

FACULTY PUBLICATIONS

2015

AWADALLA, P.

El-Bikai R, Tahir MR, Tremblay J, Joffres M, Šeda O, Šedová L, Awadalla P, Laberge C, Knoppers BM, Dumas P, Gaudet D, Ste-Marie LG, Hamet P. Association of age-dependent height and bone mineral density decline with increased arterial stiffness and rate of fractures in hypertensive individuals. *J Hypertens.* 2015 Apr;33(4):727-35; discussion 735. doi: 10.1097/HJH.0000000000000475. PubMed PMID: 25915877.

Hussin JG, Hodgkinson A, Idaghdour Y, Grenier JC, Goulet JP, Gbeha E, Hip-Ki E, Awadalla P. Recombination affects accumulation of damaging and disease-associated mutations in human populations. *Nat Genet.* 2015 Apr;47(4):400-4. doi: 10.1038/ng.3216. Epub 2015 Feb 16. PubMed PMID: 25685891.

Stéphan Troyanov, Catherine Delmas-Frenette, Guillaume Bollée, Sonia Youhanna, Vanessa Bruat, Philip Awadalla, Olivier Devuyst, François Madore. Clinical, Genetic, and Urinary Factors Associated with Uromodulin Excretion. *American Society of Nephrology 2015 CJN.* 04770415

PH Sudmant, T Rausch, EJ Gardner, RE Handsaker, A Abyzov, J Huddleston, Y Zhang, K Ye, G Jun, M Hsi-Yang Fritz, MK Konkel, A Malhotra, AM Stütz, X Shi, F Paolo Casale, J Chen, F Hormozdiari, G Dayama, K Chen, M Malig, MJ Chaisson, K Walter, S Meiers, S Kashin, E Garrison, A Auton, HY Lam, X Jasmine Mu, C Alkan, D Antaki, T Bae, E Cerveira, P Chines, Z Chong, L Clarke, E Dal, L Ding, S Emery, X Fan, M Gujral, F Kahveci, JM Kidd, Y Kong, EW Lameijer, S McCarthy, P Flicek, RA Gibbs, G Marth, CE Mason, A Menelaou, DM Muzny, BJ Nelson, A Noor, NF Parrish, M Pendleton, A Quitadamo, B Raeder, EE Schadt, M Romanovitch, A Schlattl, R Sebra, AA Shabalina, A Untergasser, JA Walker, M Wang, F Yu, C Zhang, J Zhang, X Zheng-Bradley, W Zhou, T Zichner, J Sebat, MA Batzer, SA McCarroll, 1000 Genomes Project Consortium, RE Mills, MB Gerstein, A Bashir, O Stegle, SE Devine, C Lee, EE Eichler, JO Korbel. An integrated map of structural variation in 2,504 human genomes. 2015 *Nature* 526, 75–81

Sasha Bernatsky, Marvin Fritzler, Marie Hudson, Ines Colmegna, Paul Fortin, Allan Brand, Louis Bessette, Philip Awadalla, Audrey Smargiassi. Industrial Pollution Emissions are associated with Anti-CCP Antibodies. 2015. *J. Rheumatology.* 316-1317.

BEAUCHEMIN N.

Yip J, Alshahrani M, Beauchemin N, Jackson DE. CEACAM1 regulates integrin α IIb β 3-mediated functions in platelets. *Platelets.* 2016 Mar;27(2):168-77. doi: 10.3109/09537104.2015.1064102. Epub 2015 Jul 21. PubMed PMID: 26196244.

Department of Biochemistry 2015

Dupaul-Chicoine J, Arabzadeh A, Dagenais M, Douglas T, Champagne C, Morizot A, Rodrigue-Gervais IG, Breton V, Colpitts SL, Beauchemin N, Saleh M. The Nlrp3 Inflammasome Suppresses Colorectal Cancer Metastatic Growth in the Liver by Promoting Natural Killer Cell Tumoricidal Activity. *Immunity*. 2015 Oct 20;43(4):751-63. doi: 10.1016/j.immuni.2015.08.013. Epub 2015 Sep 15. PubMed PMID: 26384545.

Van Der Kraak L, Gros P, Beauchemin N. Colitis-associated colon cancer: Is it in your genes? *World J Gastroenterol*. 2015 Nov 7;21(41):11688-99. doi: 10.3748/wjg.v21.i41.11688. Review. PubMed PMID: 26556996; PubMed Central PMCID: PMC4631970.

Khairnar V, Duhan V, Maney SK, Honke N, Shaabani N, Pandya AA, Seifert M, Pozdeev V, Xu HC, Sharma P, Baldin F, Marquardsen F, Merches K, Lang E, Kirschning C, Westendorf AM, Häussinger D, Lang F, Dittmer U, Küppers R, Recher M, Hardt C, Scheffrahn I, Beauchemin N, Göthert JR, Singer BB, Lang PA, Lang KS. CEACAM1 induces B-cell survival and is essential for protective antiviral antibody production. *Nat Commun*. 2015 Feb 18;6:6217. doi: 10.1038/ncomms7217. PubMed PMID: 25692415; PubMed Central PMCID: PMC4346637.

Arabzadeh A, Dupaul-Chicoine J, Breton V, Haftchenary S, Yumeen S, Turbide C, Saleh M, McGregor K, Greenwood CM, Akavia UD, Blumberg RS, Gunning PT, Beauchemin N. Carcinoembryonic Antigen Cell Adhesion Molecule 1 long isoform modulates malignancy of poorly differentiated colon cancer cells. *Gut*. 2015 Feb 9. pii: gutjnl-2014-308781. doi: 10.1136/gutjnl-2014-308781. [Epub ahead of print] PubMed PMID: 25666195.

Huang YH, Zhu C, Kondo Y, Anderson AC, Gandhi A, Russell A, Dougan SK, Petersen BS, Melum E, Pertel T, Clayton KL, Raab M, Chen Q, Beauchemin N, Yazaki PJ, Pyzik M, Ostrowski MA, Glickman JN, Rudd CE, Ploegh HL, Franke A, Petsko GA, Kuchroo VK, Blumberg RS. CEACAM1 regulates TIM-3-mediated tolerance and exhaustion. *Nature*. 2015 Jan 15;517(7534):386-90. doi: 10.1038/nature13848. Epub 2014 Oct 26. PubMed PMID: 25363763; PubMed Central PMCID: PMC4297519.

BERGHUIS, A.M.

Bacot-Davis VR, Bassenden AB, Berghuis AM (2015) Drug-target networks in aminoglycoside resistance: hierarchy of priority in structural drug design. *Med. Chem. Commun.* published ahead of print. doi: 10.1039/C5MD00384A.

Brannon JR, Burk DL, Leclerc JM, Thomassin JL, Portt A, Berghuis AM, Gruenheid S, Le Moual H. Inhibition of outer membrane proteases of the omptin family by aprotinin. *Infect Immun*. 2015 Jun;83(6):2300-11. doi: 10.1128/IAI.00136-15. Epub 2015 Mar 30. PubMed PMID: 25824836; PubMed Central PMCID: PMC4432765.

Gritzalis D, Park J, Chiu W, Cho H, Lin YS, De Schutter JW, Lacbay CM, Zielinski M, Berghuis AM, Tsantrizos YS. Probing the molecular and structural elements of ligands binding to the active site versus an allosteric pocket of the human farnesyl pyrophosphate synthase. *Bioorg Med Chem Lett*. 2015 Mar 1;25(5):1117-23. doi: 10.1016/j.bmcl.2014.12.089. Epub 2015 Jan 13. PubMed PMID: 25630225.

Department of Biochemistry 2015

Bernatchez JA, Paul R, Tchesnokov EP, Ngure M, Beilhartz GL, Berghuis AM, Lavoie R, Li L, Auger A, Melnyk RA, Grobler JA, Miller MD, Hazuda DJ, Hecht SM, Götte M. Derivatives of mesoxalic acid block translocation of HIV-1 reverse transcriptase. *J Biol Chem.* 2015 Jan 16;290(3):1474-84. doi: 10.1074/jbc.M114.614305. Epub 2014 Oct 29. PubMed PMID: 25355312; PubMed Central PMCID: PMC4340395.

BOUCHARD, M.

Sharma R, Sanchez-Ferraz O, Bouchard M. Pax genes in renal development, disease and regeneration. *Semin Cell Dev Biol.* 2015 Aug;44:97-106. doi: 10.1016/j.semcdb.2015.09.016. Epub 2015 Sep 26. Review. PubMed PMID: 26410163.

Reginensi A, Hoshi M, Boualia SK, Bouchard M, Jain S, McNeill H. Yap and Taz are required for Ret-dependent urinary tract morphogenesis. *Development.* 2015 Aug 1;142(15):2696-703. doi: 10.1242/dev.122044. PubMed PMID: 26243870; PubMed Central PMCID: PMC4529030.

BRANTON, P.E.

Mui MZ, Zhou Y, Blanchette P, Chughtai N, Knight JF, Gruosso T, Papadakis AI, Huang S, Park M, Gingras AC, Branton PE. The Human Adenovirus Type 5 E4orf4 Protein Targets Two Phosphatase Regulators of the Hippo Signaling Pathway. *J Virol.* 2015 Sep;89(17):8855-70. doi: 10.1128/JVI.03710-14. Epub 2015 Jun 17. PubMed PMID: 26085163; PubMed Central PMCID: PMC4524087.

Sriskandarajah N, Blanchette P, Kucharski TJ, Teodoro JG, Branton PE. Analysis by live imaging of effects of the adenovirus E4orf4 protein on passage through mitosis of H1299 tumor cells. *J Virol.* 2015 Apr;89(8):4685-9. doi: 10.1128/JVI.03437-14. Epub 2015 Feb 4. PubMed PMID: 25653433; PubMed Central PMCID: PMC4442376.

Wimmer P, Berscheminski J, Blanchette P, Groitl P, Branton PE, Hay RT, Dobner T, Schreiner S. PML isoforms IV and V contribute to adenovirus-mediated oncogenic transformation by functionally inhibiting the tumor-suppressor p53. *Oncogene.* 2016 Jan 7;35(1):69-82. doi: 10.1038/onc.2015.63. Epub 2015 Mar 16. PubMed PMID: 25772236.

