, J. R. and Watts, T.H. (1999) Role of the stress kinase pathway in signaling via the T cell costimulatory receptor 4-1BB. *J. Immunology* **163**, 2990-2998.

Hoeflich, K. P., Yeh, W-C., Yao, Z., Mak, T.W. and Woodgett, J.R. (1999) Mediation of TNF receptor-associated factor effector functions by apoptosis signal-regulating kinase-1 (ASK1). *Oncogene* **18**, 5814-5820.

Jones, R.G., Parsons, M., Bonnard M., Chan V.S., Yeh, W.C., Woodgett, J. R. and Ohashi, P.S. (2000) Protein kinase B regulates T lymphocyte survival, nuclear factor- κ B activation, and Bcl-X(l) levels *in vivo*. *J. Exp. Med.* **191**, 1721-1734.

Ohteki, T., Parsons, M., Zakarian, A., Jones, R.G., Nguyen, L.T., Woodgett, J. R. and Ohashi, P.S. (2000) Negative regulation of T cell proliferation and interleukin-2 production by the serine threonine kinase, GSK-3. *J. Exp. Med.* **192**, 99-104.

Hoeflich, K.P., Luo, J., Rubie, E.A., Tsao, M.-S., Jin, O. and Woodgett, J.R. (2000) Requirement for glycogen synthase kinase-3 β in cell survival and NF- κ B activation. *Nature* **406**, 86-90.

Scanga, S.E., Ruel, L., Binari, R.C., Snow, B., Stambolic, V., Bouchard, D., Peters, M., Calvieri, B., Mak, T.W., Woodgett, J.R. and Manoukian, A.S. (2000) The conserved PI3'K/PTEN/Akt signaling pathway regulates both cell size and survival in *Drosophila*. *Oncogene* **19**, 3971-3977.

Haq, S., Choukroun, G., Kang, Z.B., Ranu, H., Matsui, T., Rosenzweig, A., Molkenin, J.D., Alessandrini, A., Woodgett, J., Hajjar, R., Michael, A. and Force, T. (2000) Glycogen synthase kinase-3 β is a negative regulator of cardiomyocyte hypertrophy. *J. Cell. Biol.* **151**, 117-130.

- Xavier, I.J., Mercier, P.A., McLoughlin, C.L., Ali, A., Woodgett, J.R. and Ovsenek, N. (2000) Glycogen synthase kinase-3 β negatively regulates both DNA binding and transcriptional activities of heat shock factor 1. *J. Biol. Chem.* **275**, 29147-29152.
- Lee, H.Y., Suh Y., Robinson, M.J., Clifford, J.L., Hong, W.K., Woodgett, J.R., Cobb, M.H., Mangelsdorf, D.J., and Kurie, J.M. (2000) Stress pathway activation induces phosphorylation of retinoid X receptor. *J. Biol. Chem.* **275**, 32193-32199.
- Fang, X., Lu, Y., Yu, S.X., Lu, Y., Bast, R.C., Woodgett, J.R. and Mills, G.B. (2000) Phosphorylation and inactivation of glycogen synthase kinase-3 by both protein kinase A and protein kinase B. *Proc. Natl. Acad. Sci. USA* **97**, 11960-11965.
- Ogimoto, M., Arimura, Y., Katagiri, T., Mitomo, K., Woodgett, J.R., Nebreda, A.R., Mizuno, K. and Yakura, H. (2001) Opposing regulation of B cell receptor-induced activation of mitogen-activated protein kinases by CD45. *FEBS Lett.* **490**, 97-101.
- Hutchinson, J., Jin, J., Cardiff, R.D., Woodgett, J.R. and Muller, W.J. (2001) Activation of Akt (protein kinase B) in mammary epithelium provides a critical cell survival signal required for tumor progression. *Mol. Cell. Biol.* **21**, 2203-2212.
- Yarwood, S.J. and Woodgett, J.R. (2001) Extra-cellular matrix composition determines the transcriptional response to epidermal growth factor receptor activation. *Proc. Natl. Acad. Sci. USA* **98**, 4472-4477.
- Diao, J., Khine, A.A., Sarangi, F., Hsu, E., Iorio, C., Tibbles, L.A., Woodgett, J.R., Penninger, J. and Richardson, C.D. (2001) X protein of Hepatitis B virus inhibits Fas-mediated apoptosis and is associated with upregulation of the SAPK/JNK pathway. *J. Biol. Chem.* **276**, 8328-8340.
- Gillis, D., Shrode, L.D., Krump, E., Howard, C.M., Rubie, E.A., Tibbles, L.A., Woodgett, J. and Grinstein, S. (2001) Osmotic stimulation of the Na⁺/H⁺ exchanger NHE1: relationship to the activation of three MAPK pathways. *J. Membr. Biol.* **181**, 205-214.
- Parsons, M.J., Jones, R.G., Tsao, M.-S., Odermatt, B., Ohashi, P. and Woodgett, J.R. (2001) Expression of active PKB in T cells perturbs both T and B cell homeostasis and promotes inflammation. *J. Immunol.* **167**, 42-48.
- Ma, N., Jin, J., Lu, F., Woodgett, J., Liu, F. (2001) The role of protein kinase B (PKB) in modulating heat sensitivity in a human breast cancer cell line. *Int. J. Radiat. Oncol. Biol. Phys.* **50**, 1041-1050.
- Jin, J., Anthopoulos, N., Wetsch, B., Binari, R.C., Isaac, D.D., Andrew, D.J., Woodgett, J.R., Manoukian, A.S. (2001) Regulation of *Drosophila* tracheal system development by protein kinase B. *Dev. Cell* **1**, 817-827.

Cheng, H-Y.M., Pitcher, G.M., Laviolette, S.R., Wishaw, I.Q., Tong, K.I. Kockeritz, L.K., Goncalves, J., Sarosi, I., Wada, T., Joza, N.A., Woodgett, J.R., Ikura, M., van der Kooy, D., Salter, M.W. and Penninger, J.M. (2002) Identification of DREAM as a critical transcription repressor for pain modulation. *Cell* **108**, 31-43.

Leroy, K., Boutajangout, A., Authelet, M., Woodgett, J.R., Anderton, B.H. and Brion, J.-P. (2002) The active form of glycogen synthase kinase-3 β is associated with granulovacuolar degeneration in neurons in Alzheimer's disease. *Acta Neuropathologica* **103**, 91-99.

Fang, X., Yu, S., Tanyi, Y.L., Lu, Y., Kazlauskas, A., Woodgett, J.R., and Mills, G.B. (2002) Convergence of multiple signaling cascades at glycogen synthase kinase 3: Edg receptor-mediated phosphorylation and inactivation by lysophosphatidic acid through a protein kinase C-dependent intracellular pathway. *Mol. Cell. Biol.* **22**, 2099-2110.

Wigle, D.A., Jurisica, I., Radulovich, N., Rossant, J., Pintilie, M., Lu, N., Lu, C., Woodgett, J., Seiden, I., Johnston, M., Keshavjee, S., Darling, G., Winton, T., Breikreutz, B.J., Jorgenson, P., Tyers, M., Shepard, F.A. and Tsao, M.S. (2002) Molecular profiling of disease-free survival in non-small cell lung cancer. *Cancer Research* **62**, 3005-3008.

Jones, R.G., Elford, A.R., Parsons, M.J., Wu, L., Krawczyk, C.M., Yeh, W.-C., Hakem, R., Rottapel, R., Woodgett, J.R. and Ohashi, P. (2002) CD28-dependent activation of protein kinase B/Akt blocks fas-mediated apoptosis by preventing death-inducing signaling complex assembly. *J. Exp. Med.* **196**, 335-348.

Scheid, M.P. Marignani, P.A. and Woodgett, J. R. (2002) Multiple phosphoinositide 3-kinase-dependent steps in the activation of protein kinase B. *Mol. Cell. Biol.* **22**, 6247-6260.

Claudio, J.O., Masih-Khan, M., Tang, H., Goncalves, J., Voralia, M., Li, Z.H., Nadeem, V., Cukerman, E., Francisco-Pabalan, O., Liew, C.C., Woodgett, J.R. and Stewart, A.K. (2002) A molecular compendium of genes expressed in multiple myeloma. *Blood* **100**, 2175-2186.

Wen, H. C., Huang, W.C., Ali, A., Woodgett, J.R. and Lin, W.W. (2003) Negative regulation of phosphatidylinositol 3-kinase and Akt signalling pathway by PKC. *Cell Signal* **15**, 37-45.

Preston, T.J., Woodgett, J.R. and Singh, G. (2003) JNK1 activity lowers the cellular production of H₂O₂ and modulates the growth arrest response to scavenging of H₂O₂ by catalase. *Exp. Cell Res.* **285**, 146-158.

Barthwal, M.K., Sathyanarayana, P., Kundu, C.N., Rana, B., Pradeep, A., Sharma, C., Woodgett, J.R. and Rana, A. (2003) Negative regulation of mixed lineage kinase 3 (MLK3) by protein kinase B (AKT) leads to cell survival. *J. Biol. Chem.* **278**, 3897-3902.

Haq, S., Michael, A., Andreucci, M., Dotto, P., Woodgett, J., Kilter, H. and Force, T. (2003) Novel regulation of β -catenin and its role in hypertrophic growth of cardiomyocytes. *Proc. Natl. Acad. Sci. USA* **100**, 4610-4615.

- Ma, N., Szmitko, P., Brade, A., Chu, I., Lo, A., Woodgett, J., Klamut, H. and Liu, F.F. (2004) Kinase-dead PKB gene therapy combined with hyperthermia for human breast cancer. *Int. J. Rad. Res.* **11**, 52-60.
- Hutchinson, J.N., Jin, J., Cardiff, R.D., Woodgett, J.R. and Muller, W.J. (2004) Activation of Akt-1 (PKB α) can accelerate ErbB-2-mediated mammary tumorigenesis but suppresses tumor invasion. *Cancer Research* **64**, 3171-3178.
- Beaulieu, J.M., Sotnikova, T.D., Yao, W.D., Kockeritz, L., Woodgett, J.R., Gainetdinov, R.R. and Caron, M.G. (2004) Lithium antagonizes dopamine-dependent behaviors mediated by an AKT/glycogen synthase kinase-3 signaling cascade. *Proc. Natl. Acad. Sci. USA* **101**, 5099-5104.
- O' Brien, W.T., DeAra Harper, A., Jové, F., Woodgett, J.R., Maretto, S., Piccolo, S., Fuchs, E. and Klein, P.S. (2004) Glycogen synthase kinase-3 β haploinsufficiency mimics the behavioral and molecular effects of lithium. *J. Neurosci.* **24**, 6791-6798.
- Jin, J., Smith, F.D., Stark, C., Wells, C.D., Fawcett, J.P., Kulkarni, S., Metalnikov, P., O'Donnell, P., Taylor, P., Taylor, L., Zougman, A., Woodgett, J.R., Langeberg, L.K., Scott, J.D. and Pawson, T. (2004) Proteomic, functional, and domain-based analysis of *in vivo* 14-3-3 binding proteins involved in cytoskeletal regulation and cellular organization. *Current Biology* **14**, 1436-1450.
- Liu, S., Yu, S., Hasegawa, Y., LaPushin, R., Xu, H.J., Woodgett, J.R., Mills, G.B. and Fang, X. (2004) Glycogen synthase kinase 3 β is a negative regulator of growth factor-induced activation of the c-Jun N-terminal kinase. *J. Biol. Chem.* **279**, 51075-51081.
- Scheid, M.P., Parsons, M. and Woodgett, J.R. (2005) Phosphoinositide-dependent phosphorylation of PDK1 regulates nuclear translocation. *Mol. Cell. Biol.* **25**, 2347-2363.
- Takahashi, M., Grant, D., Chang, A., Ritter, J., Goncalves, J., Woodgett, J.R. and Cole, J. (2005) Cardioprotective stress response in the human fetal heart. *J. Thoracic & Cardiovascular Surgery* **129**, 1128-1136.
- Heisler, L.E., Torti, D., Boutros, P.C., Watson, J., Chan, C., Winegarden, N., Takahashi, M., Yau, P., Huang, T. H. -M., Farnham, P.J., Jurisica, I., Woodgett, J.R., Bremner, R., Penn, L.Z. and Der, S.D. (2005) CpG Island microarray probe sequences derived from a physical library are representative of CpG Islands annotated on the human genome. *Nucl. Acids Res.* **33**, 2952-2961.
- Jin, J. and Woodgett, J.R. (2005) Chronic activation of protein kinase B β /Akt2 leads to multinucleation and cell fusion: events associated with tumorigenesis. *Oncogene* **24**, 5459-5470.
- Salahshor, S., Goncalves, J., Chetty, R., Gallinger, S. and Woodgett, J. R. (2005) Pregnancy specific β 1 glycoprotein 9 deregulation in colorectal cancer occurs prior to β -catenin nuclear accumulation and is associated with tumour progression. *BMC Oncology* **5**, 66.
- Jones, R.G., Saibil, S., Pun, J.M., Elford, A.R., Bonnard, M., Pelligrini, M., Arya, S., Parsons,

M.J., Krwczyk, C.M., Gerondakis, S., Yeh, W.C., Woodgett, J.R., Boothby, M.R. and Ohashi, P.S. (2005) NF- κ B couples protein kinase B/Akt signaling to distinct survival pathways and the regulation of lymphocyte homeostasis *in vivo*. *J. Immunology* **175**, 3790-3799.

Zeng, X., Tamai, K., Doble, B., Li, S., Huang, H., Habas, R., Okamura, H., Rao, A., Woodgett, J. and He, X. (2005) A dual kinase mechanism for Wnt coreceptor phosphorylation and activation. *Nature* **438**, 873-877.

Bain, J., Bain, J., Goncalves, J., Michalski, B., Plant, P., Fahnestock, M. and Woodgett, J. (2006) Gene expression profiling of long term denervated muscle. *FASEB J.* **20**, 115-124.

Runjan Chetty, R., Serra, S., Salahshor, S., Alsaad, K., Shih, W., Blaszyk, H., Woodgett, J.R. and Tsao, M.-S. (2006) Expression of Wnt signaling pathway proteins in intraductal papillary mucinous neoplasms of the pancreas: a tissue microarray analysis. *Human Pathology* **37**, 212-217.

Hu, X., Paik, P.K., Chen, J., Yarinina, A., Kockeritz, L., Lu, T.T., Woodgett, J.R. and Ivashkiv, L.B. (2006) IFN- γ suppresses IL-10 production and synergizes with TLR2 by regulating GSK3 and CREB/AP-1 proteins. *Immunity* **24**, 563-574.

Tessier, M. and Woodgett, J.R. (2006) Role of the PX domain and phosphorylation in activation of serum and glucocorticoid-regulated kinase-3. *J. Biol. Chem.* **281**, 23978-23989.

Kim, W.Y., Zhou, F.-Q., Zhou, J., Yokota, Y., Wang, Y.-M., Yoshimura, T., Kaibuchi, K., Woodgett, J.R., Anton, E. S. and Snider, W.D. (2006) Essential roles for GSK-3s and GSK-3 primed substrates in neurotrophin-induced and hippocampal axon growth. *Neuron* **52**, 981-996.

Kaladchibachi, S.A., Doble, B., Anthopoulos, N., Woodgett, J.R. and Manoukian, A.S. (2007) Glycogen synthase kinase 3, circadian rhythms, and bipolar disorder: a molecular link in the therapeutic action of lithium. *J. Circadian Rhythms* **12**, 3-10.

Saibil, S.D., Jones, R.G., Deenick, E.K., Liadis, N., Elford, A.R., Vainberg, M.G., Baerg, H., Woodgett, J.R., Gerondakis, S. and Ohashi, P.S. (2007) CD4+ and CD8+ T cell survival is regulated differentially by protein kinase C θ , c-Rel, and protein kinase B. *J. Immunol.* **178**, 2932-2939.

Wei, Q., Yokota, C., Semenov, M.V., Doble, B., Woodgett, J. and He, X. (2007) R-spondin1 is a high affinity ligand for LRP6 and induces LRP6 phosphorylation and β -catenin signaling. *J. Biol. Chem.* **282**, 15903-15911.

Doble, B., Patel, S., Wood, G.A., Kockeritz, L.K. and Woodgett, J.R. (2007) Functional redundancy of GSK-3 α and β in Wnt/ β -catenin signaling in an allelic series of embryonic stem cell lines. *Developmental Cell* **12**, 957-971.

Linding, R., Jensen, L.J., Ostheimer, G.J., van Vugt, M.A.T.M., Jørgensen, C., Miron, I.M., Diella, F., Colwill, K., Taylor, L., Elder, K., Metalnikov, P., Nguyen, V., Pasculescu, A., Jin, J., Park, J.G., Samson, L.D., Woodgett, J.R., Russell, R.B., Bork, P., Yaffe, M.B. and Pawson, T.

- (2007) Systematic discovery of *in vivo* phosphorylation networks. *Cell* **129**, 1415-1426.
- Kugimiya, F., Ohba, S., Kawamura, N., Woodgett, J.R., Nakamura, K., Kawaguchi, H. and Chung, U.I. (2007) GSK-3 β controls osteogenesis through regulating Runx2 activity. *PLoS ONE* **2**, e837.
- MacAulay, K., Doble, B.W., Patel, S., Hansotia, T., Sinclair, E.M., Drucker, D.J., Nagy, A. and Woodgett, J.R. (2007) Glycogen synthase kinase-3 α -specific regulation of hepatic glycogen metabolism. *Cell Metabolism* **6**, 329-337.
- Mishra, R., Barthwal, M.K., Sondarva, G., Rana, B., Wong, L., Chatterjee, M., Woodgett, J.R. and Rana, A. (2007) Glycogen synthase kinase-3 β induces neuronal cell death via direct phosphorylation of mixed-lineage kinase 3. *J. Biol. Chem.* **282**, 30393-30405.
- Zeng, X., Huang, H., Tamai, K., Zhang, X., Harada, Y., Yokota, C., Almeida, K., Wang, J., Doble, B., Woodgett, J., Wynshaw-Boris, A., Hsieh, J.C. and He, X. (2008) Initiation of Wnt signaling: control of Wnt coreceptor LRP6 phosphorylation/activation via frizzled, disheveled and axin functions. *Development* **135**, 367-375.
- Tanabe, K., Liu, Z., Patel, S., Doble, B.W., Li, L., Cras-Méneur, C., West, S.M., Welling, C.M., White, M.F., Bernal-Mizrachi, E., Woodgett, J.R. and Permutt, M.A. (2008) Genetic deficiency of glycogen synthase kinase-3 β corrects diabetes in mouse models of insulin resistance. *PLoS Biology* **6**, e37.
- Salahshor, S., Naidoo, R., Serra, S., Shih, W., Tsao, M.-S., Chetty, R. and Woodgett, J.R. (2008) Frequent accumulation of nuclear E-cadherin and alterations in the Wnt signaling pathway in esophageal squamous cell carcinomas. *Modern Pathology*, **21**, 271-281.
- Liu, S., Fang, X., Hall, H., Yu, S., Smith, D., Lu, Z., Fang, D., Liu, J., Stephens, L.C., Woodgett, J.R. and Mills, G. B. (2008) Homozygous deletion of glycogen synthase kinase-3 β bypasses senescence, allowing Ras transformation of primary murine fibroblasts. *Proc. Natl. Acad. Sci. USA* **105**, 5248-5253.
- Vasdev, N., Laronde, F.J., Woodgett, J.R., Garcia, A., Rubie, E.A., Meyer, J.H., Houle, S. and Wilson, A.A. (2008) Rationally designed PKA inhibitors for positron emission tomography: Synthesis and cerebral biodistribution of N-(2-(4-bromocinnamylamino)ethyl)-N-[(11)C]methyl-isoquinoline-5-sulfonamide. *Bioorg. Med. Chem.* **16**, 5277-5284.
- Bersudsky, Y., Shaldubina, A., Kozlovsky, N., Woodgett, J.R., Agam, G. and Belmaker, R.H. (2008) Glycogen synthase kinase-3 β heterozygote knockout mice as a model of findings in postmortem schizophrenia brain or as a model of behaviors mimicking lithium action: negative results. *Behav. Pharmacol.* **19**, 217-224.

Ying, Q.-L., Wray, J., Nichols, J., Silva, J., Battle-Morera, L., Doble, B., Woodgett, J., Cohen, P. and Smith, A. (2008) The ground state of embryonic stem cell self-renewal. *Nature* **453**, 519-523.

Kawasaki, Y., Kugimiya, F., Chikuda, H., Kamekura, S., Ikeda, T., Kawamura, N., Saito, T., Shinoda, Y., Higashikawa, K., Yano, F., Ogasawara, T., Ogata, N., Hoshi, K., Hofmann, F., Woodgett, J.R., Nakamura, K., Chung, U. and Kawaguchi, H. (2008) Phosphorylation of GSK-3 β by cyclic GMP-dependent protein kinase II promotes chondrocyte hypertrophy and skeletal growth. *J. Clin. Invest.* **118**, 2506-2515.

Patel, S., Doble, B.W., MacAulay, K., Sinclair, E.M., Drucker, D.J. and Woodgett, J.R. (2008) Tissue-specific role of glycogen synthase kinase-3 β in insulin action. *Mol. Cell. Biol.* **28**, 6314-6328.

Kerkela, R., Kockeritz, L., MacAulay, K., Zhou, J., Doble, B.W., Beahm, C., Greytak, S., Woulfe, K., Trivedi, C.M., Woodgett, J.R., Epstein, J.A., Force, T. and Huggins, G.S. (2008) Glycogen synthase kinase-3 β (GSK-3 β), but not GSK-3 α , is necessary for heart development. *J. Clin. Invest.* **118**, 3609-3618.

Shen, F., Li, N., Gade, P., Kalvakolanu, D.V., Weibley, T., Doble, B., Woodgett, J.R., Wood, T.D. and Gaffen, S.L. (2009) IL-17 receptor signaling negatively regulates C/EBP β by sequential phosphorylation of the regulatory 2 domain. *Science Signaling* **2**, ra8.

Noh, T., Gabet, T., Cogan, J., Shi, Y., Tank, A., Sasaki, T., Criswell, B., Dixon, A., Lee, C., Tam, J., Kohler, T., Segev, E., Kockeritz, L., Woodgett, J., Müller, R. Chai, Y., Smith, E., Bab, I. and Frenkel, B. (2009) The Wnt pathway controls peak bone mass accrual in a gender-specific manner: androgen signaling protects against Lef1 haploinsufficiency-induced bone loss. *PLoS ONE* e5438.

Dillon, R.L., Marcotte, R., Hennessy, B.T., Woodgett, J.R., Mills, G.B. and Muller, W.J. (2009) Akt1 and Akt2 play distinct roles in the initiation and metastatic phases of mammary tumor progression. *Cancer Research* **69**, 5057-5064.

Kim, W.-Y., Wang, X., Wu, Y., Doble, B., Patel, S., Woodgett, J.R. and Snider, W. (2009) GSK-3 is a master regulator of neural progenitor homeostasis. *Nature Neuroscience* **12**, 1390-1397.

Kaidanovich-Beilin, O., Lipina, T.V., Keizo, T., van Eede, M., Satoko, H., Laliberté, C., Khan, M., Okamoto, K., Chambers, J., Flether, P., MacAulay, K., Doble, B., Henkelman, R.M., Miyakawa, T., Roder, J. and Woodgett, J.R. (2009) Abnormalities in brain structure and behavior in GSK-3 α mutant mice. *Molecular Brain* **2**, 35.

Rao, R., Patel, S., Hao, C., Woodgett, J. and Harris, R. (2010) Glycogen synthase kinase 3 β regulates renal response to vasopressin by modulating adenylate cyclase activity. *J. Am. Soc. Nephrol.* **21**, 428-437.

Woulfe, K.C., Gao, E., Lal, H., Harris, D., Fan, Q., Vagnozzi, R., DeCaul, M., Shang, X., Patel, S., Woodgett, J.R., Force, T. and Zhou, J. (2010) GSK-3 β regulates post myocardial infarction remodeling and stress-induced cardiomyocyte proliferation *in vivo*. *Circulation Research* **106**, 1635-1645.

Zhou, J., Lal, H., Chen, X., Shang, X., Song, J., Li, Y., Kerkela, R., Doble, B.W., MacAulay, K., DeCaul, M., Koch, W.J., Farber, J., Woodgett, J., Gao, E. and Force, T. (2010) GSK-3 α directly regulates β -adrenergic signaling and the heart's response to hemodynamic stress in mice. *J. Clinical Investigation*. **120**, 2280-2291.

Liang, W., Oudit, G.Y., Patel, M.M., Farman, G.P., Shah, A.M., Woodgett, J.R., Tsushima, R.G., Ward, M.E. and Backx, P.H. (2010) Dual inotropic effects of angiotensin II on mouse myocardium involve phosphoinositide-3 kinase α , protein kinase C and L-type Ca²⁺ channels. *Hypertension* **56**, 422-429.

Liu, Y., Tanabe, K., Baronnier, D., Patel, S., Woodgett, J., Cras-Méneur, C. and Permutt, M.A. (2010) Conditional ablation of Gsk-3 in islet beta cells results in expanded mass and resistance to fat-feeding diabetes. *Diabetologia* **53**, 2600-2610.

Radulescu, S., Ridgway, R.A., Appleton, P., Kroboth, K., Patel, S., Woodgett, J., Taylor, S., Näthke, I.S. and Sansom, O.J. (2010) Defining the role of APC in the mitotic spindle checkpoint *in vivo*: APC deficient cells are resistant to Taxol. *Oncogene* **29**, 6418-6427.

Song, B., Lai, B., Zheng, Z., Zhang, Y., Luo, J., Wang, C., Chen, Y., Woodgett, J.R. and Li, M. (2010) Inhibitory phosphorylation of GSK-3 by CaMKII couples depolarization to neuronal survival. *J. Biol. Chem.* **285**, 41122-41134.

Ahmad, I., Morton, J.P., Singh, L.B., Radulescu, S.M., Ridgway, R.A., Patel, S., Woodgett, J., Winton, D.J., Taketo, M.M., Wu, X.-R., Leung, H.Y. and Sansom, O.J. (2011) β -catenin activation synergises with PTEN loss to cause bladder cancer formation. *Oncogene* **30**, 178-189.

Patel, S., Macaulay, K. and Woodgett, J. R. (2011) Tissue-specific analysis of glycogen synthase kinase-3 (GSK-3) alpha in glucose metabolism: effect of strain variation. *PLoS ONE* **6**, e15845.

Lipina, T.V., Kaidanovich-Beilin, O., Clapcote, S.J., Chambers, J., Fletcher, P.J., Seeman, P., Woodgett, J.R. and Roder, J.C. (2011) Dopaminergic supersensitivity in mutant Disc1 mice involves GSK-3 signaling. *Synapse* **65**, 234-248.

Kaidanovich-Beilin, O., Lipina, T., Vukobradovic, I., Roder, J. and Woodgett, J.R. (2011) Assessment of social interaction behaviors. *Journal of Visualized Experiments* pii: 2473.

Gillespie, J.R., Ulici, V., Dupuis, H., Higgs, A., Dimattia, A., Patel, S., Woodgett, J.R. and Beier, F. (2011) Skeleton-specific ablation of the *Gsk3b* gene represses growth despite promotion of Wnt/ β -catenin signalling in cartilage and bone. *Endocrinology* **152**, 1755-1766.

Alon, L.T., Pietrokovski, S., Barkan, S., Avrahami, L., Kaidanovich-Beilin, O., Woodgett, J.R., Barnea, A. and Eldar-Finkelman, H. (2011) Selective loss of glycogen synthase kinase-3alpha in birds reveals distinct roles for GSK-3 isozymes in tau phosphorylation. *FEBS Lett.* **585**, 1158-1162.

Lee, F.H.F., Kaidanovich-Beilin, O., Roder, J.C., Woodgett, J.R. and Wong, A.H.C. (2011) Genetic inactivation of GSK3alpha rescues spine deficits in Disc1-L100P mutant mice. *Schizophrenia Research* **129**, 74-79.

Jaworski, T., Dewachter, I., Lechat, B., Gees, M., Kremer, A., Demedts, D., Borghgraef, P., Devijver, H., Kügler, S., Patel, S., Woodgett, J.R. and Van Leuven, F. (2011) GSK3 α/β kinases and amyloid production *in vivo*. *Nature* **480**, E4-5.

Lal, H., Zhou, J., Ahmad, F., Zaka, R., Vagnozzi, R.J., Decaul, M., Woodgett, J., Gao, E. and Force, T. (2012) GSK-3 α limits ischemic injury, cardiac rupture, post-myocardial infarction remodeling and death. *Circulation* **125**, 65-75.

Hicks, J.W., Wilson, A.A., Rubie, E.A., Woodgett, J.R., Houle, S. and Vasdev, N. (2012) Towards the preparation of radiolabeled 1-aryl-3-benyl ureas: Radiosynthesis of [(11)C-carbonyl] AR-A014418 by[(11)C]CO(2) fixation. *Bioorg. Med. Chem. Lett.* **22**, 2099-2101.

Zhou, W., Chen, L., Paul, J., Yang, S., Li, F., Sampson, K., Woodgett, J.R., Beaulieu, J.M., Gamble, K.L. and Li, X. (2012) The effects of glycogen synthase kinase-3 beta in serotonin neurons. *PLoS ONE* **7**, e43262.

Gulen, M.F., Bulek, K., Xiao, H., Yu, M., Gao, J., Sun, L., Beurel, E., Kaidanovich-Beilin, O., Fox, P.L., Dicorleto, P.E., Wang, J.A., Qin, J., Wald, D.N., Woodgett, J.R., Jope, R.S., Carman, J., Dongre, A. and Li, X. (2012) Inactivation of the Enzyme GSK3alpha by the Kinase IKKi Promotes AKT-mTOR Signaling Pathway that Mediates Interleukin-1-Induced Th17 Cell Maintenance. *Immunity* **37**, 800-812.