Dallaire F, Schreiner S, Blair GE, Dobner T, Branton PE, Blanchette, P. 2015. The human adenovirus type 5 E4orf6/E1B55K E3 ubiquitin ligase can mimic E1A effects on E2F. *mSPHERE* 1 (1):00014-15. Doi:10.1128/mSphere.00014-15

Dallaire F, Schreiner S, Blair GE, Dobner T, Branton, PE, Blanchette, P. 2015. The human adenovirus type 5 E4orf6/E1B55K E3 ubiquitin ligase enhances E1A functional activity. *mSPHERE* 1 (1):00015-15. Doi:10.1128.00015-15

Department of Biochemistry 2015

BROUHARD, G.J.

Wieczorek M, Bechstedt S, Chaaban S, Brouhard GJ. Microtubule-associated proteins control the kinetics of microtubule nucleation. *Nat Cell Biol.* 2015 Jul;17(7):907-16. doi: 10.1038/ncb3188. Epub 2015 Jun 22. PubMed PMID: 26098575.

Brouhard GJ. Dynamic instability 30 years later: complexities in microtubule growth and catastrophe. *Mol Biol Cell.* 2015 Apr 1;26(7):1207-10. doi: 10.1091/mbc.E13-10-0594. PubMed PMID: 25823928; PubMed Central PMCID: PMC4454169.

CYGLER, M.

D'Costa VM, Braun V, Landekic M, Shi R, Proteau A, McDonald L, Cygler M, Grinstein S, Brumell JH. Salmonella Disrupts Host Endocytic Trafficking by SopD2-Mediated Inhibition of Rab7. *Cell Rep.* 2015 Sep 1;12(9):1508-18. doi: 10.1016/j.celrep.2015.07.063. Epub 2015 Aug 20. PubMed PMID: 26299973.

Grishin AM, Cygler M. Structural Organization of Enzymes of the Phenylacetate Catabolic Hybrid Pathway. *Biology (Basel).* 2015 Jun 12;4(2):424-42. doi: 10.3390/biology4020424. Review. PubMed PMID: 26075354; PubMed Central PMCID: PMC4498308.

Grishin AM, Beyrakhova KA, Cygler M. Structural insight into effector proteins of Gram-negative bacterial pathogens that modulate the phosphoproteome of their host. *Protein Sci.* 2015 May;24(5):604-20. doi: 10.1002/pro.2636. Epub 2015 Feb 6. Review. PubMed PMID: 25565677; PubMed Central PMCID: PMC4420512.

Kalynych S, Cherney M, Bostina M, Rouiller I, Cygler M. Quaternary structure of WzzB and WzzE polysaccharide copolymerases. *Protein Sci.* 2015 Jan;24(1):58-69. doi: 10.1002/pro.2586. Epub 2014 Nov 4. PubMed PMID: 25307743; PubMed Central PMCID: PMC4282412.

DOSTIE, J.

Fraser J, Ferrai C, Chiariello AM, Schueler M, Rito T, Laudanno G, Barbieri M, Moore BL, Kraemer DC, Aitken S, Xie SQ, Morris KJ, Itoh M, Kawaji H, Jaeger I, Hayashizaki Y, Carninci P, Forrest AR; FANTOM Consortium, Semple CA, Dostie J, Pombo A, Nicodemi M. Hierarchical folding and reorganization of chromosomes are linked to transcriptional changes in cellular differentiation. *Mol Syst Biol.* 2015 Dec 23;11(12):852. doi: 10.15252/msb.20156492. PubMed PMID: 26700852; PubMed Central PMCID: PMC4704492.

Malina A, Cameron CJ, Robert F, Blanchette M, Dostie J, Pelletier J. PAM multiplicity marks genomic target sites as inhibitory to CRISPR-Cas9 editing. *Nat Commun.* 2015 Dec 8;6:10124. doi: 10.1038/ncomms10124. PubMed PMID: 26644285; PubMed Central PMCID: PMC4686818.

Moisan S, Berlivet S, Ka C, Gac GL, Dostie J, Férec C. Analysis of long-range interactions in primary human cells identifies cooperative CFTR regulatory elements. *Nucleic Acids Res.* 2015 Nov 28. pii: gkv1300. [Epub ahead of print] PubMed PMID: 26615198.

Department of Biochemistry 2015

Zheng HF, Forgetta V, Hsu YH, Estrada K, Rosello-Diez A, Leo PJ, Dahia CL, Park-Min KH, Tobias JH, Kooperberg C, Kleinman A, Styrkarsdottir U, Liu CT, Uggla C, Evans DS, Nielson CM, Walter K, Pettersson-Kymmer U, McCarthy S, Eriksson J, Kwan T, Jhamai M, Trajanoska K, Memari Y, Min J, Huang J, Danecek P, Wilmot B, Li R, Chou WC, Mokry LE, Moayyeri A, Claussnitzer M, Cheng CH, Cheung W, Medina-Gómez C, Ge B, Chen SH, Choi K, Oei L, Fraser J, Kraaij R, Hibbs MA, Gregson CL, Paquette D, Hofman A, Wibom C, Tranah GJ, Marshall M, Gardiner BB, Cremin K, Auer P, Hsu L, Ring S, Tung JY, Thorleifsson G, Enneman AW, van Schoor NM, de Groot LC, van der Velde N, Melin B, Kemp JP, Christiansen C, Sayers A, Zhou Y, Calderari S, van Rooij J, Carlson C, Peters U, Berlivet S, Dostie J, Uitterlinden AG, Williams SR, Farber C, Grinberg D, LaCroix AZ, Haessler J, Chasman DI, Giulianini F, Rose LM, Ridker PM, Eisman JA, Nguyen TV, Center JR, Nogues X, Garcia-Giralt N, Launer LL, Gudnason V, Mellström D, Vandenput L, Amin N, van Duijn CM, Karlsson MK, Ljunggren Ö, Svensson O, Hallmans G, Rousseau F, Giroux S, Bussière J, Arp PP, Koromani F, Prince RL, Lewis JR, Langdahl BL, Hermann AP, Jensen JE, Kaptoge S, Khaw KT, Reeve J, Formosa MM, Xuereb-Anastasi A, Åkesson K, McGuigan FE, Garg G, Olmos JM, Zarrabeitia MT, Riancho JA, Ralston SH, Alonso N, Jiang X, Goltzman D, Pastinen T, Grundberg E, Gauguier D, Orwoll ES, Karasik D, Davey-Smith G; AOGC Consortium, Smith AV, Siggeirsdottir K, Harris TB, Zillikens MC, van Meurs JB, Thorsteinsdottir U, Maurano MT, Timpson NJ, Soranzo N, Durbin R, Wilson SG, Ntzani EE, Brown MA, Stefansson K, Hinds DA, Spector T, Cupples LA, Ohlsson C, Greenwood CM; UK10K Consortium, Jackson RD, Rowe DW, Loomis CA, Evans DM, Ackert-Bicknell CL, Joyner AL, Duncan EL, Kiel DP, Rivadeneira F, Richards JB. Whole-genome sequencing identifies EN1 as a determinant of bone density and fracture. *Nature*. 2015 Oct 1;526(7571):112-7. doi: 10.1038/nature14878. Epub 2015 Sep 14. PubMed PMID: 26367794; PubMed Central PMCID: PMC4755714.

Fraser J, Williamson I, Bickmore WA, Dostie J. An Overview of Genome Organization and How We Got There: from FISH to Hi-C. *Microbiol Mol Biol Rev*. 2015 Sep;79(3):347-72. doi: 10.1128/MMBR.00006-15. Review. PubMed PMID: 26223848; PubMed Central PMCID: PMC4517094.

Robert F, Barbeau M, Éthier S, Dostie J, Pelletier J. Pharmacological inhibition of DNA-PK stimulates Cas9-mediated genome editing. *Genome Med*. 2015 Aug 27;7(1):93. doi: 10.1186/s13073-015-0215-6. PubMed PMID: 26307031; PubMed Central PMCID: PMC4550049.

DROUIN, J.

Mayran A, Pelletier A, Drouin J. Pax factors in transcription and epigenetic remodelling. *Semin Cell Dev Biol*. 2015 Aug;44:135-44. doi: 10.1016/j.semcdb.2015.07.007. Epub 2015 Jul 30. Review. PubMed PMID: 26234816.

van Rijn SJ, Pouwer MG, Tryfonidou MA, Grinwis GC, van der Bend JE, Beukers PE, Vastenhout N, Drouin J, Penning LC, Meij BP. Expression and clinical relevance of paired box protein 7 and sex determining region Y-box 2 in canine corticotroph pituitary adenomas. *Vet J*. 2015 Jun;204(3):315-21. doi: 10.1016/j.tvjl.2015.04.014. Epub 2015 Apr 15. PubMed PMID: 25956343.

Department of Biochemistry 2015

DUCHAINE, T.F.

Possik E, Ajisebutu A, Manteghi S, Gingras MC, Vijayaraghavan T, Flamand M, Coull B, Schmeisser K, Duchaine T, van Steensel M, Hall DH, Pause A. FLCN and AMPK Confer Resistance to Hyperosmotic Stress via Remodeling of Glycogen Stores. *PLoS Genet.* 2015 Oct 6;11(10):e1005520. doi: 10.1371/journal.pgen.1005520. eCollection 2015 Oct. PubMed PMID: 26439621; PubMed Central PMCID: PMC4595296.

Mayya VK, Duchaine TF. On the availability of microRNA-induced silencing complexes, saturation of microRNA-binding sites and stoichiometry. *Nucleic Acids Res.* 2015 Sep 3;43(15):7556-65. doi: 10.1093/nar/gkv720. Epub 2015 Jul 30. PubMed PMID: 26227970; PubMed Central PMCID: PMC4551941.

FON, E.A.

Bertolin G, Jacoupy M, Traver S, Ferrando-Miguel R, Saint Georges T, Grenier K*, Ardila-Osorio H, Muriel MP, Takahashi H, Lees AJ, Gautier C, Guedin D, Coge F, Fon EA, Brice A, Corti O. Parkin maintains mitochondrial levels of the protective Parkinson's disease-related enzyme 17- β hydroxysteroid dehydrogenase type 10. *Cell Death Differ.* 2015 doi: 10.1038/cdd.2014.224.