Howard, C., Tao, S., Yang, H.C., Fogo, A.B., Woodgett, J.R., Harris, R.C. and Rao, R. (2012) Specific deletion of glycogen synthase kinase-3 β in the renal proximal tubule protects against acute nephrotoxic injury in mice. *Kidney International* **82**, 1000-1009.

Jones, K., Wei, C., Iakova, P., Bugiardini, E., Schneider-Gold, C., Meola, G., Woodgett, J., Killian, J., Timchenko, N.A. and Timchenko, L.T. (2012) GSK-3beta is a key determinant of muscle pathology in DM1. *J. Clin. Invest.* **122**, 4461-4472.

Ly, P.T., Wu, Y., Zou, H., Wang, R., Zhou, W., Kinoshita, A., Zhang, M., Yang, Y., Cai, F., Woodgett, J. and Song, W. (2013) Inhibition of GSK-3beta mediated BACE-1 expression reduces Alzheimer-associated phenotypes. *J. Clin. Invest.* **123**, 224-235.

Kurpios, N.A., Girgis-Gabardo, A., Hallett, R.M., Rogers, S., Gludish, D.W., Kockeritz, L., Woodgett, J., Cardiff, R. and Hassell, J.A. (2013) Single unpurified breast tumor-initiating cells

from multiple mouse models efficiently elicit tumors in immune competent hosts. *PLoS One* **8**, e58151

Radulescu, S., Ridgway R.A., Cordero, J., Athineos, D., Salgueiro, P., Poulsom, R., Neumann, J., Jung, A., Patel, S., Woodgett, J., Barker, N., Pritchard, D.M., Oien, K. and Sansom, O.J. (2013) Acute WNT signalling activation perturbs differentiation within the adult stomach and rapidly leads to tumour formation. *Oncogene* **32**, 2048-2057.

Zhou, J., Freeman, T.A., Ahmad, F., Shang, X., Mangano, E., Gao, E., Farber, J., Wang, Y., Ma, X.L., Woodgett, J., Vagnozzi, R.J., Lal, H. and Force, T. (2013) GSK-3 α is a central regulator of age-related pathologies in mice. *J. Clin. Invest.* **123**, 1821-1832.

Itoh, S., Saito, T., Hirata, M., Ushita, M., Ikeda, T., Woodgett, J.R., Algül, H., Schmid, R.M., Chung, U.I. and Kawaguchi, H. (2013) GSK-3 α and GSK-3 β are involved in early stages of chondrocyte differentiation with functional redundancy through RelA phosphorylation. *J. Biol. Chem.* **287**, 29227-29236.

Beurel, E., Kaidanovich-Beilin, O., Yeh, W.-I., Song, L., Palomo, V., Michalek, S.M., Woodgett, J.R., Harrington, L.E., Eldar-Finkelman, H., Martinez, A. and Jope, R.S. (2013) Regulation of Th1 cells and experimental autoimmune encephalomyelitis (EAE) by glycogen synthase kinase-3. *J. Immunol.* **190**, 5000-5011.

Holowacz, T., Alexson, T.O., Coles, B.L., Doble, B.W., Kelly, K.F., Woodgett, J. R. and van der Kooy, D. (2013) The responses of neural stem cells to the level of GSK-3 depend on the tissue of origin. *Biology Open* **2**, 812-821.

Gillespie, J.R., Bush, J.R., Bell, G.I, Aubrey, L.A., Ferron, M., Kream, B., DiMattia, G., Patel, S., Woodgett, J.R., Karsenty, G., Hess, D.A. and Beier, F. (2013) GSK-3 β function in bone regulates skeletal development, whole body metabolism and male life span. *Endocrinology* **154**, 3702-3718.

Ling, L., Voskas, D. and Woodgett, J.R. (2013) Activation of phosphatidylinositol 3' kinase pathway components in embryonic stem cells maintains pluripotency. *Oncogene* **32**, 5397-5408.

Ahmad, F., Lal, H., Zhou, J., Vagnozzi, R.J., Yu, J.E., Shang, X., Woodgett, J.R., Gao, E. and Force, T. (2014) Cardiomyocyte-specific deletion of Gsk3 α mitigates post-myocardial infarction remodeling, contractile dysfunction, and heart failure. *J. Am. Coll. Cardiol.* **64**, 696-706.

Ka, M., Condorelli, G., Woodgett, J.R. and Kim, W.-Y. (2014) mTOR regulates brain morphogenesis by mediating GSK-3 signaling. *Development* **141**, 4076-4086.

Liz, M.A., F.M., Santos, T.E., Pimentel, H.I., Marques, A.M., Vieira, S., Sousa, V.F., Pemble, H., Wittmann, T., Sutherland, C., Woodgett, J.R. and Sousa, M.M. (2014) Neuronal deletion of GSK3 β increases microtubule dynamics in the growth cone and enhances axon regeneration through the glial scar, via modulation of CRMP-2 activity and independently of MAP1B and CLASP2. *BMC Biology* **12**, 47

Lal, H., Ahmad, F., Zhou, J., Yu, J.E., Vagnozzi, R.J., Guo, Y., Yu, D., Tsai, E.J., Woodgett, J., Gao, E. and Force, T. (2014) Cardiac fibroblast GSK-3 β regulates ventricular remodeling and dysfunction in ischemic heart. *Circulation* **130**, 419-430.

Dembowy, J., Adissu, H.A., Liu, J.C., Zacksenhaus, E. and Woodgett, J.R. (2015) Effect of glycogen synthase kinase-3 inactivation on mouse mammary gland development and oncogenesis. *Oncogene* **34**, 3514-3526.

Khan, K.A., Do, F., Marineau, A., Doyon, P., Clement, J-F., Woodgett, J.R., Doble, B.W. and Servant, M.J. (2015) Fine-tuning of the RIG-I like Receptors/IRF3-dependent antiviral innate immune response by the GSK-3/ β -catenin pathway. *Mol. Cell. Biol.* **35**, 3029-3043.

Tao, S., Kakade, V.R., Woodgett, J.R., Pandey, P., Suderman, E.D., Rajagopal, M. and Rao, R. (2015). Glycogen synthase kinase-3 β promotes cyst expansion in polycystic kidney disease. *Kidney International* **87**, 1164-1175.

Nørregaard, R., Tao, S., Nilsson, L., Woodgett, Yu, A.S.L., Howard, C. and Rao, R. (2015) Glycogen synthase kinase 3 α regulates urine concentrating mechanism in mice. *Am. J. Physiol.* **308**, F650-660.

Wright, K.L., Adams, J.R., Liu, J.C., Loch, A.J., Wong, R.G., Jo, C.E., Beck, L.A., Santhanam, D.R., Weiss, L., Mei, X., Lane, T.F., Koralov, S.B., Done, S.J., Woodgett, J.R., Zacksenhaus, E., Hu, P. and Egan, S.E. (2015) Ras signaling is a key determinant of metastatic dissemination and poor survival of luminal breast cancer patients. *Cancer Research* **75**, 4960-4972.

Jin, J., Tian, R., Pasculescu, A., Dai, A., Williton, K., Taylor, L., Savitski, M., Bantscheff, M., Woodgett, J.R., Pawson, T. and Colwill, K. (2016) Mutational analysis of GSK3 β protein kinase together with kinome-wide binding and stability studies suggest context-dependent recognition of kinases by the chaperone HSP90. *Mol. Cell. Biol.* **36**, 1007-1118.

Zhou, J., Ahmad, F., Parikh, S., Hoffman, N.E., Rajan, S., Verma, V.K., Song, J., Yuan, A., Shanmughapriya, S., Guo, Y., Gao, E., Koch, W., Woodgett, J.R., Madesh, M., Kishore, R., Lal, H. and Force, T. (2016) Loss of adult cardiac myocyte GSK-3 leads to mitotic catastrophe resulting in fatal dilated cardiomyopathy. *Circulation Res.* **118**, 1208-1222.

Tao, L., Sheng, X., Zhang, L., Li, W., Wei, Z., Zhu, P., Zhang, F., Wang, A., Woodgett, J.R. and Lu, Y. (2016) Xanthatin anti-tumor cytotoxicity is mediated via glycogen synthase kinase-3 β and β -catenin. *Biochem. Pharmacol.* **115**, 18-27.

Zhou, A., Lin, K., Zhang, S., Chen, Y., Zhang, N., Xue, J., Wang, Z., Aldape, K.D., Xie, K., Woodgett, J.R. and Huang, S. (2016) Nuclear GSK3 β promotes tumorigenesis by phosphorylating KDM1A and inducing its deubiquitylation by USP22. *Nature Cell Biology* **18**, 954-966.

Brethour, D., Mehrabian, M., Williams, D., Wang, X., Ghodrati, F., Ehsani, S., Rubie, E.A., Woodgett, JR, Sevalle, J., Xi, Z., Rogaeva, E. and Schmitt-Ulms, G. (2017) A ZIP6-ZIP10

heteromer controls NCAM1 phosphorylation and integration into focal adhesion complexes during epithelial-to-mesenchymal transition. *Science Reports* **7**, 40313.

Jellusova, J., Cato, M.H., Apgar, J.R., Ramezani-Rad, P., Leung, C.R., Chen, C., Richardson, A.D., Conner, E.M., Benschop, R.J., Woodgett, J.R. and Rickert, R.C. (2017) GSK3 is a metabolic checkpoint regulator in B cells. *Nature Immunol.* **18**, 303-312.

Tao, L., Cao, Y., Wei, Z., Jia, Q., Yu, S., Zhong, J., Wang, A., Woodgett, J.R. and Lu, Y. (2017) Xanthatin triggers Chk1-mediated DNA damage response and destabilizes Cdc25C via lysosomal degradation in lung cancer cells. *Toxicology and Applied Pharmacology* **337**, 83-94.

Tran, C.W., Saibil, S.D., Bihan, T.L., Hamilton, S.R., Lang, K.S., You, H., Lin, A.E., Garza, K.M., Elford, A.R., Tai, K., Parsons, M., Wigmore, K., Vainberg, M.G., Penninger, J. M., Woodgett, J.R., Mak, T.W. and Ohashi, P.S. (2017) Glycogen synthase kinase 3 modulates Cbl-b and constrains T cell activation. *J. Immunology* **199**, 4056-4065.

Patterson, A., Endale, M., Lampe, K., Aksoylar, H., Flagg, A., Woodgett, J., Hildeman, D., Jordan, M., Singh, H., Kucuk, Z., Bleesing, J. and Hoebe, K. (2018) Inactivation of GSK3 by Gimap5 is required for CD4 T cell homeostasis and prevention of immune pathologies. *Nature Communications* **9**, 430.

Garzia, L., Kijima, N., Morrissy, A.S., De Antonellis, P., Guerreiro-Stucklin, A., Holgado, B.L., Wu, X., Wang, X., Parsons, M., Zayne, K., Manno, A., Kuzan-Fischer, C., Nor, C., Donovan, L.K., Liu, J., Qin, L., Garancher, A., Liu, K.W., Mansouri, S., Luu, B., Thompson, Y.Y., Ramaswamy, V., Peacock, J., Farooq, H., Skowron P., Shih, D.J.H., Li, A., Ensan, S., Robbins, C.S., Cybulsky, M., Mitra, S., Ma, Y., Moore, R., Mungall, A., Cho, Y.J., Weiss, W.A., Chan J.A., Hawkins, C.E., Massimino, M., Jabado, N., Zapotocky, M., Sumerauer, D., Bouffet, E., Dirks, P., Tabori, U., Sorensen, P.H.B., Brastianos, P.K., Aldape, K., Jones, S.J.M., Marra, M.A., Woodgett, J.R., Wechsler-Reya, R.J., Fults, D.W. and Taylor, M.D. (2018) A hematogenous route for medulloblastoma leptomeningeal metastases. *Cell* **22**, 172, 1050-1062.

Liu, J.C., Granieri, L., Shrestha, M., Wang, D.Y., Vorobieva, I., Rubie, E.A., Jones, R., Ju, Y., Pellecchia, G., Jiang, Z., Palmerini, C.A., Ben-David, Y., Egan, S.E., Woodgett, J.R., Bader, G.D., Datti, A., and Zacksenhaus, E. (2018) Identification of CDC25 as a common therapeutic target for triple-negative breast cancer. *Cell Reports* **23**, 112-126.

Li, T., Xu, M., Dai, X., Ni, T., Li, D., Jin, F., Wang, H., Tao, L., Pan, B., Woodgett, J.R., Qian, Y. and Liu, Y. (2018) Polypharmacological Profiles Underlying the Antitumor Property of *Salvia miltiorrhiza* Root (Danshen) Interfering with NOX-Dependent Neutrophil Extracellular Traps. *Oxid. Med. Cell. Longev.* **2018**, 4908328.

Wei, C., Stock, L., Valanejad, L., Zalewski, Z.A., Karns, R., Puymirat, J., Nelson, D.L., Witte, D., Woodgett, J.R., Timchenko, N. and Timchenko, L. (2018) Correction of GSK3-beta at young age prevents muscle pathology in mice with Myotonic Dystrophy type 1. *FASEB J.* **32**, 2073-2085.