Edwards AM et al. SGC Open Source Target-Discovery Partnership. Preclinical target validation using patient-derived cells. *Nat Rev Drug Discov.* 2015; 14(3):149-50

Durcan TM, Fon EA. The three 'P's of mitophagy: PARKIN, PINK1, and post-translational modifications. *Genes Dev.* 2015 May 15;29(10):989-99. doi: 10.1101/gad.262758.115. Review. PubMed PMID: 25995186; PubMed Central PMCID: PMC4441056.

Ryan BJ, Hoek S, Fon EA, Wade-Martins R. Mitochondrial dysfunction and mitophagy in Parkinson's: from familial to sporadic disease. *Trends Biochem Sci.* 2015 Apr;40(4):200-10. doi: 10.1016/j.tibs.2015.02.003. Epub 2015 Mar 8. Review. PubMed PMID: 25757399.

Aguileta MA, Korac J, Durcan TM, Trempe JF, Haber M, Gehring K, Elsasser S, Waidmann O, Fon EA, Husnjak K. The E3 ubiquitin ligase parkin is recruited to the 26 S proteasome via the proteasomal ubiquitin receptor Rpn13. *J Biol Chem.* 2015 Mar 20;290(12):7492-505. doi: 10.1074/jbc.M114.614925. Epub 2015 Feb 9. PubMed PMID: 25666615; PubMed Central PMCID: PMC4367258.

Durcan TM, Fon EA. USP8 and PARK2/parkin-mediated mitophagy. *Autophagy.* 2015;11(2):428-9. doi: 10.1080/15548627.2015.1009794. PubMed PMID: 25700639; PubMed Central PMCID: PMC4502724.

Schreij AM, Chaineau M, Ruan W, Lin S, Barker PA, Fon EA, McPherson PS. LRRK2 localizes to endosomes and interacts with clathrin-light chains to limit Rac1 activation. *EMBO Rep.* 2015 Jan;16(1):79-86. doi: 10.15252/embr.201438714. Epub 2014 Nov 26. PubMed PMID: 25427558; PubMed Central PMCID: PMC4304731.

Department of Biochemistry 2015

GALLOUZI, I.E.

El Shanti H, Chouchane L, Badii R, Gallouzi IE, Gasparini P. Genetic testing and genomic analysis: a debate on ethical, social and legal issues in the Arab world with a focus on Qatar. *J Transl Med.* 2015 Nov 14;13:358. doi: 10.1186/s12967-015-0720-9. PubMed PMID: 26572608; PubMed Central PMCID: PMC4647661.

GEHRING, K.

Li X, Gehring K. Structural studies of parkin and salsin: Mitochondrial dynamics in neurodegenerative diseases. *Mov Disord.* 2015 Oct;30(12):1610-9. doi: 10.1002/mds.26357. Epub 2015 Sep 11. PubMed PMID: 26359782.

Wong K, Kozlov G, Zhang Y, Gehring K. Structure of the Legionella Effector, lpg1496, Suggests a Role in Nucleotide Metabolism. *J Biol Chem.* 2015 Oct 9;290(41):24727-37. doi: 10.1074/jbc.M115.671263. Epub 2015 Aug 20. PubMed P MID: 26294765; PubMed Central PMCID: PMC4598985.

Sauvé V, Lilov A, Seirafi M, Vranas M, Rasool S, Kozlov G, Sprules T, Wang J, Trempe JF, Gehring K. A Ubl/ubiquitin switch in the activation of Parkin. *EMBO J.* 2015 Oct 14;34(20):2492-505. doi: 10.15252/embj.201592237. Epub 2015 Aug 7. PubMed PMID: 26254305; PubMed Central PMCID: PMC4609182.

Muñoz-Escobar J, Matta-Camacho E, Kozlov G, Gehring K. The MLLE domain of the ubiquitin ligase UBR5 binds to its catalytic domain to regulate substrate binding. *J Biol Chem.* 2015 Sep 11;290(37):22841-50. doi: 10.1074/jbc.M115.672246. Epub 2015 Jul 29. PubMed PMID: 26224628; PubMed Central PMCID: PMC4566254.

Tétreault M, Gonzalez M, Dicaire MJ, Allard P, Gehring K, Leblanc D, Leclerc N, Schondorf R, Mathieu J, Zuchner S, Brais B. Adult-onset painful axonal polyneuropathy caused by a dominant NAGLU mutation. *Brain.* 2015 Jun;138(Pt 6):1477-83. doi: 10.1093/brain/awv074. Epub 2015 Mar 28. PubMed PMID: 25818867; PubMed Central PMCID: PMC4542621.

Seirafi M, Kozlov G, Gehring K. Parkin structure and function. *FEBS J.* 2015 Jun;282(11):2076-88. doi: 10.1111/febs.13249. Epub 2015 Mar 16. Review. PubMed PMID: 25712550; PubMed Central PMCID: PMC4672691.

Aguileta MA, Korac J, Durcan TM, Trempe JF, Haber M, Gehring K, Elsasser S, Waidmann O, Fon EA, Husnjak K. The E3 ubiquitin ligase parkin is recruited to the 26 S proteasome via the proteasomal ubiquitin receptor Rpn13. *J Biol Chem.* 2015 Mar 20;290(12):7492-505. doi: 10.1074/jbc.M114.614925. Epub 2015 Feb 9. PubMed PMID: 25666615; PubMed Central PMCID: PMC4367258.

Larivière R, Gaudet R, Gentil BJ, Girard M, Conte TC, Minotti S, Leclerc-Desaulniers K, Gehring K, McKinney RA, Shoubridge EA, McPherson PS, Durham HD, Brais B. Sacs knockout mice present pathophysiological defects underlying autosomal recessive spastic ataxia of

Department of Biochemistry 2015

Charlevoix-Saguenay. *Hum Mol Genet.* 2015 Feb 1;24(3):727-39. doi: 10.1093/hmg/ddu491. Epub 2014 Sep 26. PubMed PMID: 25260547; PubMed Central PMCID: PMC4291249.

Li X, Ménade M, Kozlov G, Hu Z, Dai Z, McPherson PS, Brais B, Gehring K. High-Throughput Screening for Ligands of the HEPN Domain of Sacsin. *PLoS One.* 2015 Sep 14;10(9):e0137298. doi: 10.1371/journal.pone.0137298. eCollection 2015. PubMed PMID: 26366743; PubMed Central PMCID: PMC4569058.

GENEST, J.

Cannon CP, Blazing MA, Giugliano RP, McCagg A, White JA, Theroux P, Darius H, Lewis BS, Ophuis TO, Jukema JW, De Ferrari GM, Ruzylo W, De Lucca P, Im K, Bohula EA, Reist C, Wiviott SD, Tereshkovec AM, Musliner TA, Braunwald E, Califf RM; IMPROVE-IT Investigators. Ezetimibe Added to Statin Therapy after Acute Coronary Syndromes. *N Engl J Med.* 2015 Jun 18;372(25):2387-97. doi: 10.1056/NEJMoa1410489. Epub 2015 Jun 3. PubMed PMID: 26039521.

Hafiane A, Genest J. HDL-Mediated Cellular Cholesterol Efflux Assay Method. *Ann Clin Lab Sci.* 2015 Nov;45(6):659-68. PubMed PMID: 26663796.

Hafiane A, Genest J. High density lipoproteins: Measurement techniques and potential biomarkers of cardiovascular risk. *BBA Clin.* 2015 Jan 31;3:175-88. doi: 10.1016/j.bbacli.2015.01.005. eCollection 2015 Jun. Review. PubMed PMID: 26674734; PubMed Central PMCID: PMC4661556.

Awan Z, Genest J. Inflammation modulation and cardiovascular disease prevention. *Eur J Prev Cardiol.* 2015 Jun;22(6):719-33. doi: 10.1177/2047487314529350. Epub 2014 Apr 7. Review. PubMed PMID: 24711609.

Anderson TJ, Mancini GB, Genest J Jr, Grégoire J, Lonn EM, Hegele RA. The new dyslipidemia guidelines: what is the debate? *Can J Cardiol.* 2015 May;31(5):605-12. doi: 10.1016/j.cjca.2014.11.007. Epub 2014 Nov 11. Review. PubMed PMID: 25816728.

Stitzel NO, Peloso GM, Abifadel M, Cefalu AB, Fouchier S, Motazacker MM, Tada H, Larach DB, Awan Z, Haller JF, Pullinger CR, Varret M, Rabès JP, Noto D, Tarugi P, Kawashiri MA, Nohara A, Yamagishi M, Risman M, Deo R, Ruel I, Shendure J, Nickerson DA, Wilson JG, Rich SS, Gupta N, Farlow DN, Neale BM, Daly MJ, Kane JP, Freeman MW, Genest J, Rader DJ, Mabuchi H, Kastelein JJ, Hovingh GK, Averna MR, Gabriel S, Boileau C, Kathiresan S. Exome sequencing in suspected monogenic dyslipidemias. *Circ Cardiovasc Genet.* 2015 Apr;8(2):343-50. doi: 10.1161/CIRCGENETICS.114.000776. Epub 2015 Jan 27. PubMed PMID: 25632026; PubMed Central PMCID: PMC4406825.

Hafiane A, Bielicki JK, Johansson JO, Genest J. Novel Apo E-Derived ABCA1 Agonist Peptide (CS-6253) Promotes Reverse Cholesterol Transport and Induces Formation of pre β -1 HDL In Vitro. *PLoS One.* 2015 Jul 24;10(7):e0131997. doi: 10.1371/journal.pone.0131997. eCollection 2015. PubMed PMID: 26207756; PubMed Central PMCID: PMC4514675.