- Bhattacharjee, R., Goswami, S., Dey, S., Gangoda, M., Brothag, C., Woodgett, J.R., Piel, C., Kline, D. and Vijayaraghavan, S. (2018) Isoform-specific requirement for GSK3 α in sperm for male fertility. *Biological Reproduction* **99**, 384-394.
- Hurcombe, J.A., Hartley, P., Lay, A., Ni, L., Singh, S., Murphy, A., Scudamore, C.L., Marquez, E., Barrington, A.F., Pinto, V., Marchetti, M., Wong, L.-F., Uney, J., Saleem, M.A., Mathieson, P.W., Patel, S., Walker, R.J., Woodgett, J.R., Quaggin, S.E., Welsh, G.I. and Coward, R.J. (2019) Podocyte glycogen synthase kinase 3 is an evolutionarily conserved master regulator of kidney function. *Nature Communications* **10**, 403.
- Ahmad, F., Singh, A.P., Tomar, D., Rahmani, M., Zhang Q. Woodgett, J.R., Tilley, D.G., Hind Lal, H. and Force, T. (2019) Cardiomyocyte-GSK-3 α promotes mPTP opening and heart failure in mice with chronic pressure overload. *J. Mol. Cell. Cardiol.* **130**, 65-75.
- Wang, D.-Y., Deena M.A. Gendoo, D.M.A., Ben-David, Y., Woodgett, J.R. and Zacksenhaus, E. (2019) A subgroup of microRNAs defines PTEN-deficient, triple-negative breast cancer patients with poorest prognosis and alterations in RB1, MYC and Wnt signaling. *Breast Cancer Research* **21**, 18.
- Kurgan, N, Whitley, K.C., Maddalena, L.A., Moradi, F., Stoikos, J., Hamstra, S.I., Rubie, E.A., Kumar, M., Roy, B.D., Woodgett, J.R., Stuart, J.A. and Fajardo V.A. (2019) A low therapeutic dose of lithium inhibits GSK3 and enhances myoblast fusion in C2C12 cells. *Cells* **8**, pii: E1340.
- Hurcombe, J.A., Lay, A.C., Ni, L., Barrington, A.F., Woodgett, J.R., Quaggin, S.E., Welsh, G.I. and Coward, R.J. (2019) Podocyte GSK3 α is important for autophagy and its loss detrimental for glomerular function. *FASEB BioAdvances* **1**, 498-510.
- Wang, D.-Y., Jiang, Z., Ben-David, Y. Woodgett, J.R. and Zacksenhaus, E. (2019) Molecular stratification within triple-negative breast cancer subtypes. *Sci. Rep.* **9**, 19107.
- Li, J., Ma, S., Chen, J., Hu, K., Li, Y., Zhang, Z., Su, Z., Woodgett, J.R., Li, M. and Huang, Q. (2020) GSK-3 β contributes to Parkinsonian dopaminergic neuron death: evidence from conditional knockout mice and tideglusib. *Frontiers in Molecular Neuroscience* **13**, 81.
- Sinha, S., Dwivedi, N., Woodgett, J., Tao, S., Howard, C., Fields, T.A., Jamadar, A. and Rao, R. (2020) Glycogen synthase kinase-3 β inhibits tubular regeneration in acute kidney injury a FoxM1-dependent mechanism. *FASEB J.* **34**, 13597-608.
- Bali, S.K., Bryce, D., Prein, C., Woodgett, J.R. and Beier, F. (2021). Glycogen synthase kinase 3 alpha/beta deletion induces precocious growth plate remodeling in mice. *J. Molecular Medicine (in press)*.
- Parsons, M.J., Patel, S., Doble, B.W., Ohashi, P.S. and Woodgett, J.R. Regulation of thymocyte β -selection, development and positive selection by GSK-3. (*biorxiv*)

2. Other publications:

a) Articles:

Woodgett, J.R. and Hunter, T. (1987) Regulation of protein kinase C by Ca²⁺, phorbol esters and phosphorylation. In *Progress in Clinical and Biological Research, Vol. 249. Mechanisms of signal transduction by hormones and growth factors*. Cabot, M. C. and McKeehan, W. L. (Eds.). pp237-247. Alan Liss, New York.

Woodgett, J.R. (1989) Telling the players without a scorecard. *New Biol.* **1**, 24-27.

Woodgett, J.R. (1990) *Fos* and *jun*,: two into one will go. In *Seminars in Cancer Biology, Vol.4*, pp389-397. G. Evan, Ed. Saunders, Philadelphia.

Woodgett, J.R. (1990) Path-ology: the cartography of life. *New Biol.* **2**, 244-248.

Ragsdale, C. and Woodgett, J. (1991) *trking* neurotrophic receptors. *Nature* **350**, 660-661.

Woodgett, J.R. (1991) A common denominator linking glycogen metabolism, nuclear oncogenes and development. *Trends Biochem. Sci.* **16**, 177-181.

Woodgett, J.R. (1991) Powering the cell cycle. *Current Biology* **1**, 106-107.

Woodgett, J.R. (1992) Flipping cell fates. *TIG* **8**, 256.

Woodgett, J. R. (1992) Finding the stepping stones downstream of ras. *Current Biology.* **2**,357-358.

Plyte, S., Hughes, K., Nikolakaki, E., Pulverer, B. and Woodgett, J. R. (1992) Glycogen synthase kinase-3: functions in oncogenesis and development. *Biochim. Biophys. Acta* **1114**, 147-162.

Woodgett, J.R. (1993) A kinase with Ku-dos. *Current Biology* **3**, 449-450.

Woodgett, J.R., Pulverer, B. J., Nikolakaki, E., Plyte, S., Hughes, K., Franklin, C. C., and Kraft, A. S. (1993) Regulation of jun/AP-1 oncoproteins by protein phosphorylation. *Adv. Second Messenger Prot. Phosph. Res.* **28**, 261-269.

Woodgett, J. R., Plyte, S. E., Pulverer, B. J., Mitchell, J. A. and Hughes, K. (1993) Roles of glycogen synthase kinase-3 in signal transduction. *Biochem. Soc. Trans.* **21**, 905-907.

Woodgett, J.R., Pulverer, B.J., Plyte, S.E., Hughes, K. and Nikolakaki, E. (1994) Nuclear onco-protein targets of signal transduction pathways. *Pigment Cell Research* **7**, 96-100.

Woodgett, J.R. (1994) Regulation and functions of the glycogen synthase kinase-3 subfamily. *Seminars in Cancer Biology* **5**, 269-275.

Woodgett, J.R., Avruch, J. and Kyriakis, J.M. (1995) Regulation of nuclear transcription factors by stress signals. *Clinical and Experimental Pharmacology and Physiology*, **22**, 281-283.

Anderton, B. H., Brion, J.-P., Couck, A.-M., Davis, D. R., Gallo, J.-M., Hanger, D.P., Ladhani, K., Latimer, D., Lewis, C., Lovestone, S., Marquardt, B., Miller, C. C. J., Mulot, S., Reynolds, H., Rupniak, T., Smith, C., Stabel, S. and Woodgett, J.R. (1995) Modulation of PHF-like tau hyperphosphorylation in cultured neurones and transfected COS cells. *Neurobiology of Aging* **16**, 389-397.

Kyriakis, J.M., Woodgett, J.R. and Avruch, J. (1995) The stress-activated protein kinase cascade: a novel ERK subfamily responsive to cellular stress and inflammatory cytokines. *Annals N.Y. Acad. Sci.* **766**, 303-319.

Woodgett, J.R., Kyriakis, J.M., Avruch, J., Zon, L.I., Zanke, B. and Templeton, D. J. (1996) Reconstitution of novel signalling cascades responding to cellular stresses. *Phil. Trans. Royal Society* **351**, 135-141.

Woodgett, J.R., Avruch, J. and Kyriakis, J.M. (1996) The stress-activated protein kinase pathway. *Cancer Surveys* **27**, 127-138.

Kiefer, F., Tibbles, L.A., Lassam, N., Iscove, N. and Woodgett, J.R. (1997) Novel Components of the mammalian stress-activated protein kinase cascades. *Biochem. Soc. Trans.* **25**, 491-498.

Coffer, P.J., Jin, J. and Woodgett, J.R. (1998) Protein kinase B (c-akt): a multifunctional mediator of phosphatidylinositol 3-kinase activation. *Biochem. J.* **335**, 1-13.

Tibbles, L.A.T. and Woodgett, J.R. (1999) The stress-activated protein kinase pathways. *Cellular and Molecular Life Sciences* **55**, 1230-1254.

Stambolic, V., Mak, T.W. and Woodgett, J.R. (1999) Modulation of cellular apoptotic potential: contributions to oncogenesis. *Oncogene* **18**, 6094-6103.

Scheid, M.P. and Woodgett, J. R. (2000) Protein kinases: six degrees of separation? *Current Biology* **5**, R191-194.

Scheid, M.P. and Woodgett, J.R. (2001) Phosphatidylinositol 3' kinase signaling in mammary tumorigenesis. *J. Mammary Gland Biol. Neoplasia.* **6**, 83-99.

Ali, A., Hoeflich, K.P. and Woodgett, J.R. (2001) Glycogen synthase kinase-3: properties, functions and regulation. *Chemical Reviews* **101**, 2527-2540.

Woodgett, J. R. (2001) Judging a protein by more than its name: GSK-3. *Science's STKE* 2001 (100): RE12

Scheid, M.P. and Woodgett, J.R. (2001) PKB/Akt: Functional insights from genetic models. *Nature Reviews Molecular Cell Biology*, **2**, 760-768.

- Penninger, J.M. and Woodgett, J. (2001) PTEN - coupling tumor suppression to stem cells? *Science* **294**, 2116-2118.
- Woodgett, J.R. (2002) Open heart surgery of PI-3 kinase signaling. *Cell Cycle* **1**, 404-405.
- Doble, B. W. and Woodgett, J.R. (2003) GSK-3, tricks of the trade for a multi-tasking kinase. *J. Cell Sci.* **116**, 1175-1186.
- De Strooper, B. and Woodgett, J. (2003) Alzheimer's disease: mental plaque removal. *Nature* **423**, 392-393.
- Scheid, M. P. and Woodgett, J. R. (2003) Unravelling the activation mechanisms of protein kinase B/Akt. *FEBS Lett.*, **546**, 108-112.
- Woodgett, J. R. (2003) Physiological roles of glycogen synthase kinase-3: potential as a therapeutic target for diabetes and other disorders. *Curr. Drug Targets Immune Endocr. Metabol. Disord.* **3**, 281-290.
- Patel, S., Doble, B. and Woodgett, J.R. (2004) Glycogen synthase kinase-3 in insulin and Wnt signaling: a double-edged sword? *Biochem. Soc. Trans.* **32**, 803-808.
- Salahshor, S. and Woodgett J. R. (2005) The links between axin and carcinogenesis. *J. Clinical Pathology* **58**, 225-236.
- Woodgett, J.R. (2005) Recent advances in the phosphoinositide-dependent kinase-1, Protein kinase B/Akt and glycogen synthase kinase-3 signaling cascade. *Curr. Op. Cell Biol.* **17**, 150-157.
- Woodgett, J.R. and Ohashi, P.S. (2005) GSK-3: an in-Toll-erant protein kinase? *Nature Immunology* **6**, 752-753.
- Ohashi, P.S. and Woodgett, J.R. (2005) Modulating autoimmunity: pick your PI3 kinase. *Nature Medicine* **11**, 924-925.
- Tessier, M. and Woodgett, J. R. (2006) Serum and glucocorticoid-regulated protein kinases: variations on a theme. *J. Cellular Biochemistry* **98**, 1391-1407.
- Stambolic, V. and Woodgett, J.R. (2006) Functional distinctions of protein kinase B/Akt isoforms defined by their influence on cell migration. *Trends in Cell Biology* **16**, 461-466.
- Kockeritz, L., Doble, B., Patel, S. and Woodgett, J.R. (2006) Glycogen synthase kinase-3: an overview of an over-achieving protein kinase. In: Glycogen Synthase Kinase-3. *Current Drug Targets* **7**, 1377-1388.
- Woodgett, J. (2007) Q & A. *Current Biology* **17**, 576-577.

Woodgett, J. (2008) Micromanaging ideas risks impeding flow of potential benefits. *Nature* **454**, 939 (correspondence to editor).

MacAulay, K and Woodgett, J.R. (2008) Targeting glycogen synthase kinase-3 (GSK-3) in the treatment of Type 2 diabetes. *Expert Opinion on Therapeutic Targets* **12**, 1265-1274.

Patel, S. and Woodgett, J. (2008) Glycogen synthase kinase-3 and cancer: good cop, bad cop? *Cancer Cell* **14**, 351-353.

Force, T. and Woodgett, J. R. (2009) Unique and overlapping functions of GSK-3 isoforms in cellular differentiation, proliferation, and cardiovascular development. *J. Biol. Chem.* **284**, 9643-9647.

Doble, B. W. and Woodgett, J.R. (2009) Exploring pluripotency with chemical genetics. *Cell Stem Cell* **4**, 98-100.

McNeill, H. and Woodgett, J.R. (2010) When pathways collide: collaboration and connivance among signalling pathways in development. *Nature Reviews in Molecular and Cell Biology*, **11**, 404-413.

Woodgett, J. (2010) Basic Research: bizarre but essential. *Nature* **467**, 400.

Voskas, D., Ling, L.S. and Woodgett, J.R. (2010) Does GSK-3 provide a shortcut for PI3K activation of Wnt signaling? *F1000 Biology Reports* **2**:82.

Woodgett, J. (2011) First do no harm. *Scientist* **25**, 30-31.

Cheng, H., Woodgett J., Maamari, M. and Force, T. (2011) Targeting GSK-3 family members in the heart: a very sharp double-edged sword. *J. Molecular Cellular Cardiology* **51**, 607-613.

Woodgett, J.R. (2012) Can a two-faced kinase be exploited for osteosarcoma. *J. Natl. Cancer Inst.* **104**, 722-723.

Woodgett, J. (2012) We must be open about our mistakes. *Nature* **489**, 7.

Woodgett, J. (2013) There's more to lithium than Nirvana. *Nature Reviews in Molecular and Cell Biology* **14**, 466.

Woodgett J. (2013) The (blue) sky's the limit. *Science Omega*, **3**, 52-53.

Woodgett, J. (2013) Impact: Akin to quantifying dreams. *Nature* **503**, 198

Voskas, D., Ling, L.S. and Woodgett J. R. (2014) Signals controlling un-differentiated states in embryonic stem and cancer cells: role of the phosphatidylinositol 3' kinase pathway. *J. Cell Physiology* **229**, 1312-1322.

Woodgett, J. (2014) Burning platforms: Friending social media's role in #scicomm. *Trends Cell Biol.* **24**, 555-557.

Woodgett, J. (2014) How to become a control freak. *Sci. Signal.* **7**, pe25.

Lal, H., Ahmad, F., Woodgett, J. and Force, T. (2015) The GSK-3 family as therapeutic target for myocardial diseases. *Circulation Research* **116**, 138-149.

Woodgett, J and Loughlin, D.T. (2016) Enabling the next 25 years of cell biology. *Trends in Cell Biology* pii: S0962-8924 (16) 30139-8.

Patel, P. and Woodgett, J.R. (2017) Glycogen synthase kinase 3: a kinase for all pathways. *Current Topics in Developmental Biology*, **123**, 277-302.

Cormier, K. and Woodgett, J.R. (2017) Recent advances in understanding the cellular roles of GSK-3. *F1000 Research* **6**, pii: 167

Woodgett, J.R. (2019) How to continually make the case for fundamental science – from the perspective of a protein kinase. *Biochem. Cell. Biol.* **97**, 665-669.

Woodgett, J.R. Who Actually Funds Cancer Research? (2019) *JNCI Cancer Spectr.* **3**, pkz070.

Dowling, R.J.O., Kalinsky, K., Hayes, D.F., Bidard, F.C., Cescon, D.W., Chandarlapaty, S., Deasy, J.O., Dowsett, M., Gray, R.J., Henry, N.L., Meric-Bernstam, F., Perlmutter, J., Sledge, G.W., Bratman, S.V., Carey, L.A., Chang, M.C., DeMichele, A., Ennis, M., Jerzak, K.J., Korde, L.A., Lohmann, A.E., Mamounas EP, Parulekar WR, Regan MM, Schramek D, Stambolic, V., Thorat, M.A., Whelan, T.J., Wolff, A.C., Woodgett, J.R., Sparano, J.A. and Goodwin, P.J. (2019) Toronto Workshop on Late Recurrence in Estrogen Receptor-Positive Breast Cancer: Part 1: Late Recurrence: Current Understanding, Clinical Considerations. *JNCI Cancer Spectr.* **3**, pkz050.

Dowling, R.J.O., Sparano, J.A., Goodwin, P.J., Bidard, F.C., Cescon, D.W., Chandarlapaty, S., Deasy, J.O., Dowsett, M., Gray, R.J., Henry, N.L., Meric-Bernstam, F., Perlmutter, J., Sledge, G.W., Thorat, M.A., Bratman, S.V., Carey, L.A., Chang, M.C., DeMichele A, Ennis, M., Jerzak, K.J., Korde, L.A., Lohmann, A.E., Mamounas, E.P., Parulekar, W.R., Regan, M.M., Schramek, D., Stambolic, V., Whelan, T.J., Wolff, A.C., Woodgett, J.R., Kalinsky, K. and Hayes, D.F. (2019) Toronto Workshop on Late Recurrence in Estrogen Receptor-Positive Breast Cancer: Part 2: Approaches to Predict and Identify Late Recurrence, Research Directions. *JNCI Cancer Spectr.* **3**, pkz049.

Ahmad, F. and Woodgett, J.R. (2020) Emerging roles of GSK-3alpha in pathophysiology: emphasis on cardio-metabolic disorders. *Biochim. Biophys. Acta Mol. Cell. Res.* **1867**, 118616.

b) Book Chapters:

Cohen, P., Aitken, A., Damuni, Z., Hemmings, B.A., Ingebritsen, T.S., Parker, P.J., Picton, C., Resink, T., Stewart, A.A., Tonks, N.K. and Woodgett, J.R. (1983) Protein phosphorylation and the neural and hormonal control of enzyme activity. In *Posttranslational covalent modifications of proteins*. Johnson, B. C. (Ed.). pp19-38. Academic Press, New York.

Cohen, P., Parker, P.J. and Woodgett, J.R. (1985) Molecular basis by which insulin activates glycogen synthase in rabbit skeletal muscle. In *Molecular basis of insulin action*. Czech, M.P. (Ed.). pp 213-233. Plenum Press, New York.

Woodgett, J.R., Hunter, T. and Gould, K.L. (1987) Protein kinase C and its role in cell growth. In *Cell Membranes, methods and reviews Vol. III*. Elson, E. L., Frazier, W. A., and Glaser, L. (Eds.). pp 215-340 Plenum Press, New York.

Woodgett, J.R. (1989) Early gene induction by growth factors. In *British Medical Bulletin, Vol. 45*; pp529-540. Churchill Livingstone, London.

Woodgett, J.R. (1990) Integrated signalling. In *Molecular Biology of Oncogenes and Cell Control Mechanisms*. Parker, P. J., and Katan, M., Eds. Ellis Horwood, London.

Hunter, T., Cartwright, C.A., Woodgett, J.R. and Gould, K.L. (1991) Phosphorylation of pp60^{c-src}. In *Molecular Mechanisms in Cellular Growth and Differentiation* pp 25-43. Bellve, A.R., and Vogel, H. J., Eds. Academic Press, Florida.

Woodgett, J.R. (1991) Use of synthetic peptides mimicking phosphorylation sites for affinity purification of protein-serine kinases. *Methods in Enzymology*. Vol. 200, 169-178. Hunter, T and Sefton, B., Eds. Academic Press, Florida.

Woodgett, J.R. (1991) cDNA cloning and properties of glycogen synthase kinase-3. *Methods in Enzymology*. Vol. 200, 564-577. Hunter, T. and Sefton, B., eds. Academic Press, Florida.

Hughes, K., Pulverer, B. and Woodgett, J.R. (1991) Molecular characterisation of glycogen synthase kinase-3/factor A. In *Advances in Protein Phosphatases*, Vol. 6, 483-502 Eds. W. Merlevede *et al.* University of Leuven Press, Belgium.

Woodgett, J.R. (1992) Study of protein phosphorylation in cell lines. In *Cell Lines in Neurobiology: A Practical Approach*. pp133-159. Ed. J. Wood. IRL Press, Oxford.

Woodgett, J.R. (1995) Glycogen synthase kinase-3. In *The protein kinase factsbook*. (Eds: D.G. Hardie and S. K. Hanks) Academic Press, London. pp231-233.

Brownlees, J., Woodgett, J., Brion, J. P., Anderton, B. H. and Miller, C. C. J. (1995) Transgenic mice harbouring glycogen synthase kinase-3 β transgenes as a route for manipulating tau phosphorylation *in vivo*. In *Research advances in Alzheimer's disease and related disorders*. Iqbal, K., Mortimer, J., Winblad, B. and Wisniewski, H. Eds. J. Wiley and Sons, UK.

Woodgett, J.R. (1996) Transcription Factors. In *Modular Texts in Molecular Biology* (Eds. Heldin, C. and Purton, M) pp321-333. Chapman Hall, London.

Woodgett, J.R. (2001) Protein kinases: physiological roles. In *Encyclopedia of Life Sciences*, Macmillan, London.

Hoeflich, K.P. and Woodgett, J.R. (2001) Mitogen-activated protein kinases and stress. In *Protein Adaptations and Signal Transduction*, (Eds. K.B Storey and J.M. Storey) pp175-193. Elsevier, Amsterdam.

Manoukian, A. and Woodgett, J.R. (2002) Role of Glycogen synthase kinase-3 in cancer: regulation by Wnts and other signaling pathways. *Advances in Cancer Research* **84**, 203-229.

Winegarden, N. and Woodgett, J.R. (2003) Microarrays and drug discovery. World Market Series: Pharmatech. pp130-136, WMRC (UK).

Woodgett, J.R. (2003) MAP kinases. In: *Handbook of Cell Signaling, Volume 1*. pp493-498 Elsevier Science (USA).

Lu, C. and Woodgett, J.R. (2004) Laboratory web sites: disseminate information, make friends and influence people. In: *the Internet for Molecular Biologists* (Eds: Sansom, C.E. and Horton, R.M.). OUP Oxford, UK. pp135-160.

Scheid, M.P. and Woodgett, J.R. (2006) Cell survival signaling through phosphatidylinositol 3-kinase and protein kinase B. In: *Apoptosis and Cancer Therapy* (Eds: Fulda, S. and Debatin, K.-M.) Wiley-VCH. pp462-489.

Woodgett, J.R. (2006) Glycogen Synthase Kinase-3 – an Introductory Synopsis. In *Glycogen synthase kinase 3 and its inhibitors*. Eds, Martinez, A., Castro, A. and Medina, M. Wiley, New Jersey, pp 3-23.

Woodgett, J.R. and Takahashi, M. (2006) Protein kinases: physiological roles in cell signalling. In *Encyclopedia of Life Sciences*, John Wiley & Sons Ltd, Chichester. DOI: 10.1038/npg.els.0003919 (10 pages)

Doble, B. and Woodgett, J.R. (2007) Role of glycogen synthase kinase-3 in cell fate and epithelial to mesenchymal transitions. In *EMT*. Eds. Thompson, R. and Savagner, P. *Cells, Tissues, Organs* **185**, 73-84.

Virtanen, C. and Woodgett, J. (2008) Clinical uses of microarrays in cancer research. In *Methods in Molecular Medicine*, Vol 141. Ed. R.J.A. Trent. pp 87-113.

Ho, E. and Woodgett, J.R. (2010) Mitogen-Activated Protein Kinases. In: *Handbook of Cell Signaling*. (Eds. R.A. Bradshaw & E.A. Dennis), 2nd Edition, Academic Press. pp533-538

Doble, B.W., Kelly, K.F. and Woodgett, J.R. (2011) Molecular Mechanisms Underlying Pluripotency and Lineage Commitment – The Role of GSK-3. In “Embryonic Stem Cells: Basic Biology to Bioengineering” Ed. Michael Kallos. Intech Press. pp 369-388

Kaidanovich-Beilin, O. and Woodgett, J.R. (2012) GSK-3: functional insights from cell biology and animal models. *Frontiers of Molecular Neuroscience* **4**, 40-65.

Kaidanovich-Beilin, O., Beaulieu, J.M., Jope, R.S. and Woodgett, J.R. (2012) Neurological functions of the master switch protein kinase – GSK-3. *Frontiers of Molecular Neuroscience* **5**, 48-50.

Woodgett, J. R. (2013) Glycogen synthase kinase-3. In Encyclopedia of Biological Chemistry (Eds: Lennarz W.J. & Lane, M.D.) 2nd Edition Academic Press pp434-438

Cormier, K.W. and Woodgett, J.R. (2016) Protein kinases: physiological roles in cell signalling. eLS 1-9.

Gorman, J.L. and Woodgett, J.R. (2018) Akt/PKB Functions in cell migration and invasion. Current Topics in Microbiology (*in press*).

c) Books Edited:

Protein kinases: Frontiers in molecular biology series. 1994 OUP, Oxford, UK.

Protein kinase Functions: Frontiers in molecular biology series. 2000 OUP, Oxford, UK.

Glycogen synthase kinase-3. Special Topic in Frontiers of Molecular Neuroscience. 2011.

Editors: Woodgett, J.R., Jope, R. and Beaulieu, M.

D. PRESENTATIONS AND INVITED LECTURES

1. Meetings/Symposia:

Protein Phosphatases Symposium, Leuven, Belgium, June, 1991

Protein Kinases, FASEB Meeting, Copper Mountain, CO, USA. July, 1991

Protein Phosphatases FASEB meeting, Copper Mountain, CO, USA. August, 1992

International Cyclic Nucleotide and Protein Phosphorylation Symposium, Glasgow, Scotland, September, 1992

British Medical Association Meeting, Sheffield, UK. March 31st, 1993

Les Embriers meeting on immunology, France, May 12th, 1993

Schmitt Symposium, University of Rochester, USA. May 21st, 1994

Biochemical Society General Meeting, Sheffield, UK. July 21st, 1993

15th International Pigment Cell Conference, London, UK. September 27th, 1993

Gordon Conference (Second Messengers and Protein Phosph.) June 16th, 1994

IUPHAR, In vitro neurotoxicology conference. Val Morin, Quebec, July 29th, 1994

Winter Conference on Medicinal and Bioorganic Chemistry, Steamboat Springs, CO, USA. January 30th, 1995

Signal Transduction in Normal and Tumor Cells, Banff, April 5th, 1995

Current Understanding of intracellular signalling pathways, Royal Society meeting, July 4th, 1995

Amgen Institute Symposium on Signalling, cell cycle and cell death, August 18th, 1995

ASBMB Fall symposium: Activation of transcription in response to extracellular signaling proteins. Keystone, October 7th, 1995

ASBMB Fall Symposium #1: Transcription factors and signal transduction. Frederick, MD, USA, 13th, October, 1995

Keystone meeting on oxidant stress, Santa Fe, New Mexico, January 8-14th, 1996

44th Annual Meeting of the Radiation Research Society, Chicago, April 15th, 1996

EMBL Conference: Oncogenes and Growth Control, Heidelberg, 21-24th April, 1996

2nd Annual Symposium on Cell Signalling, Mt. Sinai Hospital, Toronto, June 13-14th, 1996

Protein Phosphorylation in Signal Transduction Pathways, Leuven, Belgium. October 4th, 1996

Cambridge Symposium: Genetic, molecular and structural control of signal transduction, Lake Tahoe, Nevada, November 1-5th, 1996

Biochemical Society/BSI Joint Congress, Harrogate, UK. December 8-13th, 1996

Keystone Meeting on T cell tolerance and Autoimmunity, CO, USA, April 16th, 1997

Tumour Cell Signalling and Cancer Therapy Symposium, Hamilton Regional Cancer Centre. May 22nd, 1997

Messengers of Life and Death, Lexington, Kentucky, USA, July 25, 26th, 1997

FASEB Protein Kinase Conference, Snowmass, Colorado, USA, August 9-14th, 1997

Signalling stress and proliferation, Madrid, Spain, October 29-30th, 1997

Symposium of Biological Significance of SAPK System. New York Academy of Sciences, November 18th, 1997

Society of Toxicology of Canada Symposium, Montreal, December 4-5th, 1997

Howard Hughes Medical Institute International Scholars meeting, Buenos Aires, Argentina, January 16-20th, 1998

Signalling in Normal and Cancer Cells, Banff, Alberta, March 6-10th, 1998

BSDB/BSCB meeting, Lancaster, UK, April 1-3rd, 1998

Jane Coffin Childs Memorial Fund Symposium, Lakeville, CT, October 15-18th, 1998

Howard Hughes Medical Institute International Scholars meeting, Rio de Janeiro, Brazil, January 19-22nd, 1999

University of Colorado Symposium on Oncogene Signalling Networks, Denver, April 8th, 1999

Keystone Symposia: Specificity in Signal Transduction, Keystone, Colorado, April 9-14th, 1999

NIEHS Symposium on Apoptosis and Growth Factors, Research Triangle, North Carolina, April 19-21th, 1999

NEB Signal Transduction Symposium, Toronto, April 26th, 1999

Genetics Society of Canada, Montreal, June 9th, 1999

CBCRI Reasons for Hope conference, Toronto, June 18th, 1999

British Association for Cancer Research, Edinburgh, July 11-14th, 1999

9th BioCity Symposium, Turku, Finland, August 26-27th, 1999

Biochip workshop, NRC, Ottawa, September 10-11th, 1999

PMH Prostate Centre Symposium, Toronto, September 14th, 1999

ISSX Symposium, Nashville, TN, October 18th, 1999

IRAP/NRC symposium, Toronto, November 29th, 1999

Opening symposium of the Food Systems Biotechnology Centre, Guelph, January 19th, 2000