Al-Ashwal A, Alnouri F, Sabbour H, Al-Mahfouz A, Al-Sayed N, Razzaghy-Azar M, Al-Allaf

Department of Biochemistry 2015

F, Al-Waili K, Banerjee Y, Genest J, Santos RD, Al-Rasadi K. Identification and Treatment of Patients with Homozygous Familial Hypercholesterolaemia: Information and Recommendations from a Middle East Advisory Panel. *Curr Vasc Pharmacol*. 2015;13(6):759-70. PubMed PMID: 26311574.

Genest J, Ince S. Fifty years of philanthropy: The Louis and Artur Lucian Award in cardiovascular diseases at McGill University. *Can J Cardiol* 2015;949-54

Vallejo-Vaz AJ, Kondapally Seshasai SR, Cole D, Hovingh GK, Kastelein JJ, Mata P, Raal FJ, Santos RD, Soran H, Watts GF, Abifadel M, Aguilar-Salinas CA, Akram A, Alnouri F, Alonso R, Al-Rasadi K, Banach M, Bogsrud MP, Bourbon M, Bruckert E, Car J, Corral P, Descamps O, Dieplinger H, Durst R, Freiburger T, Gaspar IM, Genest J, Harada-Shiba M, Jiang L, Kayikcioglu M, Lam CS, Latkovskis G, Laufs U, Liberopoulos E, Nilsson L, Nordestgaard BG, O'Donoghue JM, Sahebkar A, Schunkert H, Shehab A, Stoll M, Su TC, Susekov A, Widén E, Catapano AL, Ray KK. Familial hypercholesterolaemia: A global call to arms. *Atherosclerosis*. 2015 Sep 18;243(1):257-259

Awan Z, Denis M, Roubtsova A, Awan A, Gram H, Seidah N, Genest J. Reducing Vascular Calcification by Anti-IL-1 β Monoclonal Antibody in a Mouse Model of Familial Hypercholesterolemia. *Angiology*. 2015 Apr 22. *Angiology*. 2016 Feb;67(2):157-67

GIGUÈRE, V.

Yuk JM, Kim TS, Kim SY, Lee HM, Han J, Dufour CR, Kim JK, Jin HS, Yang CS, Park KS, Lee CH, Kim JM, Kweon GR, Choi HS, Vanacker JM, Moore DD, Giguère V, Jo EK. Orphan Nuclear Receptor ERR α Controls Macrophage Metabolic Signaling and A20 Expression to Negatively Regulate TLR-Induced Inflammation. *Immunity*. 2015 Jul 21;43(1):80-91. doi: 10.1016/j.immuni.2015.07.003. PubMed PMID: 26200012.

Giguère V. Editorial: What's in a Name, or the Impact of Misnomers in Endocrine Research. *Mol Endocrinol*. 2015 Jun;29(6):789-90. doi: 10.1210/me.2015-1119. PubMed PMID: 26030126.

Wang T, McDonald C, Petrenko NB, Leblanc M, Wang T, Giguere V, Evans RM, Patel VV, Pei L. Estrogen-related receptor α (ERR α) and ERR γ are essential coordinators of cardiac metabolism and function. *Mol Cell Biol*. 2015 Apr;35(7):1281-98. doi: 10.1128/MCB.01156-14. Epub 2015 Jan 26. PubMed PMID: 25624346; PubMed Central PMCID: PMC4355525.

Audet-Walsh É, Giguère V. The multiple universes of estrogen-related receptor α and γ in metabolic control and related diseases. *Acta Pharmacol Sin*. 2015 Jan;36(1):51-61. doi: 10.1038/aps.2014.121. Epub 2014 Dec 15. Review. PubMed PMID: 25500872; PubMed Central PMCID: PMC4571319.

Department of Biochemistry 2015

GROS, P.

Van Der Kraak L, Gros P, Beauchemin N. Colitis-associated colon cancer: Is it in your genes? *World J Gastroenterol*. 2015 Nov 7;21(41):11688-99. doi: 10.3748/wjg.v21.i41.11688. Review. PubMed PMID: 26556996; PubMed Central PMCID: PMC4631970.

Belle JI, Langlais D, Petrov JC, Pardo M, Jones RG, Gros P, Nijnik A. p53 mediates loss of hematopoietic stem cell function and lymphopenia in *Mysm1* deficiency. *Blood*. 2015 Apr 9;125(15):2344-8. doi: 10.1182/blood-2014-05-574111. Epub 2015 Feb 20. PubMed PMID: 25710881.

Rocque BL, Babayeva S, Li J, Leung V, Nezvitsky L, Cybulsky AV, Gros P, Torban E. Deficiency of the planar cell polarity protein *Vangl2* in podocytes affects glomerular morphogenesis and increases susceptibility to injury. *J Am Soc Nephrol*. 2015 Mar;26(3):576-86. doi: 10.1681/ASN.2014040340. Epub 2014 Aug 21. PubMed PMID: 25145929; PubMed Central PMCID: PMC4341486.

Torre S, Faucher SP, Fodil N, Bongfen SE, Berghout J, Schwartzentruber JA, Majewski J, Lathrop M, Cooper AM, Vidal SM, Gros P. THEMIS is required for pathogenesis of cerebral malaria and protection against pulmonary tuberculosis. *Infect Immun*. 2015 Feb;83(2):759-68. doi: 10.1128/IAI.02586-14. Epub 2014 Dec 1. PubMed PMID: 25452553; PubMed Central PMCID: PMC4294254.

Zhang X, Bogunovic D, Payelle-Brogard B, Francois-Newton V, Speer SD, Yuan C, Volpi S, Li Z, Sanal O, Mansouri D, Tezcan I, Rice GI, Chen C, Mansouri N, Mahdavian SA, Itan Y,

van Bruggen R, Gualtieri C, Iliescu A, Louicharoen Cheepsunthorn C, Mungkalasut P, Trape JF, Modiano D, Sodiomon Sirima B, Singhasivanon P, Lathrop M, Sakuntabhai A, Bureau JF, Gros P. Modulation of Malaria Phenotypes by Pyruvate Kinase (PKLR) Variants in a Thai Population. *PLoS One*. 2015 Dec 14;10(12):e0144555. doi: 10.1371/journal.pone.0144555. eCollection 2015. PubMed PMID: 26658699; PubMed Central PMCID: PMC4677815.

HALLETT, M.

Jones LM, Broz ML, Ranger JJ, Ozcelik J, Ahn R, Zuo D, Ursini-Siegel J, Hallett M, Krummel M, Muller MJ (2015) *Stats* establishes an immunosuppressive microenvironment during the early stages of breast carcinogenesis to promote tumor growth and metastasis. *Cancer Research* Dec 30, pii: canres.2770.2015.

Siklenka K, Erkek S, Godmann M, Lambrot R, McGraw S, Lafleur C, Cohen T, Xia J, Suderman M, Hallett M, Trasler J, Peters AH, Kimmins S. (2015) *Science* 6:350(6261):aab2006.

Paquet E, Cui J, Davidson D, Pietrosevoli N, Hassan HH, Tsofack SP, Maltais A, Hallett M, Delorenzi M, Batist G, Aloyz R, Lebel M (2015) A 12-gene signature associated with prognosis and benefit from 5-fluorouracil in colon cancer. *Journal of Pathology – Clinical Research*. 1(3):160-172.

Department of Biochemistry 2015

Ali-Khan S, Black L, Palmour N, Hallett M, Avard D (2015) Socio-ethical issues in personalized medicine: a systematic review of english language HTAs of gene expression profiling tests for breast cancer prognosis. *International Journal of Technology Assessment in Health Care*. 31(1-2):36-50.

Jones LM, Broz ML, Ranger JJ, Ozcelik J, Ahn R, Zuo D, Ursini-Siegel J, Hallett M, Krummel M, Muller WJ. (2015) Stats establishes an immunosuppressive microenvironment during the early stages of breast carcinogenesis to promote tumor growth and metastasis. *Cancer Res pii: canres.2770.2015*.

Hosein AN, Livingstone J, Buchanan M, Reid JF, Hallett M, Basik M. (2015) A functional in vitro model of heterotypic interactions reveals a role for interferon-positive carcinoma associated fibroblasts in breast cancer. *BMC Cancer*. Mar 15;15:130.

Massart R, Barnea R, Bar-Ilan Y, Suderman M, Meier O, Hallett M, Kennedy P, Nestler E, Szyf M, Yadid G (2015) Role of DNA methylation in the nucleus accumbens incubation of cocaine craving. *The Journal of Neuroscience*. In press.

Nemoda Z, Massart R, Suderman M, Hallett M, Li T, Coote M, Cody N, Sun ZS, Soares CN, Turecki G, Steiner M, Szyf M (2015) Maternal depression is associated with DNA methylation changes in cord blood T lymphocytes and adult hippocampi. *Translational Psychiatry*. 5:e545. doi: 10.1038/tp.2015.32.

HUANG, S.

Mui MZ, Zhou Y, Blanchette P, Chughtai N, Knight JF, Gruosso T, Papadakis AI, Huang S, Park M, Gingras AC, Branton PE. The Human Adenovirus Type 5 E4orf4 Protein Targets Two Phosphatase Regulators of the Hippo Signaling Pathway. *J Virol*. 2015 Sep;89(17):8855-70. doi: 10.1128/JVI.03710-14. Epub 2015 Jun 17. PubMed PMID: 26085163; PubMed Central PMCID: PMC4524087.

Papadakis AI, Sun C, Knijnenburg TA, Xue Y, Grernrum W, Hölzel M, Nijkamp W, Wessels LF, Beijersbergen RL, Bernards R, Huang S. SMARCE1 suppresses EGFR expression and controls responses to MET and ALK inhibitors in lung cancer. *Cell Res*. 2015 Apr;25(4):445-58. doi: 10.1038/cr.2015.16. Epub 2015 Feb 6. PubMed PMID: 25656847; PubMed Central PMCID: PMC4387553.

Rajesh K, Krishnamoorthy J, Kazimierczak U, Tenkerian C, Papadakis AI, Wang S, Huang S, Koromilas AE. Phosphorylation of the translation initiation factor eIF2 α at serine 51 determines the cell fate decisions of Akt in response to oxidative stress. *Cell Death Dis*. 2015 Jan 15;6:e1591. doi: 10.1038/cddis.2014.554. PubMed PMID: 25590801; PubMed Central PMCID: PMC4669752.