ASCPT meeting, Los Angeles, CA March 17th, 2000

HHMI International Scholars Symposium, Chevy Chase, MD, June 2000

NRC Genomics and Health Initiative meeting, Halifax, NS, August 18th, 2000

International Society of Haematology Symposium, Toronto, August 29th, 2000
New York Academy of Sciences Symposium: PKB/Akt, New York, September 26th, 2000
5th Toronto Sepsis Roundtable meeting October 25th, 2000
1st Annual Toronto Microarray Symposium November 1-2nd, 2000
23rd Annual San Antonio Breast Cancer Meeting, San Antonio, TX, December 6-9th, 2000
Signalling in Normal and Cancer Cells, Banff, Alberta, March 2-6th, 2001
UK Array 2001 Imperial College, London, UK, March 27-28th 2001
Federation of Experimental Biology, Orlando, March 30th-April 4th, 2001
2nd Joint SCBA/CCABP symposium, Toronto, May 26th, 2001
CSBMCB annual meeting - microarray workshop, Alliston, Ontario, May 31-June 3rd, 2001
HHMI international scholars meeting, Vancouver, June 20-24th, 2001
Congress of the Associations of Biochemical Psychiatry, Berlin, July 3rd, 2001
FEBS annual meeting, Lisbon, July 4th, 2001
FASEB Protein Kinase Conference, Snowmass, Colorado, USA, August 11-16th, 2001
Communications and Information Technology Ontario symposium, Ottawa, October 11th, 2001
BioNorth 2001, Ottawa, November 5-7th, 2001
Cancer Care Ontario 18th Biennial meeting, Geneva Park, Ontario, November 13th, 2001
Lab on a Chip & Microarrays conference, Zurich, January 14-16th, 2002
Keystone meeting on Wnt and β -catenin signaling/protein phosphorylation and mechanisms of cellular regulation, Taos, New Mexico, March 5-10th, 2002 (joint session presentation)
CGDN annual meeting – new technologies, Montreal, April 4-7th, 2002
CNIO Microarrays 2002, Madrid, Spain, April 11-12th, 2002
Kirchoff Institute Conference on Rheumatoid Arthritis, Bad Neuheim, Germany, April 24-26th, 2002
Howard Hughes Medical Institute International Scholars meeting, Palm Cove, Queensland, Australia, June 26-28th, 2002.
Peptide Growth Factors Gordon Research Conference, Kimball Union Academy, New Hampshire, August 4-9th, 2002
5th Annual symposium on bioinformatics and functional genomics, Turku, Finland, August 19th, 2002
Ontario Genomics and Proteomics Scientific Symposium, Toronto, September 26-27th, 2002
Growth Factors & Metastasis Workshop, Bethesda, October 20-22nd, 2002
UHN research day November 12th, 2002
Hot Topics in Endocrinology Symposium, New Orleans, November 15th, 2002
Genome Canada/Genome Spain meeting, Madrid, January 29th, 2003
FEBS meeting on Signal Transduction, Brussels, July 6th, 2003
94th AACR meeting, Washington DC, July 11-14th, 2003
FASEB summer conference on Protein Kinases and Protein Phosphorylation, Snowmass, CO, July 19-24th, 2003
Proteomics and Bioinformatics Retreat, Maclean House, Toronto, September 4th, 2003
HUPO and IUBMB joint world congress, Montreal, October 8-11th, 2003
Biotechnology Symposium, Kota Kinabalu, Malaysia December 3-5th, 2003
Sixth Conference on Signalling in Normal and Cancer Cells, Banff, Alberta, March 26-30th, 2004
UBC Cell Biology Group Retreat, Loon Lake, BC, April 30 – May 2nd, 2004
UBI Cell Signalling Symposium, Dundee, Scotland, June 5-9th, 2004
CFBS Northern Lights conference, Vancouver, June 16-20th, 2004

Cornell Medical College Symposium on Cell Signaling, New York, July 9th, 2004
 BioScience 2004, Glasgow, Scotland, July 18-22th, 2004
 12th International Conference on Second Messengers and Phosphoproteins, Montreal, August 3-7th, 2004
 8th Annual Heart Failure Society of America, Toronto, September 12-14th, 2004
 8th Annual CDA/CSEM conference, Quebec City, October 28-30th, 2004
 Genome Canada National Genomics & Proteomics Symposium, Vancouver, Nov. 24-25th, 2004
 HHMI International Scholars meeting, Merida, Mexico, June 22-25th, 2005
 Structural Genomics Consortium Research Day, Oxford, September 16th, 2005
 DFG international symposium, University of Ulm, September 22-24th, 2005
 Epithelial Mesenchymal Transition Conference, Vancouver, October 1-3rd, 2005
 Toronto Medical Discovery Tower opening symposium, November 9-10th, 2005
 Advances in Breast Cancer Symposium, University of Toronto November 11th, 2005
 ASI stem cell symposium, Hong Kong University, Faculty of Medicine, November 14th, 2005
 American College of Neuropsychopharmacology, Hawaii, Dec 11-15th, 2005
 DNA Damage Response and Cancer Symposium, Hiroshima, Japan February 1-2nd, 2006
 7th Meeting on Signalling in Cancer and Normal Cells, Banff, Alberta, March 3-7th, 2006
 Cytokines 2006, Vienna, August 27-31st, 2006
 Banting & Best Diabetes Centre Research Day, Toronto, May 11th, 2007
 Insulin signaling pathways symposium, Stony Brook, NY, May 30th, 2007
 WEBC symposium, Toronto, July 30-31st, 2007
 Stem cell regulation and bone science symposium (2 talks), Tokyo, October 28-31, 2007
 Society of Chinese Bioscientists in America, Toronto, February 9th, 2008
 Signaling in Normal and Cancer Cells, Banff, Alberta, March 9-13th, 2008
 Epithelial to Mesenchymal Transition meeting, CSHL, March 17-20th, 2008
 Symposium in Honour of Dr. Michael Waterfield, Royal Society, London, UK, April 1st, 2008
 Cancer Drug Discovery Symposium, Sudbury, Ontario, June 4-5th, 2009
 American Diabetes Association meeting, New Orleans, June 5-9th, 2009
 Canadian National Proteomics Network/HUPO meeting, Toronto, September 25-27th, 2009
 CIHR Biomarkers workshop, Toronto, November 19-20th, 2009
 Keystone Meeting on Integration of Developmental Signaling Pathways. (Meeting organizer and speaker) March 23-27th, 2010, Victoria, British Columbia
 Society for Neuroscience, November 13-17th, 2010, San Diego (mini-symposium organizer)
 Signaling in Normal and Cancer Cells, Banff, Alberta, March 6-10th, 2011
 Philip Cohen symposium, Dundee, Scotland, June 24-26th, 2012
 International Conference on Neurological Disorders. Wuhan, China September 26-29th, 2012
 2nd Canadian Human and Statistical Genomics Meeting, Quebec, April 21-24th, 2013
 Lunenfeld Scientific Retreat, Lake Couchiching, May 13-14th, 2013
 2nd Meeting CIHR Collaborative Strategy for Alzheimer's Disease, Boston, July 13th, 2013
 Canadian Science Policy Conference, Toronto – Journalists are from Mars, Scientists from Venus panel. Nov 20th, 2013
 Canadian Science Policy Conference, Toronto – Research funding: New paradigms for a broken system (chair and organizer) <http://www.cspc2013.ca/p16-research-funding-new-paradigms-broken-system>. Nov 21st, 2013
 University of Virginia Cancer Biology Training Grant 4th Symposium. December 6th, 2013.
 Signaling in Normal and Cancer Cells, Banff, Alberta, March 23-27th, 2014

3rd Meeting CIHR Collaborative Research Strategy for Alzheimer's Disease, Copenhagen, July 12th, 2014
Kinome III, Basel Biozentrum, Sept 26-28th, 2014
12th Key Symposium: Insulin Resistance in Common Diseases. Harvard Medical School, September 29th-October 1st, 2015
Franco-Canadian Symposium on Diabetes. Paris, France, November 5-6th, 2015
Canadian Developmental Biology Meeting, Banff, Alberta, March 17-20th, 2016
IUBMB meeting, Vancouver, July 17-21th, 2016
CASRAI Re-Connect conference, Toronto, October 24-25, 2016
Canadian Science Policy Conference (3 panels), Ottawa, November 8-10th, 2016
Researchers' Response (to Naylor report) (meeting co-organizer), Toronto, May 31st, 2017
CHIRM mentorship meeting, Winnipeg, June 13th, 2017
Canadian Association of Postdoctoral Administrators, Ottawa Nov 5-6th, 2017
International Conference on Frontiers of Pharmacology, Nanjing University of Chinese Medicine, November 25-26th, 2017
Lorne Cancer Symposium, Lorne, Melbourne, Australia, February 9-11, 2018
CSMB 61st annual meeting, Banff, Alberta, April 11-15, 2018
Dept Pharmacy, Graduate Research Day, June 22nd, 2018
International Conference on Brain Network and Disease, Wuhan, China, Sept 27-30th, 2018

2. Invited Lectures:

CNRS, Gif-sur-Yvette, France May 17th, 1993
Massachusetts Medical Centre, Worcester, MA, USA. November 10th, 1993
Abbott Laboratories, Chicago, USA. November 22nd, 1993
Mt. Sinai Hospital, Toronto. December 8th, 1993
Royal Victoria Hospital, Montreal, April 19th, 1994
Dept. Biology, York University, October 24th, 1994
University of Chicago, February 24th, 1995
New England Biolabs, Beverly, USA. March 2nd, 1995
L'Hotel Dieu, Quebec City, March 10th, 1995
Merck Research Labs, NJ, USA. March 29th, 1995
University of Calgary, Alta. April 6th, 1995
Georgetown University, Washington, USA. April 20th, 1995
Zeneca research laboratories, Lancs., UK. July 7th, 1995
Chiron Pharmaceuticals, Emeryville, CA, USA. September 20th, 1995
Zoology Department, University of Toronto. October 27th, 1995
Erindale College, University of Toronto, November 10th, 1995
University of Alabama, Birmingham, AL, USA. November 14th, 1995
Biotechnology Research Institute, Montreal, December 15th, 1995
Mobix, McMaster University, Hamilton, Ontario, February 1st, 1996
Amgen Boulder, CO, USA. March 4th, 1996
Hospital for Sick Children, Toronto, March 29th, 1996
Royal Victoria Hospital, Montreal, April 11th, 1996
Pfizer Research Laboratories, Groton, Connecticut, USA August 4th, 1996
Hershey Medical School, PA, USA. October 1st, 1996
University of Virginia Health Science Center, Charlottesville, PA, USA. October 17th, 1996

National Institute of Medical Research, Mill Hill, UK. December 8th, 1996
State University of New York at Buffalo, USA. January 13th, 1997
Merck Research Laboratories, Rahway and West Pointe, USA, October 23-24th, 1997
McMaster University Biology Dept., November 17th, 1997
University of Michigan, Ann Arbor, USA, December 8th, 1997
Dept. Immunology, University of Toronto, February 16th, 1998
Signal Pharmaceuticals, San Diego, February 20th, 1998
Queens University, Kingston, Ontario, March 3rd, 1998
Hospital for Sick Children, Toronto, March 20th, 1998
Neuroscience Research Institute, Ottawa, April 20th, 1998
Mount Sinai Medical Center, New York, May 26th, 1998
Immunex Corporation, Seattle, November 16th, 1998
Mount Sinai Hospital, Toronto, December 11th, 1998
Robarts Research Institute, University of Western Ontario, London, Ontario, March 11th, 1999
Canadian Genetic Diseases Network meeting, Collingwood, Ontario, April 22nd, 1999
Cardiovascular Research Center, MGH East, Boston, MA, May 20th, 1999
Department of Biological Sciences, U. Calgary, May 28th, 1999
Montreal Neurological Institute, Montreal, October 26th, 1999
University of Montreal, November 30th, 1999
Parke-Davis, Michigan, USA, January 11th, 2000
University of Laval, Quebec, January 14th, 2000
University of Vermont, Burlington, May 8th, 2000
BC Cancer Agency, Vancouver, May 30th, 2000
Samuel Lunenfeld Research Institute, September 8th, 2000
University of Toronto Senior Alumni Association, November 9th, 2000
World Presidents Organization, November 20th, 2000
Eli Lilly, Indianapolis, November 29th, 2000
Dept. Pharmacology, Dalhousie University, Nova Scotia, January 19th, 2001
Dept. Laboratory Medicine and Pathobiology, University of Toronto, February 12th, 2001
Dept. Medicine, Albert Einstein University, New York, February 27th, 2001
Hospital for Sick Children, Toronto, April 26th, 2001
London Regional Cancer Centre, May 18th, 2001
SIMS informatics series, Toronto, June 8th, 2001
University of Toronto Oncology Rounds, June 15th, 2001
University of Pennsylvania, Philadelphia, October 2nd, 2001
Dartmouth Medical School, Dept. Pharmacology & Toxicology, NH, October 18th, 2001
University of Calgary Dept. Biology retreat, Bragg Creek, October 22nd, 2001
Amgen Inc. Thousand Oaks, California, December 2nd, 2001
Texas A&M University, Temple, Texas, February 14th, 2002
Endocrinology city-wide rounds, Toronto, February 15th, 2002
Laboratory of Molecular Pathophysiology, NIH, March 22nd, 2002
Dept. Pharmacology, University of Toronto, April 17th, 2002
University of Texas Medical School, San Antonio May 17th, 2002
Van Andel Research Institute, Grand Rapids, MI, May 29th, 2002
Dept. Medical Oncology Rounds, OCI, November 6th, 2002
Dept. Pharmacology, University of Pittsburgh, February 21st, 2003

Dept. Biochemistry, McMaster University, February 27th, 2003
Biotechnology Focus breakfast seminar, Toronto, June 25th, 2003
Eijkman Lecture, University of Utrecht, Holland, October 1st, 2003
University of Virginia, Charlottesville, November 20th, 2003
UCLA Harbor, Los Angeles, December 9th, 2003
Dept. Medical Genetics, University of Toronto, March 8th, 2004
Serono Research Institute, Geneva, Switzerland, April 23rd, 2004
QLT, Vancouver, May 24th, 2004
Toronto General Hospital Research Institute, June 2nd, 2004
Dept. Pharmacology, University of North Carolina, December 14th, 2004
Institute of Molecular Pathology, Vienna, Austria, February 3rd, 2005
Dept. Biochemistry, University of York, February 9th, 2005
Dept. Anatomy and Cell Biology, University of Western Ontario, March 11th, 2005
Mayo Clinic, Rochester, MN, April 11th, 2005
Manitoba Institute of Cell Biology, April 28th, 2005
McGill University Cancer Centre, May 11th, 2005
Friedrich Miescher Institute, Basel, Switzerland May 17th, 2005
Genomics Research Centre, Hong Kong University, Nov. 14th, 2005
Pfizer, Ann Arbor, Michigan, April 17th, 2006
Cell Signalling Technologies, Beverley, MA, April 27th, 2006
BC Cancer Agency, Vancouver, May 15th, 2006
Bristol Myers Squibb, Meriden, CT, July 31st, 2006
McMaster University, Hamilton, Jan. 17th, 2007
Lady Davis Research Institute, Montreal, June 5th, 2007
University of Saskatoon, June 21st, 2007
Ontario Cancer Institute Division of Signaling Biology retreat, March 25th, 2008
Smith Errington lecture, UWO Oncology Research & Education, June 13th, 2008
University of Dundee, October 22nd, 2008
Wayne State University, department of pathology, Detroit, December 10th, 2008
University of Chicago, Biomedical Sciences Cluster, January 21st, 2009
IRIC, University of Montreal, February 22nd, 2010
IMRIC, Hebrew University, Jerusalem, Israel, June 6th, 2010
Banting & Best Diabetes Centre, July 12th, 2010
University of Vermont, Burlington, July 20th, 2010
City-wide endocrinology rounds, University of Toronto, Sept. 23rd, 2010
Cleveland Clinic, Ohio, Sept. 29th, 2010
Tongji Medical University, China, Oct. 25th, 2011
Centre for Addition & Mental Health, Toronto, Jan. 4th, 2012
Laboratory Medicine and Pathobiology Research Day, Toronto, March 12th, 2013
Odette Cancer Centre, Sunnybrook, Toronto, April 22nd, 2014
Lady Davis Research Institute, Montreal, Oct 7th, 2014
Kent State University, Ohio, October 17th, 2014
University of Texas, South Western, Dec 11th, 2014
Dept. of Biology, York University, Ontario, March 2nd, 2014 (2 lectures)
University of Waterloo (Biology Research Day), April 8th, 2015
Huazong Institute of Science and Technology, Wuhan, China, June 17th, 2015

CR-CHUM, Montreal, March 11th, 2016
Maud Menten Lecture, Western University, April 15th 2016
Department of Biology, Queens University, May 10th, 2016
Life Sciences Institute, University of British Columbia, July 20, 2016
Department of Molecular Oncology, MD Anderson, November 30th, 2016
Department of Molecular and Cellular Biology, University of Guelph, March 1, 2017
Department of Medicine, University of Ottawa, Postdoc Research Day, March 16, 2017
Donnelly Centre, University of Toronto, May 11th, 2017
LTRI Spring retreat, May 16th, 2017
National Research Centre for Mutant Mice, Nanjing, China, November 24th, 2017
Yangzhou College of Medicine, China, November 27th, 2017
UCSF Systems Biology Feb 7th, 2018 (by videoconference)
CR-CHUM, April 4th, 2018 (videoconference)
Stem Cell Network, May 13th (videoconference)
LTRI trainee seminar, Oct 21, 2020 (videoconference)
Stem Cell Network panel, February 18th, 2021 (videoconference)

E. TEACHING AND SUPERVISION

MBP 1022H: Cell Biology for Physicists. This graduate course required approximately 30 hrs of direct teaching per year and was shared with Professor Michael Rauth, OCI. Contribution to design and running of course is 50%. The course was taught between 1993 and 1997. A significant number of physical science graduate students within the Department of Medical Biophysics and other U of T departments have a very limited background in biology but are engaged in studies of the application of physics to biological problems such as tumour imaging, measurement of vascular flow and design of inert material for implant. This course was designed to educate these students to a level where they can understand the jargon, methodology, fundamental principles and outstanding problems of molecular and cellular biology.

MBP 1001Y: Advanced Cell and Molecular Biology. This advanced graduate student course is taught to PhD students and is designed to expose the students to current hot topics in a wide variety of molecular and cell biology. After an introductory lecture describing the field, the students must research a selection of papers and discuss their view of the research area. I design and teach one graduate segment equivalent to 6 hours per annum. Segment taught between 1994 and 1999.

MBP Module (6 x 2 hour lectures) – Course Coordinator (with David Malkin): Scientific Exposition and Ethics. 2016- Course covers fundamentals of research ethics, experimental design, misconduct, best practices, human subjects, global health, privacy in a genomic age and authorship responsibilities.

Lectures in University of Toronto courses: BCH 2021, PCL481S, MGB425, MBP1018Y, LMP1019S, JTB2010H.

Member Department of Medical Biophysics Executive Committee (1997-2005)
Department of Medical Biophysics promotions committee (1998-2004)

Department of Medical Biophysics Student Admissions Committee (1998-2005)
Chair, OCI Amgen research awards committee (1995-2001)
Chair, OCI Biosafety committee (1993-2002)

Graduate Student Committees (excluding directly supervised students):

Current:

Diana Resetca (Linda Penn, OCI)
Murtaza Nagree (Hitoshi Okada, OCI)
Alannah MacDonald (Linda Penn and Brian Raught)

Completed:

Rosanne McQuaid (Andrea Jurisicova) April 2020
Anshula Samarajeewa (Alain Dabdoub) July 2018
Nasir Haider (Vuk Stambolic, OCI) April 2018
Roula Antoon (Armand Keating, OCI) August 2017
Florence Wu (Bob Kerbel, Sunnybrook) June 2017
Manpreet Kalkat (Linda Penn, OCI) December, 2016
Ho-suk (John Roder, Lunenfeld) to May 2016
Enoch Ng (John Roder, Lunenfeld) to October 2015
Shayne Greenberg (Mark Minden, OCI) to Sept 2015
Hartland Jackson (Rama Khokha, OCI) to May 2014
Sevag Kaladchibachi (Armen Manoukian, OCI) to January, 2014
Praveer Sharma (Helen McNeill, Lunenfeld) to September 2013
Priscilla Lau (Peter Cheung, OCI) to Dec 2012
Val Lapin (Tak Mak, OCI) to May 2012
Rachel Vanderlaan (Tony Pawson and Peter Backx, SLRI) to October 2010
Manpreet Kalkat (Isabella Caniggia, SLRI) to September 2010
George Charames (Bharati Bapat, SLRI) to June 2010
Duoaud Shah (Lothar Lilge, OCI) to June, 2010
Shinyop Kim (Tak Mak, OCI) to May, 2010
Amy Lin (Tak Mak, OCI) to April, 2010
Larissa Moniz (Vuk Stambolic, OCI) to March, 2010
YingJu Jang (Tak Mak, OCI) to February, 2010
Cheryl Wolting (Jane McGlade, HSC) to January 2010
Irene Raitman (Irene Andrulis, SLRI) to November 2009
Stephen Chen (Dan Dumont, Sunnybrook) to August 2009
Carol Cheung (Tak Mak, OCI) to August 2009
Andrew Rust (Linda Penn, OCI) to July 2009
Norman Anthopoulos (Armen Manoukian, OCI) to September 2008
Veronique Dorval (Paul Fraser, CRND) to November 2007
Kevin Brown (Igor Jurisica, OCI) to August 2007
Mehrdad Hariri (Rama Khokha, OCI) to June 2007
Kathrin Zaugg (Tak Mak, OCI) to May, 2007
Lynn Mikula (Steve Gallinger, SLRI) to May 2007

Billie Au (Wen-Chen Yeh, OCI) to December 2006
Natalie Meyer (Linda Penn, OCI) to September 2006
Raymond Kim (Tak Mak, OCI) to November 2005
Si Tuen Li (Liliana Attisano, U of T) to July 2005
Megan Cully (Tak Mak, OCI) to May 2005
Chris Bakal (Rob Rottapel, OCI) to April 2005
Jennifer Li (Rick Miller, OCI) to November 2004
Stephanie Backman (Tak Mak, OCI) to August 2004
Diana Birlle (David Hedley, OCI) to May 2004
Zubin Master (Dan Dumont, OCI) to April 2004
Margaret Soares (Steve Gallinger, MSHRI) to March 2004
Jorge Wong (Kate Vallis, OCI) to September 2003
Alison Cheung (Tak Mak, OCI) to June 2003
Russell Jones (Pam Ohashi, OCI) to November 2002
Ahalya Mahendra (Greg Hannigan, HSC) to November 2002
Connie Krawczyk (Josef Penninger OCI) to September 2002
Rizwan Haq (Brent Zanke, OCI) to December 2001
Elena Bogdanovic (George Fantus, Mt. Sinai) to December 2001
Venus Lai (Tony Pawson, Lunenfeld RI) to December 2001
Tim Corson (Jerry Warsh, Clarke Institute) to December 2001
Kevin Brown (Violetta Skalski, OCI) to December 2001
Sylvia Ng (David Hedley, OCI) to October 2001
Sanjeev Mariathasan (Pam Ohashi, OCI) to August 2001
Wing-Tze Fan (Mike Moran, U of T) to April 2001
Maurice Ennis (Armen Manoukian, OCI) to April 2001
Minna Woo (Tak Mak, OCI) to December 2000
Bart Kus (Mike Tyers, MSHRI) to December 2000
Jimmy Fata (Rama Khokha, OCI) to November 2000
Mark Lomaga (Tak Mak, OCI) to August 2000
Dana Nohynek (Armen Manoukian, OCI) to July 2000
Jacinth Abraham (Sam Benchimol, OCI) to February 2000
David Smookler (Tak Mak, OCI) to October 1999
Louis-Martin Boucher (Tak Mak, OCI) to October 1999
Jianli Dong (Henry Krause, U of T) to May 1999
Alex Grossman (Tak Mak, OCI) to April, 1999
Madeleine Bonnard (Michael Julius, Wellesley RI) to January 1999
Si Tuen Li (Linda Penn, OCI) to December 1998
Kelly Williams (Jayne Danska, HSC) to December 1998
Mark Benzaquen (Linda Penn, OCI) to October 1998
Thaddeus Allen (Robert Hawley, TTH) to September 1998
Joanna Schulman (Alan Bernstein, Lunenfeld RI) to September 1998
Nhu-An Pham (David Hedley, OCI) to August 1998)
Yu Zhang (Chris Paige, Wellesley RI)
Galina Radeva (Shoukat Dedhar, Sunnybrook)
Susan Randall (Brent Zanke, OCI) to July 1997
Peter Bhoi (Rob Rottapel, Wellesley RI) to September 1996

Trenna Sutcliffe (Sam Benchimol, OCI) to September 1996
Michael Pawsons (Neil Miyamoto, OCI) to July 1995
Jonathan Sheps (Vic Ling, OCI) to July 1995
Jianmin Chen (Sam Benchimol, OCI) to February 1994
Sandra Danilition (Neil Miyamoto, OCI) to October 1993

F. GRADUATE STUDENT THESIS SUPERVISION: ALL CASES, PRIMARY SUPERVISOR:

Ph.D.:

Paul J. Coffey: Identification, cloning and characterisation of novel mammalian protein-serine kinase genes. 1988-1991
Bernd J. Pulverer: Regulation of proto-oncogenes cJun and cMyc by protein-serine kinases. 1989-1992
Vuk Stambolic: Regulation of glycogen synthase kinase 3. 1993-1997
Juan Luo: Targeted disruption of the GSK-3 β gene. 1993-2001
Lee Anne Tibbles MD: Role of stress signalling responses in kidney disease 1994-1999
Klaus Hoefflich: Physiological roles of GSK-3 β 1996-2001
Jin Jing: Physiological roles of protein kinase B. 1995-2004
Maude Tessier: Functional analysis of the SGK family of kinases. 2000-2006
Lisa Kockeritz: Genetic targets of β -catenin. 2000-2006
Ling Ling: Regulation of pluripotentiality by signaling pathways. Aug 2006 –Dec 2011
Eric Ho: Isoform-specificity of the SAPKs. Sept 2002-July 2014 (part time)
Joanna Dembowy: Role of GSK-3 in mammary gland development and tumorigenesis. Aug 2006 –July 2013
Prital Patel: Roles of GSK-3 in liver development and hepatocellular carcinoma. January 2011-March 2017
Megha Kumar: April 2014-October 2020
Li Tao (Nanking University – visiting student) Sept 2014-April 2016
Tsukiko Miyata: Roles of GSK-3 in neurodegeneration Jan 2015-

M.Sc.:

Tian Dai: Delineation of the SAP kinase pathway. 1993-1995
Ioana Miron: Genetic analysis of GSK-3 in fibroblasts 2005-2008
Meagan Clark: Role of GSK-3 in brain development Jan 2015-April 2018

Postdoctoral Fellows:

Ivan Gout, MD (Kiev) Cloning and function of PSK-H1. 1987-1989. Present occupation: group leader, Ludwig Institute for Cancer Research, London.
Paul Jenö, PhD (Basle) Subcellular localisation of GSK-3. 1988
Eleni Nikolakaki, PhD (Thessaloniki) c-Jun regulation. 1990-1992 Lecturer, University of Thessaloniki, Greece.
Kenneth Hughes, PhD (London) Expression and regulation of GSK-3. 1991-1994 Director of research, Microbix Inc.
Simon Plyte, PhD (Portsmouth) Functions of GSK-3 in slime mould and fission yeast. 1991-1996 Program leader, Pharmacia/Upjohn, Milan, Italy.

Laurent Ruel PhD (Strasbourg, EMBO Fellow) Wg pathway in *Drosophila*. 1995-1999
 Assistant professor, CNRS, Nice, France.

Chao Lu, PhD (Toronto, MRC Fellow) Stress regulation of transcription. 1997-2000 Research
 Associate, Microarray Centre, Toronto.

Mark Takahashi, PhD (Toronto, MRC Fellow) Stress-induced protein kinase cascades. 1998-
 2000 Facilities Manager, UHN, Toronto.

Adnan Ali, PhD (Waterloo, NRC Fellow) GSK-3 phosphorylation stress-induced by Wnt. 1998-
 2000. Health Canada

Stephen Yarwood, PhD (Glasgow, HFSP fellow), transcriptional responses to mitogens. 2000-
 2001. Lecturer at U. Glasgow.

Michael Scheid (Vancouver, MRC Fellow) Identification of PKB targets in mammalian cells.
 1999-2004. Associate Professor, University of York.

Bradley Doble (U. Manitoba, CIHR fellow) Sept 2001 – July 2006 Genetic analysis of GSK-3 in
 mice and ES cells. Associate Professor, McMaster University

Monty Gill (U. Toronto) 2001 - 2007

Sima Salahshor (Karolinska Institute, Sweden) Sept 2001 –Nov 2009

Jane Batt (U. Toronto, CIHR clinical fellow) Sept 2002-June 2004 Assistant Professor,
 University of Toronto.