Andrei AZ, Hall A, Smith AL, Bascañana C, Malina A, Connor A, Altinel-Omeroglu G, Huang S, Pelletier J, Huntsman D, Gallinger S, Omeroglu A, Metrakos P, Zogopoulos G. Increased in vitro and in vivo sensitivity of BRCA2-associated pancreatic cancer to the poly(ADP-ribose)

Department of Biochemistry 2015

polymerase-1/2 inhibitor BMN 673. *Cancer Lett.* 2015 Aug 1;364(1):8-16. doi: 10.1016/j.canlet.2015.04.003. Epub 2015 Apr 9. PubMed PMID: 25864590.

KISS, R.S.

Oropeza D, Jouvét N, Bouyakdan K, Perron G, Ringuette LJ, Philipson LH, Kiss RS, Poitout V, Alquier T, Estall JL. PGC-1 coactivators in β -cells regulate lipid metabolism and are essential for insulin secretion coupled to fatty acids. *Mol Metab.* 2015 Aug 14;4(11):811-22. doi: 10.1016/j.molmet.2015.08.001. eCollection 2015 Nov. PubMed PMID: 26629405; PubMed Central PMCID: PMC4632114.

Fond AM, Lee CS, Schulman IG, Kiss RS, Ravichandran KS. Apoptotic cells trigger a membrane-initiated pathway to increase ABCA1. *J Clin Invest.* 2015 Jul 1;125(7):2748-58. doi: 10.1172/JCI80300. Epub 2015 Jun 15. PubMed PMID: 26075824; PubMed Central PMCID: PMC4563683.

LUKACS, G.L.

Kharitidi D, Apaja PM, Manteghi S, Suzuki K, Malitskaya E, Roldan A, Gingras MC, Takagi J, Lukacs GL, Pause A. Interplay of Endosomal pH and Ligand Occupancy in Integrin $\alpha 5 \beta 1$ Ubiquitination, Endocytic Sorting, and Cell Migration. *Cell Rep.* 2015 Oct 20;13(3):599-609. doi: 10.1016/j.celrep.2015.09.024. Epub 2015 Oct 8. PubMed PMID: 26456826.

Phuan PW, Veit G, Tan JA, Finkbeiner WE, Lukacs GL, Verkman AS. Potentiators of Defective $\Delta F508$ -CFTR Gating that Do Not Interfere with Corrector Action. *Mol Pharmacol.* 2015 Oct;88(4):791-9. doi: 10.1124/mol.115.099689. Epub 2015 Aug 5. PubMed PMID: 26245207; PubMed Central PMCID: PMC4576684.

Maléth J, Balázs A, Pallagi P, Balla Z, Kui B, Katona M, Judák L, Németh I, Kemény LV, Rakonczay Z Jr, Venglovecz V, Földesi I, Pető Z, Somorácz Á, Borka K, Perdomo D, Lukacs GL, Gray MA, Monterisi S, Zaccolo M, Sendler M, Mayerle J, Kühn JP, Lerch MM, Sahin-Tóth M, Hegyi P. Alcohol disrupts levels and function of the cystic fibrosis transmembrane conductance regulator to promote development of pancreatitis. *Gastroenterology.* 2015 Feb;148(2):427-39.e16. doi: 10.1053/j.gastro.2014.11.002. Epub 2014 Nov 7. PubMed PMID: 25447846; PubMed Central PMCID: PMC4353632.

McINNES, R.R.

Jung CC, Atan D, Ng D, Ploder L, Ross SE, Klein M, Birch DG, Diez E, McInnes RR. Transcription factor PRDM8 is required for rod bipolar and type 2 OFF-cone bipolar cell survival and amacrine subtype identity. *Proc Natl Acad Sci U S A.* 2015 Jun 9;112(23):E3010-9. doi: 10.1073/pnas.1505870112. Epub 2015 May 28. PubMed PMID: 26023183; PubMed Central PMCID: PMC4466745.

Sinai L, Ivakine EA, Lam E, Deurloo M, Dida J, Zirngibl RA, Jung C, Aubin JE, Feng ZP, Yeomans J, McInnes RR, Osborne LR, Roder JC. Disruption of Src Is Associated with

Department of Biochemistry 2015

Phenotypes Related to Williams-Beuren Syndrome and Altered Cellular Localization of TFII-I(1,2). *eNeuro*. 2015 Mar 30;2(2). pii: ENEURO.0016-14.2015. doi: 10.1523/ENEURO.0016-14.2015. eCollection 2015 Mar-Apr. PubMed PMID: 26464974; PubMed Central PMCID: PMC4596087.

McInnes RR. 2014 Victor A. McKusick Leadership Award introduction: David Valle. *Am J Hum Genet*. 2015 Mar 5;96(3):372-3. doi: 10.1016/j.ajhg.2015.01.018. PubMed PMID: 25748356; PubMed Central PMCID: PMC4375524.

Mahadevan V, Dargaei Z, Ivakine EA, Hartmann AM, Ng D, Chevrier J, Ormond J, Nothwang HG, McInnes RR, Woodin MA. *Neto2*-null mice have impaired GABAergic inhibition and are susceptible to seizures. *Front Cell Neurosci*. 2015 Sep 23;9:368. doi: 10.3389/fncel.2015.00368. eCollection 2015. PubMed PMID: 26441539; PubMed Central PMCID: PMC4585209.

MULLER, W.J.

Rosddeutscher L, Li J, Luco AL, Fadhil I, Ochiatti B, Camirand A, Huang DC, Reinhardt TA, Muller W, Kremer R. Chemoprevention activity of 25-hydroxyvitamin D in the MMTV-PyMT mouse model of breast cancer. *Cancer Prev Res (Phila)*. 2015 Feb;8(2):120-8. doi: 10.1158/1940-6207.CAPR-14-0110. Epub 2014 Dec 2. PubMed PMID: 25468832.

Li J, Davidson D, Martins Souza C, Zhong MC, Wu N, Park M, Muller WJ, Veillette A. Loss of PTPN12 Stimulates Progression of ErbB2-Dependent Breast Cancer by Enhancing Cell Survival, Migration, and Epithelial-to-Mesenchymal Transition. *Mol Cell Biol*. 2015 Dec;35(23):4069-82. doi: 10.1128/MCB.00741-15. Epub 2015 Sep 21. PubMed PMID: 26391955; PubMed Central PMCID: PMC4628068.

Sriram R, Lo V, Pryce B, Antonova L, Mears AJ, Daneshmand M, McKay B, Conway SJ, Muller WJ, Sabourin LA. Loss of periostin/OSF-2 in ErbB2/Neu-driven tumors results in androgen receptor-positive molecular apocrine-like tumors with reduced Notch1 activity. *Breast Cancer Res*. 2015 Jan 16;17:7. doi: 10.1186/s13058-014-0513-8. PubMed PMID: 25592291; PubMed Central PMCID: PMC4355979.

NAGAR, B.

Liberman N, Gandin V, Svitkin YV, David M, Virgili G, Jaramillo M, Holcik M, Nagar B, Kimchi A, Sonenberg N. DAP5 associates with eIF2 β and eIF4AI to promote Internal Ribosome Entry Site driven translation. *Nucleic Acids Res*. 2015 Apr 20;43(7):3764-75. doi: 10.1093/nar/gkv205. Epub 2015 Mar 16. PubMed PMID: 25779044; PubMed Central PMCID: PMC4402527.

NEPVEU, A.

Pal R, Ramdzan ZM, Kaur S, Duquette PM, Marcotte R, Leduy L, Davoudi S, Lamarche-Vane N, Iulianella A, Nepveu A. CUX2 protein functions as an accessory factor in the repair of oxidative

Department of Biochemistry 2015

DNA damage. *J Biol Chem*. 2015 Sep 11;290(37):22520-31. doi: 10.1074/jbc.M115.651042. Epub 2015 Jul 28. PubMed PMID: 26221032; PubMed Central PMCID: PMC4566227.

Ramdzan ZM, Pal R, Kaur S, Leduy L, Bérubé G, Davoudi S, Vadnais C, Nepveu A. The function of CUX1 in oxidative DNA damage repair is needed to prevent premature senescence of mouse embryo fibroblasts. *Oncotarget*. 2015 Feb 28;6(6):3613-26. PubMed PMID: 25682875; PubMed Central PMCID: PMC4414141.

PAPADOPOULOS, V.

Martinez–Arguelles DB, Papadopoulos V (2015) Identification of hot spots of DNA methylation in the adult male adrenal in response to in utero exposure to the ubiquitous endocrine disruptor plasticizer di-(2-ethylhexyl) phthalate. *Endocrinology*, 156:124-133.

Issop L, Fan J, Lee S, Rone MB, Basu K, Mui J, Papadopoulos V (2015) Mitochondria-associated membrane formation in hormone-stimulated Leydig cell steroidogenesis: Role of ATAD3. *Endocrinology*, 156:334-345.

Sakai M, Martinez-Arguelles DM, Patterson NH, Chaurand P, Papadopoulos V (2015) In search of the molecular mechanisms mediating the inhibitory effect of the GnRH antagonist degarelix on human prostate cell growth. *PLOS One*, 10(3):e0120670.

Martinez–Arguelles D, Papadopoulos V (2015) Mechanisms mediating environmental chemical- induced endocrine disruption in the adrenal gland. *Frontiers in Endocrinology*, 6:29.

Papadopoulos V, Aghazadeh Y, Fan J, Campioli, E., Zirkin BR, Midzak A (2015) Translocator protein- mediated pharmacology of cholesterol transport and steroidogenesis. *Molecular & Cellular Endocrinology*, 408:90-98.

Azarashvili T, Krestinina O, Baburina Y, Odinokova I, Grachev D, Papadopoulos V, Akatov V, Lemasters JJ, Reiser G. Combined effect of G3139 and TSPO ligands on Ca(2+)-induced permeability transition in rat brain mitochondria. *Arch Biochem Biophys*. 2015 Dec 1;587:70-7. doi: 10.1016/j.abb.2015.10.012. Epub 2015 Oct 20. PubMed PMID: 26498031.

Chen H, Guo J, Ge R, Lian Q, Papadopoulos V, Zirkin BR. Steroidogenic fate of the Leydig cells that repopulate the testes of young and aged Brown Norway rats after elimination of the preexisting Leydig cells. *Exp Gerontol*. 2015 Dec;72:8-15. doi: 10.1016/j.exger.2015.08.014. Epub 2015 Sep 1. PubMed PMID: 26335619; PubMed Central PMCID: PMC4654651.

Mavrogonatou E, Papadimitriou K, Urban JP, Papadopoulos V, Kletsas D. Deficiency in the α 1 subunit of Na⁺/K⁺-ATPase enhances the anti-proliferative effect of high osmolality in nucleus pulposus intervertebral disc cells. *J Cell Physiol*. 2015 Dec;230(12):3037-48. doi: 10.1002/jcp.25040. PubMed PMID: 25967398.

Sakai M, Elhilali M, Papadopoulos V. The GnRH Antagonist Degarelix Directly Inhibits Benign Prostate Hyperplasia Cell Growth. *Horm Metab Res*. 2015 Nov;47(12):925-31. doi: 10.1055/s-0035-1555899. Epub 2015 Jul 21. PubMed PMID: 26197852.

Department of Biochemistry 2015

Li J, Papadopoulos V, Vihma V. Steroid biosynthesis in adipose tissue. *Steroids*. 2015 Nov;103:89-104. doi: 10.1016/j.steroids.2015.03.016. Epub 2015 Apr 3. PubMed PMID: 25846979.

Campioli E, Duong TB, Deschamps F, Papadopoulos V. Erratum to "Cyclohexane-1,2-dicarboxylic acid diisononyl ester and metabolite effects on rat epididymal stromal vascular fraction differentiation of adipose tissue" [*Environ. Res.* 140 (2015) 145-156]. *Environ Res*. 2015 Nov 12. pii: S0013-9351(15)00250-9. doi: 10.1016/j.envres.2015.11.007. [Epub ahead of print] PubMed PMID: 26581512.

Culty M, Liu Y, Manku G, Chan WY, Papadopoulos V. Expression of steroidogenesis-related genes in murine male germ cells. *Steroids*. 2015 Nov;103:105-14. doi: 10.1016/j.steroids.2015.08.011. Epub 2015 Aug 21. PubMed PMID: 26302977.

Li J, Papadopoulos V. Translocator protein (18 kDa) as a pharmacological target in adipocytes to regulate glucose homeostasis. *Biochem Pharmacol*. 2015 Sep 1;97(1):99-110. doi: 10.1016/j.bcp.2015.06.020. Epub 2015 Jun 26. PubMed PMID: 26123521.

Midzak AS, Akula N, Rone MB, Papadopoulos V. Computational modeling and biological validation of novel non-steroidal ligands for the cholesterol recognition/interaction amino acid consensus (CRAC) motif of the mitochondrial translocator protein (TSPO). *Pharmacol Res*. 2015 Sep;99:393-403. doi: 10.1016/j.phrs.2015.03.023. Epub 2015 Apr 29. PubMed PMID: 25936508.

Midzak A, Denora N, Laquintana V, Cutrignelli A, Lopodota A, Franco M, Altomare CD, Papadopoulos V. 2-Phenylimidazo[1,2-a]pyridine-containing ligands of the 18-kDa translocator protein (TSPO) behave as agonists and antagonists of steroidogenesis in a mouse leydig tumor cell line. *Eur J Pharm Sci*. 2015 Aug 30;76:231-7. doi: 10.1016/j.ejps.2015.05.021. Epub 2015 May 19. PubMed PMID: 26002041.

Beattie MC, Adekola L, Papadopoulos V, Chen H, Zirkin BR. Leydig cell aging and hypogonadism. *Exp Gerontol*. 2015 Aug;68:87-91. doi: 10.1016/j.exger.2015.02.014. Epub 2015 Feb 18. Review. PubMed PMID: 25700847.

Midzak A, Zirkin B, Papadopoulos V. Translocator protein: pharmacology and steroidogenesis. *Biochem Soc Trans*. 2015 Aug;43(4):572-8. doi: 10.1042/BST20150061. Epub 2015 Aug 3. Review. PubMed PMID: 26551695.

Fan J, Campioli E, Midzak A, Culty M, Papadopoulos V. Conditional steroidogenic cell-targeted deletion of TSPO unveils a crucial role in viability and hormone-dependent steroid formation. *Proc Natl Acad Sci U S A*. 2015 Jun 9;112(23):7261-6. doi: 10.1073/pnas.1502670112. Epub 2015 May 26. PubMed PMID: 26039990; PubMed Central PMCID: PMC4466704.

Herrera-Rivero M, Heneka M, Papadopoulos V (2015) Translocator protein and new targets for neuroinflammation. *Clinical and Translational Imaging*, 3:391-402.

Tillement JP, Hauw JJ, Papadopoulos V, Montastruc JL (2015) Vieillissement et démences: un défi médical, scientifique et socio-économique. *Thérapie*, 70:239.

Department of Biochemistry 2015

Aghazadeh Y, Zirkin BR, Papadopoulos V (2015) Pharmacological regulation of the cholesterol transport machinery in steroidogenic cells of the testis. In: Hormones and Transport Systems, Liwack G (editor). Vitamins & Hormones, 98:189-227.

Midzak A, Papadopoulos V (2015) Steroidogenesis: the classics and beyond. Steroids, 103:1-2.

PARK, M.

Li J, Davidson D, Martins Souza C, Zhong MC, Wu N, Park M, Muller WJ, Veillette A. Loss of PTPN12 Stimulates Progression of ErbB2-Dependent Breast Cancer by Enhancing Cell Survival, Migration, and Epithelial-to-Mesenchymal Transition. *Mol Cell Biol.* 2015 Dec;35(23):4069-82. doi: 10.1128/MCB.00741-15.Epub 2015 Sep 21. PubMed PMID: 26391955; PubMed Central PMCID: PMC4628068.

Caserta E, Egriboz O, Wang H, Martin C, Koivisto C, Pecót T, Kladney RD, Shen C, Shim KS, Pham T, Karikomi MK, Mauntel MJ, Majumder S, Cuitino MC, Tang X, Srivastava A, Yu L, Wallace J, Mo X, Park M, Fernandez SA, Pilarski R, La Perle KM, Rosol TJ, Coppola V, Castrillon DH, Timmers C, Cohn DE, O'Malley DM, Backes F, Suarez AA, Goodfellow P, Chamberlin HM, Macrae ER, Shapiro CL, Ostrowski MC, Leone G. Noncatalytic PTEN missense mutation predisposes to organ-selective cancer development in vivo. *Genes Dev.* 2015 Aug 15;29(16):1707-20. doi: 10.1101/gad.262568.115. PubMed PMID: 26302789; PubMed Central PMCID: PMC4561480.

Mui MZ, Zhou Y, Blanchette P, Chughtai N, Knight JF, Gruosso T, Papadakis AI, Huang S, Park M, Gingras AC, Branton PE. The Human Adenovirus Type 5 E4orf4 Protein Targets Two Phosphatase Regulators of the Hippo Signaling Pathway. *J Virol.* 2015 Sep;89(17):8855-70. doi: 10.1128/JVI.03710-14. Epub 2015 Jun 17. PubMed PMID: 26085163; PubMed Central PMCID: PMC4524087.

Oh EY, Christensen SM, Ghanta S, Jeong JC, Bucur O, Glass B, Montaser-Kouhsari L, Knoblauch NW, Bertos N, Saleh SM, Haibe-Kains B, Park M, Beck AH. Extensive rewiring of epithelial-stromal co-expression networks in breast cancer. *Genome Biol.* 2015 Jun 19;16:128. doi: 10.1186/s13059-015-0675-4. PubMed PMID: 26087699; PubMed Central PMCID: PMC4471934.

You L, Yan K, Zou J, Zhao H, Bertos NR, Park M, Wang E, Yang XJ. Correction: The Lysine Acetyltransferase Activator Brpf1 Governs Dentate Gyrus Development through Neural Stem Cells and Progenitors. *PLoS Genet.* 2015 Jun 15;11(6):e1005329. doi: 10.1371/journal.pgen.1005329. eCollection 2015 Jun. PubMed PMID: 26075600; PubMed Central PMCID: PMC4468260.

Tabariès S, Annis MG, Hsu BE, Tam CE, Savage P, Park M, Siegel PM. Lyn modulates Claudin-2 expression and is a therapeutic target for breast cancer liver metastasis. *Oncotarget.* 2015 Apr 20;6(11):9476-87. PubMed PMID: 25823815; PubMed Central PMCID: PMC4496232.

Department of Biochemistry 2015

You L, Yan K, Zou J, Zhao H, Bertos NR, Park M, Wang E, Yang XJ. The chromatin regulator Brpf1 regulates embryo development and cell proliferation. *J Biol Chem.* 2015 May 1;290(18):11349-64. doi: 10.1074/jbc.M115.643189. Epub 2015 Mar 15. PubMed PMID: 25773539; PubMed Central PMCID: PMC4416840.

Ioannou MS, Bell ES, Girard M, Chaineau M, Hamlin JN, Daubaras M, Monast A, Park M, Hodgson L, McPherson PS. DENND2B activates Rab13 at the leading edge of migrating cells and promotes metastatic behavior. *J Cell Biol.* 2015 Mar 2;208(5):629-48. doi: 10.1083/jcb.201407068. Epub 2015 Feb 23. PubMed PMID: 25713415; PubMed Central PMCID: PMC4347646.

You L, Zou J, Zhao H, Bertos NR, Park M, Wang E, Yang XJ. Deficiency of the chromatin regulator BRPF1 causes abnormal brain development. *J Biol Chem.* 2015 Mar 13;290(11):7114-29. doi: 10.1074/jbc.M114.635250. Epub 2015 Jan 7. PubMed PMID: 25568313; PubMed Central PMCID: PMC4358132.

Li R, Knight JF, Park M, Pendergast AM. Abl Kinases Regulate HGF/Met Signaling Required for Epithelial Cell Scattering, Tubulogenesis and Motility. *PLoS One.* 2015 May 6;10(5):e0124960. doi: 10.1371/journal.pone.0124960. eCollection 2015. PubMed PMID: 25946048; PubMed Central PMCID: PMC4422589.