Satish Patel (U. Dundee) Aug 2003-June 2010 Research Associate, University of Cambridge

Katrina MacAulay (U. Dundee) May 2005-Nov 2009 Research Scientist, Unilever, UK

Tanya Hansotia (U. Toronto) May 2006-2012

Oksana Kaidanovich-Beilin (U. Tel Aviv) June 2007-Aug 2013

Daniel Voskas (U. Toronto) Nov 2008- Jan 2014

Jennifer Gorman (U. York) Aug 2011- Jan 2019

Kevin Cormier (U Texas, Dallas) Sept 2014 –

Ph.D. Examination Committees:

Luc Marangere (Tony Pawson, Lunenfeld) September 30th, 1994

Zhou Ming (Ron Buick, OCI) November 2nd, 1994

Jonathan Sheps (Vic Ling, OCI) April 1995

Carol Fode (Jim Dennis Lunenfeld) September 27th, 1995

Liqun Zhang (Alan Bernstein, Lunenfeld) November 3rd, 1995

Xianhua Piao (Alan Bernstein, Lunenfeld) December 14th, 1995

Maria Anna Trevisan (Norman Iscove, OCI) September 6th, 1996

Karen Colwill (Tony Pawson, Lunenfeld.) November 14th, 1996

Filio Bilia (Norman Iscove, OCI) July 31st, 1997

Yu Zhang (Chris Paige, OCI) October 17th, 1997

Don Christopher (Stuart Foster, Sunnybrook) February 2nd, 1998

Madeleine Bonnard (Michael Julius, TTHRI) January 19th, 1999

Doug Chan (Susan Lee-Miller, U. Calgary) May 28th, 1999

Louis-Martin Boucher (Tak Mak, OCI) October 15th, 1999

Mhairie Skinner (Alan Wildeman, Univ. Guelph) December 22nd, 1999

Simon Rousseau (Jacques Huot, U. Laval), January 14th, 2000

Jacinth Abraham (Sam Benchimol, OCI), February 7th, 2000

Mark Lomaga (Tak Mak, OCI), August 8th, 2000

Jimmie Fata (Rama Khokha, OCI), November 23rd, 2000

Len Hua (Peter Li, U of Toronto), December 1st, 2000
Minna Woo (Tak Mak, U of Toronto), December 13th, 2000
Wing-Tze Fan (Mike Moran, U of Toronto) April 30th, 2001
Rizwan Haq (Brent Zanke, OCI) June 26th, 2001, December 17th, 2001
Sanjeev Mariathasan (Pam Ohashi, OCI) August 9th, 2001
Sylvia Ng (David Hedley, OCI) October 19th, 2001
Mark Knapp (Hubert Van Tol, U. Toronto) April 19th, 2002
Connie Krawczyk (Josef Penninger OCI) September 3rd, 2002
Dan C.C. Lin (Tony Pawson, Lunenfeld) September 30th, 2002
Rusty Jones (Pam Ohashi, OCI) November 13th, 2002
Alison Cheung (Tak Mak, OCI) June 26th, 2003
Emanuel Rosonina (Ben Blencowe, U of Toronto) February 5th, 2004
Robert Cairns (Richard Hill, OCI) March 11th, 2004
Zubin Master (Dan Dumont, Sunnybrook) April 21st, 2004
Stéphanie Backman (Tak Mak, OCI) August 10th, 2004
Jennifer Li (Richard Miller, OCI) November 30th, 2004
Amy Tony (Charlie Boone, BBDMR) January 25th, 2005
Chris Bakal (Rob Rottapel, OCI) April 19th, 2005
Megan Cully (Tak Mak, OCI) May 20th, 2005
Benjamin Jung (Jim Eubanks, Pharmacology, U of Toronto) June 13th, 2005
Si Tuen Li (Liliana Attisano, U of Toronto) July 14th, 2005
Sherry Winter (Irene Andrulis, Lunenfeld) October 7th, 2005
Kata Boras-Granic (Paul Hamel, Lab Medicine) October 21st, 2005
Leigh Wilson (Gurmit Singh, McMaster University) November 25th, 2005
Raymond Kim (Tak Mak, OCI) November 29th, 2005
Carlo Hojilla (Rama Khokha, OCI) August 17th, 2006
Andrew Mente (Sandy Logan, Lunenfeld) March 19th, 2007
Kathrin Zaugg (Tak Mak, OCI) May 9th, 2007
Brain Cox (Janet Rossant, Sick Kids) July 20th, 2007
Kevin Brown (Igor Jurisica, OCI) August 28th, 2007
Etienne Labbé (Liliana Attisano, U of Toronto), September 20th, 2007
Rohit Bose (Jeff Wrana, Lunenfeld), May 29th, 2008
Ian Kelsall (Tricia Cohen, U. Dundee), October 23rd, 2008
Carol Cheung (Tak Mak, OCI), August 17th, 2009
Stephen Chen (Dan Dumont, Sunnybrook) August 21st, 2009
Stacey Santi (Hoyun Lee, Sudbury), September 21st, 2009
Cheryl Wolting (Jane McGlade, HSC) January 20th, 2010
YingJu Jang (Tak Mak, OCI) February 24th, 2010
Larissa Moniz (Vuk Stambolic, OCI) March 30th, 2010
George Charames (Bharati Bapat, SLRI) June 17th, 2010
Rachel Vanderlaan (Tony Pawson and Peter Backx, SLRI) October 15th, 2010
Andrew Perry (Brent Derry, HSC) January 12th, 2011
Thanashan Rajakulendran (Frank Sicheri, SLRI) July 6th, 2011
Aditya Murthy (Rama Khokha, OCI) August 31st, 2011
Val Lapin (Tak Mak, OCI) May 30th, 2012
Priscilla Lau (Peter Cheung, OCI) December 10th, 2012

Steffen Biechele (Janet Rossant, Sick Kids) March 27th, 2013
Praveer Sharma (Helen McNeill, LTRI) September 25th, 2013
Sevag Kaladchibachi (Armen Manoukian, OCI) January 9th, 2014
Hartland Jackson (Rama Khokha, OCI) May 30th, 2014
Enoch Ng (John Roder, LTRI) October 5th, 2015
Ho-Suk Mun (John Roder, LTRI) May 2nd, 2016
Lucy Xie (Leah Cowen, UofT) October 21st, 2016
Manpreet Kalkat (Linda Penn, OCI), December 12th, 2016
Florence Wu (Bob Kerbel, Sunnybrook), June 6th, 2017
Roula Antoon (Armand Keating, OCI), August 29th, 2017
Dulcie Vousden (Jason Lerch, Sick Kids), October 27th, 2017
Tracy L. Smith (Jane McGlade, Sick Kids), January 8th, 2018
Nandini Raghuram (Sean Egan, Sick Kids), February 15th, 2018
Natasha Kruglyak (Emil Pai, Biochemistry) April 23rd, 2018
Nasir Haider (Vuk Stambolic, OCI) April 30th, 2018
Khalid Al-Zahrani (Luc Sabourin, U. Ottawa) Dec 14th, 2018
Rosanne McQuaid (Andrea Jurisicova, U Toronto) April 6th, 2020
Hon Lam Lambert Yue (Steven Pelech, UBC) September 25th, 2020
Nittha Lelang (Romina Mizrahi, McGill) April 8th, 2021

Masters Examination Committees:

Jianmin Chen (Sam Benchimol, OCI) September 1993
Michael Parsons (Neil Miyamoto, OCI) August 1995
Trenna Sutcliffe (Sam Benchimol, OCI) September 1996
Peter Bhoi (Robert Rottapel, Wellesley HRI) September 1996
James Mainprize (Martin Yaffe, Sunnybrook) January 1997
Galina Radeva (Shoukat Dedhar, Sunnybrook) January 1997
Susan Randall (Brent Zanke) July 1997
Audrey Chan (Rick Miller, OCI) January 1998
Johanna Schulman (Alan Berstein, Lunenfeld) September 1998
Kolia Eppert (Irene Andrulis, Lunenfeld) September 1998
Thaddeus Allen (Bob Hawley, TTH) September 1998
Kelly Williams (Jane Danska, Sick Kids) December 1998
Si Tuen Li (Linda Penn, OCI) December 1998
Donald Knapik (Stuart Foster, Sunnybrook) December 1998
Mary Cheng (Sam Benchimol, OCI) January 1999
David Smookler (Tak Mak, OCI) October, 1999
Carol Holting (Jane McGlade, Sick Kids, Toronto) December 1999
Sherry Winter (Irene Andrulis, Lunenfeld) March 2000
Dana Nohynek (Armen Manoukian, OCI) July 2000
Clare Macgregor (Gil Prive, OCI) September 2000
Jenny Ho (Dwayne Barber, OCI) September 2000
Maurice Ennis (Armen Manoukian, OCI) April 2001
Patrizia Ruoso (David Hedley, OCI) September 2001
Kevin Brown (Violetta Skalski, OCI) December 2001
Gordon Duncan (Tak Mak, OCI) January 2002

Karen Yee (Mark Minden, OCI) April 2002
Susan Moore (Dwayne Barber, OCI) September 2002
Liz Cauldon (Aled Edwards, U of Toronto) January 2003
Lan-Chau Kha (Eldad Zacksenhaus, OCI), September 2003
Jorge Wong (Kate Vallis, OCI) September 2003
Nigel Munce (Lothar Lilge, OCI) November 2003
Marleine Tremblay (Simon Graham, Sunnybrook) January 2004
Margaret Soares (Steve Gallinger, Lunenfeld) March 2004
Diana Birlle (David Hedley, OCI) May 2004
Stephen Chen (Dan Dumont, Sunnybrook) June 2004
Cindy Yau (David Hedley, OCI) September 2004
Ben Pakuts (Jane McGlade, Sick Kids) January 2005
Andrew Primeau (Ian Tannock, OCI) July 2005
Sevad Kaladchibachi (Armen Manoukian, OCI) August 2005
Christina Lee (Yaacov Ben-David, Sunnybrook), August 2005
Natalie Meyer (Linda Penn, OCI), September 2006
Adam Hanley (Linda Penn, OCI) December 13th, 2006
Joanne Kim (Mei Zhen, Lunenfeld) January 14th, 2008
Andrew Rust (Linda Penn, OCI) July 17th, 2009
Irene Raitman (Irene Andrulis, SLRI) November 18th, 2009
Duoaud Shah (Lothar Lilge, OCI) June 1st, 2010
Manpreet Kalkat (Isabella Caniggia, SLRI) September 10th, 2010
Sarah Wheaton (Brian Raught, OCI) January 20th, 2011
Yunqing Li (Steve Lye, SLRI) July 28th, 2011
Kristine Louis (Irene Andrulis, SLRI) January 24th, 2012
Diana Tran (Anne Koch) September 4th, 2012
Jenny Hong (Brian Raught) December 7th, 2012
Shayne Greenberg (Mark Minden, OCI) Sept 2015
Sarah Forward (Alex Vitkin, OCI) September 5th, 2017
Signy Chow (Trevor Pugh, OCI) September 25th, 2017
Anshula Samarajeewa (Alain Dabdoub, Sunnybrook) June 8th, 2018
Melissa Prickaert (Margarete Akens, OCI) September 20th, 2019

Qualifying Examination Committees:

Tania Benatar (Michael Julius, Wellesley RI) August 1994
Jianli Dong (Henry Krause, U of T) January 1995
Madeleine Bonnard (Michael Julius, Wellesley RI) June 1995
Benoit St. Pierre (Sean Egan, Sick Kids) August 1996
Jacqueline Mason (Dwayne Barber, OCI) February 1998
Valerie Olmsted (Cheryl Arrowsmith, OCI) August 1998
Rizwan Haq (Brent Zanke, OCI) February 1999
Alex Sands (Tak Mak, OCI) April 1999
Sylvia Ng (David Hedley, OCI) August 1999
Liane Chen (Rick Miller, OCI) February, 2000
Jiyong Liang (Joyce Slingerland, Sunnybrook) April 2001
Dominic Falconi (Jane Aubin, U of T) December 2001

Mehredad Hariri (Rama Khokha, OCI) April 2002
Carol Cheung (Tak Mak, OCI) November 2002
Jenny Ho (Sam Benchimol, OCI) March 2003
Brian Nieman (Mark Henkelman, Sunnybrook) June 2003
Kenneth Yip (Fei-Fei Liu, OCI) November 2003
Simon Smuckler (Derek van der Kooy, U of Toronto) January 2004
Véronique Dorval (Paul Fraser, U of Toronto) March 2004
Rachel Vanderlaan (Tony Pawson and Peter Backx, LTRI) May 2006
Gladys Wong (Juan Carlos Zúñiga-Pflücker, Sunnybrook), August 2008
Behrouz Moemeni (Michael Julius, Sunnybrook), September 2009
Manpreet Kalkat (Linda Penn, OCI) June 2012
Danton Ivanochko (Cheryl Arrowsmith, PMCC), April 6, 2018

Reclassification Examinations:

Louis-Martin Boucher (Tak Mak, OCI) May 1995
Venus Lai (Tony Pawson, Lunenfeld) June 1995
Julia Pak (Jackie Segall, U of Toronto) June 1996
Stanley Liu (Jane McGlade, OCI) June 1997
Nina Jones (Dan Dumont, OCI) July 1997
Wing-Tze Fan (Michael Moran, BBDMR) October 1997
Andrew Ho (Rama Khokha, OCI) May 1998
Victoria Ahn (Gil Prive, OCI) June 1998
Theodore Chang (Jeff Wrana, HSC) June 1998
Sanjeev Mariathasan (Pam Ohashi, OCI) August 1998
Minna Woo (Tak Mak, OCI) October 1998
Norman Anthopoulos (Armen Manoukian, OCI) October 1998
Mark Lomarga (Tak Mak, OCI) November 1998
Paul LaPointe (Jean Gariepy, OCI) April 1999
Brett Robb (Philip Marsden, OCI) April 1999
Sara Oster (Linda Penn, OCI) June 1999
Zubin Master (Dan Dumont, OCI) June 1999
Ben Wetch (Armen Manoukian, OCI) August 1999
Cristoforo Silvestri (Liliana Attisano, U of Toronto) August 1999
Russell Jones (Pam Ohashi, OCI) August 1999
Cynthia Ho (Linda Penn, OCI) September 1999
Kata Boras (Paul Hamel, U of Toronto) December 1999
Stéphanie Backman (Tak Mak, OCI) December 1999
Rob Cairns (Dick Hill, OCI) May 2000
Paul Jorgensen (Mike Tyers, MSHRI) May 2000
Amandine Truong (Yacov Ben-David, Sunnybrook) March 2001
Jennifer Wan (Rick Miller, OCI) March 2001
Kevin Truong (Mitsu Ikura, OCI) March 2001
Mark Niedre (Brian Wilson, OCI) April 2001
Isolde Seiden (Ming-Sound Tsao, OCI) May 2001
Grant Welstead (Chris Richardson, OCI) May 2001
Chris Bakal (Rob Rottapel, OCI) June 2001

YingJu Jang (Tak Mak, OCI) June 2001
Megan Culley (Tak Mak, OCI) July 2001
Raymond Kim (Tak Mak, OCI) July 2001
Ahalya Mahendra (Greg Hannigan, Sick Kids) September 2001
Kathrin Zaugg (Tak Mak, OCI) April 2002
Wissam Assaily (Sam Benchimol, OCI) August 2002
Dawn Edmonds (Lea Harrington, OCI) March 2003
Jason Fish (Philip Marsden, U of Toronto) May 2003
Billie Au (Wen-chen Yeh, OCI) June 2003
Richelle Sopko (Brenda Andrews, U of Toronto) June 2003
Sian Bevan (Philip Marsden, U of T) July 2003
Amy Lin (Tak Mak, OCI) August 2003
Larissa Moniz (Vuk Stambolic, OCI) March 2004
Anita Bane (Irene Andrulis, Lunenfeld) August 2004
Ira Kim (Wen-Chen Yeh, OCI) April 2005
Priscilla Lau (Peter Cheung, OCI) June 2005
Valbona Luga (Jeff Wrana, Lunenfeld) October 2005
Val Lapin (Tak Mak, OCI) April 2007
Megan Nelle (Christopher Paige, OCI) April 2007
Praveer Sharma (Helen McNeill, Lunenfeld) May 2008
Hartland Jackson (Rama Khokha, OCI) July 2008
Washington Shao (Rama Khokha, OCI) May 2010
Nasir Haider (Vuk Stambolic, OCI) August 2011
Enoch Ng (John Roder, Lunenfeld) May 2012
Robert Banh (Ben Neel, OCI) Aug 2012
Mushriq Al-Jazrawe (Ben Alman) May 2013
Allan Tseng (Tak Mak) June 2013
Connie Yin (Ben Neel, OCI) August 2014
Zsuzsa Buchwald (Jason Lerch, Sick Kids) June 2015
Diana Resetca (Linda Penn, OCI) Dec 2015
Yagnesh Ladumor (Meredith Irwin, HSC) July 24th, 2018
Katelyn Kozma (Sean Egan, HSC) October 30th, 2018
Alannah MacDonald (Linda Penn/Brian Raught, OCI) August 14th, 2019
Hao Li (Jason Lerch, Sick Kids) September 13th, 2019