Havrylov S, Park M. MS/MS-based strategies for proteomic profiling of invasive cell structures. *Proteomics.* 2015 Jan;15(2-3):272-86. doi: 10.1002/pmic.201400220. Epub 2014 Dec 15. Review. PubMed PMID: 25303514.

PAUSE, A.

Possik EP, Ajisebutu A, Manteghi S, Gingras MC, Vijayaraghavan T, Flamand M, Coull B, Schmeisser K, Duchaine T, van Steensel M, Hall DH and Pause A. 2015. FLCN and AMPK confer resistance to hyperosmotic stress via remodeling of glycogen stores. *PLoS Genetics*, 11(10):e1005520. doi: 10.1371/journal.pgen.1005520.

Kharitidi D, Apaja P, Manteghi M, Suzuki K, Malitskaya E, Roldan A, Gingras MC, Takagi J, Lukacs GL and Pause A. 2015. Interplay of endosomal pH and ligand occupancy in integrin $\alpha 5 \beta 1$ ubiquitination, endocytic sorting and cell migration. *Cell Reports*, 13(3): 599-609. doi: 10.1016/j.celrep.2015.09.024.

Vincent EE, Sergushichev A, Griss T, Gingras MC, Samborska B, Ntimbane T, Coelho PP, Blagih J, Raissi TC, Choinière L, Bridon G, Loginicheva E, Flynn BR, Thomas EC, Tavaré JM, Avizonis D, Pause A, Elder DJE, Artyomov MN and Jones RG. 2015 Mitochondrial phosphoenolpyruvate carboxykinase (PCK2) regulates metabolic adaptation and enables glucose-independent tumor growth. *Mol Cell.* 60(2): 195-207. doi: 10.1016/j.molcel.2015.08.013

Possik E and Pause A. 2015. Measuring Oxidative Stress Resistance of *Caenorhabditis elegans* in 96 well microtiter plates. *J. Vis. Exp.* 2015 May 9;(99):e52746.

Department of Biochemistry 2015

PELLETIER, J.

Malina A, Cameron CJ, Robert F, Blanchette M, Dostie J, Pelletier J. PAM multiplicity marks genomic target sites as inhibitory to CRISPR-Cas9 editing. *Nat Commun.* 2015 Dec 8;6:10124. doi: 10.1038/ncomms10124. PubMed PMID: 26644285; PubMed Central PMCID: PMC4686818.

González-Almela E, Sanz MA, García-Moreno M, Northcote P, Pelletier J, Carrasco L. Differential action of pateamine A on translation of genomic and subgenomic mRNAs from Sindbis virus. *Virology.* 2015 Oct;484:41-50. doi: 10.1016/j.virol.2015.05.002. Epub 2015 Jun 5. PubMed PMID: 26057151.

Robert F, Barbeau M, Éthier S, Dostie J, Pelletier J. Pharmacological inhibition of DNA-PK stimulates Cas9-mediated genome editing. *Genome Med.* 2015 Aug 27;7(1):93. doi: 10.1186/s13073-015-0215-6. PubMed PMID: 26307031; PubMed Central PMCID: PMC4550049.

Nguyen M, Cencic R, Ertel F, Bernier C, Pelletier J, Roulston A, Silvius JR, Shore GC. Obatoclox is a direct and potent antagonist of membrane-restricted Mcl-1 and is synthetic lethal with treatment that induces Bim. *BMC Cancer.* 2015 Aug 1;15:568. doi: 10.1186/s12885-015-1582-5. PubMed PMID: 26231047; PubMed Central PMCID: PMC4522062.

Andrei AZ, Hall A, Smith AL, Bascuñana C, Malina A, Connor A, Altinel-Omeroglu G, Huang S, Pelletier J, Huntsman D, Gallinger S, Omeroglu A, Metrakos P, Zogopoulos G. Increased in vitro and in vivo sensitivity of BRCA2-associated pancreatic cancer to the poly(ADP-ribose) polymerase-1/2 inhibitor BMN 673. *Cancer Lett.* 2015 Aug 1;364(1):8-16. doi: 10.1016/j.canlet.2015.04.003. Epub 2015 Apr 9. PubMed PMID: 25864590.

Galicia-Vázquez G, Chu J, Pelletier J. eIF4AII is dispensable for miRNA-mediated gene silencing. *RNA.* 2015 Oct;21(10):1826-33. doi: 10.1261/rna.052225.115. Epub 2015 Aug 18. PubMed PMID: 26286746; PubMed Central PMCID: PMC4574758.

Chu J, Pelletier J. Targeting the eIF4A RNA helicase as an anti-neoplastic approach. *Biochim Biophys Acta.* 2015 Jul;1849(7):781-91. doi: 10.1016/j.bbagr.2014.09.006. Epub 2014 Sep 16. Review. PubMed PMID: 25234619.

Methot SP, Litzler LC, Trajtenberg F, Zahn A, Robert F, Pelletier J, Buschiazzi A, Magor BG, Di Noia JM. Consecutive interactions with HSP90 and eEF1A underlie a functional maturation and storage pathway of AID in the cytoplasm. *J Exp Med.* 2015 Apr 6;212(4):581-96. doi: 10.1084/jem.20141157. Epub 2015 Mar 30. PubMed PMID: 25824822; PubMed Central PMCID: PMC4387293.

Bhat M, Robichaud N, Hulea L, Sonenberg N, Pelletier J, Topisirovic I. Targeting the translation machinery in cancer. *Nat Rev Drug Discov.* 2015 Apr;14(4):261-78. doi: 10.1038/nrd4505. Epub 2015 Mar 6. Review. PubMed PMID: 25743081.

Cencic R, Senechal P, Pelletier J. Establishment of a Primary Screening Assay for the DHX9 Helicase. *Comb Chem High Throughput Screen.* 2015;18(9):855-61. PubMed PMID: 26477352.

Department of Biochemistry 2015

Blagih J, Coulombe F, Vincent EE, Dupuy F, Galicia-Vázquez G, Yurchenko E, Raissi TC, van der Windt GJ, Viollet B, Pearce EL, Pelletier J, Piccirillo CA, Krawczyk CM, Divangahi M, Jones RG. The energy sensor AMPK regulates T cell metabolic adaptation and effector responses in vivo. *Immunity*. 2015 Jan 20;42(1):41-54. doi: 10.1016/j.immuni.2014.12.030. Epub 2015 Jan 2. PubMed PMID: 25607458.

Pelletier J, Graff J, Ruggero D, Sonenberg N. Targeting the eIF4F translation initiation complex: a critical nexus for cancer development. *Cancer Res*. 2015 Jan 15;75(2):250-63. doi: 10.1158/0008-5472.CAN-14-2789. Review. PubMed PMID: 25593033; PubMed Central PMCID: PMC4299928.

PURISIMA, E.

Hogues H, Sulea T, Purisima EO. Evaluation of the Wilma-SIE Virtual Screening Method in Community Structure-Activity Resource 2013 and 2014 Blind Challenges. *J Chem Inf Model*. 2015 Aug 24. [Epub ahead of print] PubMed PMID: 26282162.

RAK, J.

Rak J. Cancer: Organ-seeking vesicles. *Nature*. 2015 Nov 19;527(7578):312-4. doi: 10.1038/nature15642. Epub 2015 Oct 28. PubMed PMID: 26524529.

Montermini L, Meehan B, Garnier D, Lee WJ, Lee TH, Guha A, Al-Nedawi K, Rak J. Inhibition of oncogenic epidermal growth factor receptor kinase triggers release of exosome-like extracellular vesicles and impacts their phosphoprotein and DNA content. *J Biol Chem*. 2015 Oct 2;290(40):24534-46. doi: 10.1074/jbc.M115.679217. Epub 2015 Aug 13. PubMed PMID: 26272609; PubMed Central PMCID: PMC4591833.

Das J, Ivanov I, Montermini L, Rak J, Sargent EH, Kelley SO. An electrochemical clamp assay for direct, rapid analysis of circulating nucleic acids in serum. *Nat Chem*. 2015 Jul;7(7):569-75. doi: 10.1038/nchem.2270. Epub 2015 Jun 1. PubMed PMID: 26100805.

B. Meehan, A. Dombrovsky & J. Rak: Arteriogenic expansion of extratumoural macrovessels – impact of vascular ageing. *Neoplasma*, 2015, 62(3):372-83

Nakano, D. Garnier, M. Minata & J. Rak: Extracellular vesicles in the biology of brain tumour stem cells – implications for inter-cellular communication, therapy and biomarker development. *Seminars in Cell and Developmental Biology (SCDB)*, 2015, S1084-9521(15)00038-5. doi: 10.1016/j.semcdb.2015.02.011. [Epub ahead of print]

H. Barošová, J. Dvořáčková, O. Motyka, K. M. Kutláková, P. Peikertová, J. Rak, H. Bielníková & J. Kukutschová: Metal-based particles in human amniotic fluids of fetuses with normal karyotype and congenital malformation-a pilot study. *Environ Sci Pollut Res Int*. 2015, 22(10):7582-9.

Lee TH, Chennakrishnaiah S, Rak J. Oncogene-dependent survival of highly transformed cancer cells under conditions of extreme centrifugal force - implications for studies on extracellular

Department of Biochemistry 2015

vesicles. *Cell Mol Biol Lett*. 2015 Mar;20(1):117-29. doi: 10.1515/cmble-2015-0003. PubMed PMID: 26204397.

Gouspillou G, Scheede-Bergdahl C, Spendiff S, Vuda M, Meehan B, Mlynarski H, Archer-Lahlou E, Sgarioto N, Purves-Smith FM, Konokhova Y, Rak J, Chevalier S, Taivassalo T, Hepple RT, Jagoe RT. Anthracycline-containing chemotherapy causes long-term impairment of mitochondrial respiration and increased reactive oxygen species release in skeletal muscle. *Sci Rep*. 2015 Mar 3;5:8717. doi: 10.1038/srep08717. PubMed PMID: 25732599; PubMed Central PMCID: PMC4346812.

Gardiner C, Harrison P, Belting M, Böing A, Campello E, Carter BS, Collier ME, Coumans F, Ettelaie C, van Es N, Hochberg FH, Mackman N, Rennert RC, Thaler J, Rak J, Nieuwland R. Extracellular vesicles, tissue factor, cancer and thrombosis - discussion themes of the ISEV 2014 Educational Day. *J Extracell Vesicles*. 2015 Mar 13;4:26901. doi: 10.3402/jev.v4.26901. eCollection 2015. PubMed PMID: 25773446; PubMed Central PMCID: PMC4359985.

RICHARD, S.

Song J. and S. Richard. 2015. Sam68 regulates S6K1 alternative splicing during adipogenesis. *Molecular Cellular Biology* 35:1926-39

Gurunathan, G., Z. Yu, Y. Coulombe, J.-Y. Masson, and S. Richard. 2015. Arginine methylation of hnRNPUL1 regulates interaction with NBS1 and recruitment to sites of DNA damage. *Scientific Reports* 5: 10475doi: 10.1038/srep10475.

Zhou, J., M. Cheng, C. Boriboun, M.M. Ardehali, C. Jiang, Q. Liu, S. Han, D. A. Goukassian, Y.L. Tang, T. Zhao, M. Zhao, L. Cai, S. Richard, R. Kishore, and G.Qin. 2015. Inhibition of Sam68 triggers adipose tissue browning. *J Endo* 225:181-9

Thandapani, P./J. Song, V. Gandin, Y. Cai, S. G. Rouleau, , J.-M. Garant, F.-M. Boisvert, Z. Yu, J.-P. Perreault, I. Topisirovic, and S. Richard. 2015. Aven recognition of RNA G-quadruplexes regulates translation of the *mixed lineage leukemia* protooncogenes. *eLife* 2015; 10.7554/eLife.06234

Calibretta, S and S. Richard. 2015. Emerging roles of disordered sequences in RNA-binding proteins. *Trends Biochem Sci* 40:662-72

Haines JD, D.L Fulton, S. Richard and G. Almazan. 2015. P38 mitogen-activated protein kinase pathway regulates genes during proliferation and differentiation in oligodendrocytes. *PLoS One* e0145843.

ROY, R.

Shahidi D, Moheb A, Abbas R, Larouk S, Roy R, Azzouz A. Total mineralization of sulfamethoxazole and aromatic pollutants through Fe²⁺-montmorillonite catalyzed ozonation. *J Hazard Mater*. 2015 Nov 15;298:338-50. doi: 10.1016/j.jhazmat.2015.05.029. Epub 2015 May 19. PubMed PMID: 26118641.

Department of Biochemistry 2015

Swanson MD, Boudreaux DM, Salmon L, Chugh J, Winter HC, Meagher JL, André S, Murphy PV, Oscarson S, Roy R, King S, Kaplan MH, Goldstein IJ, Tarbet EB, Hurst BL, Smee DF, de la Fuente C, Hoffmann HH, Xue Y, Rice CM, Schols D, Garcia JV, Stuckey JA, Gabius HJ, Al-Hashimi HM, Markovitz DM. Engineering a therapeutic lectin by uncoupling mitogenicity from antiviral activity. *Cell*. 2015 Oct 22;163(3):746-58. doi: 10.1016/j.cell.2015.09.056. Epub 2015 Oct 22. PubMed PMID: 26496612; PubMed Central PMCID: PMC4641746.

Wagner M, Ohlund LB, Shiao TC, Vézina A, Annabi B, Roy R, Sleno L. Isotope-labeled differential profiling of metabolites using N-benzoyloxysuccinimide derivatization coupled to liquid chromatography/high-resolution tandem mass spectrometry. *Rapid Commun Mass Spectrom*. 2015 Sep 30;29(18):1632-40. doi: 10.1002/rcm.7264. PubMed PMID: 26467115.

Roy R, Shiao TC. Glyconanosynthons as powerful scaffolds and building blocks for the rapid construction of multifaceted, dense and chiral dendrimers. *Chem Soc Rev*. 2015 Jun 21;44(12):3924-41. doi: 10.1039/c4cs00359d. PubMed PMID: 25556902.

Azzouz A, Nouisir S, Bouazizi N, Roy R. Metal-inorganic-organic matrices as efficient sorbents for hydrogen storage. *ChemSusChem*. 2015 Mar;8(5):800-3. doi: 10.1002/cssc.201402958. Epub 2015 Feb 6. PubMed PMID: 25663131.

Zhang S, Moussodia RO, Murzeau C, Sun HJ, Klein ML, Vértesy S, André S, Roy R, Gabius HJ, Percec V. Dissecting molecular aspects of cell interactions using glycodendrimersomes with programmable glycan presentation and engineered human lectins. *Angew Chem Int Ed Engl*. 2015 Mar 23;54(13):4036-40. doi: 10.1002/anie.201410882. Epub 2015 Feb 5. PubMed PMID: 25656452.

Goyette-Desjardins G, Roy R, Segura M. Murine Whole-Blood Opsonophagocytosis Assay to Evaluate Protection by Antibodies Raised Against Encapsulated Extracellular Bacteria. *Methods Mol Biol*. 2015;1331:81-92. doi: 10.1007/978-1-4939-2874-3_6. PubMed PMID: 26169736.

Rauthu SR, Shiao TC, André S, Miller MC, Madej É, Mayo KH, Gabius HJ, Roy R. Defining the potential of aglycone modifications for affinity/selectivity enhancement against medically relevant lectins: synthesis, activity screening, and HSQC-based NMR analysis. *Chembiochem*. 2015 Jan 2;16(1):126-39. doi: 10.1002/cbic.201402474.

Sharma, R.; Zhang, I.; Abbassi, L.; Rej, R.; Maysinger, D.; Roy, R. Fast track dendrimer synthesis using microwave assisted accelerated onion peel approach. *Polym. Chem.*, 2015, 6, 1436-1444.

Tze Chieh Shiao, Radia Sennour, Mohamed Touaibia, Abdelkrim Azzouz, René Roy. Lactose-modified Triethoxysilane for the Surface Modification of Clay Nanocomposites. P. Kovac, Ed. *Carbohydrate Chemistry: Proven Synthetic Methods*, CRC Press/Taylor & Francis Group, 2015, Vol. 3, Chap. 15, 127-131.

Tze Chieh Shiao, Sylvain Rocheleau, René Roy. Synthesis of 4-methoxyphenyl α -D-rhamnopyranoside. *Carbohydrate Chemistry: Proven Synthetic Methods*, Kovac, Ed., CRC Press/Taylor & Francis Group, 2015, Vol. 3, Chap. 32, 255-259.

Department of Biochemistry 2015

David Goyard, Tze Chieh Shiao, Denis Giguère, René Roy. Thiol-yne coupling between propargyl 2,3,4,6-tetra-O-acetyl- β -D-glucopyranoside and thiol: expedient access to neoglycolipids. P. Kovac, Ed. Carbohydrate Chemistry: Proven Synthetic Methods, CRC Press/Taylor & Francis Group, 2015, Vol. 3, Chap. 14, 117-125.

Mohamed Touaibia, Tze Chieh Shiao, René Roy. Synthesis of 2-(Mannopyranosyloxymethyl) Benzo[b]furan through Sonogashira coupling and intramolecular dehydrocyclization. P. Kovac, Ed. Carbohydrate Chemistry: Proven Synthetic Methods, CRC Press/Taylor & Francis Group, 2015, Vol. 3, Chap. 16, 133-136.

Ghomari, K.; Benhamou, A.; Hamacha, R.; Bengueddach, A.; Nousir, S.; Shiao, T. C.; Roy, R.; Azzouz, A. TPD and DSC insights in the basicity of MCM-48-like silica and modified counterparts. *Thermochimica Acta*, 2015, 600, 52-61.

Shahidi, D.; Roy, R.; Azzouz, A. Advances in catalytic oxidation of organic pollutants -Prospects for thorough mineralization by natural clay catalysts, *Applied Catalysis B, Environmental*. 2015, 174-175, 277-292.

Abbassi, L.; Chabre, Y. M.; Kottari, N.; Arnold, A. A.; André, S.; Josserand, J.; Gabius, H.-J.; Roy, R.; R. Multifaceted Glycodendrimers With Programmable Bioactivity Through Convergent, Divergent, and Accelerated Approaches Using Polyfunctional Cyclotriphosphazenes. *Polym.Chem.*, 2015, 6, 7666-7683.

Solís D, Bovin NV, Davis AP, Jiménez-Barbero J, Romero A, Roy R, Smetana K Jr, Gabius HJ. A guide into glycosciences: How chemistry, biochemistry and biology cooperate to crack the sugar code. *Biochim Biophys Acta*. 2015 Jan;1850(1):186-235. doi: 10.1016/j.bbagen.2014.03.016.

ST-PIERRE, J.

Dupuy F, Tabariès S, Andrzejewski S, Dong Z, Blagih J, Annis MG, Omeroglu A, Gao D, Leung S, Amir E, Clemons M, Aguilar-Mahecha A, Basik M, Vincent EE, St-Pierre J, Jones RG, Siegel PM. PDK1-Dependent Metabolic Reprogramming Dictates Metastatic Potential in Breast Cancer. *Cell Metab*. 2015 Oct 6;22(4):577-89. doi: 10.1016/j.cmet.2015.08.007. Epub 2015 Sep 10. PubMed PMID: 26365179.

Buescher JM, Antoniewicz MR, Boros LG, Burgess SC, Brunengraber H, Clish CB, DeBerardinis RJ, Feron O, Frezza C, Ghesquiere B, Gottlieb E, Hiller K, Jones RG, Kamphorst JJ, Kibbey RG, Kimmelman AC, Locasale JW, Lunt SY, Maddocks OD, Malloy C, Metallo CM, Meillet EJ, Munger J, Nöh K, Rabinowitz JD, Ralser M, Sauer U, Stephanopoulos G, St-Pierre J, Tennant DA, Wittmann C, Vander Heiden MG, Vazquez A, Vousden K, Young JD, Zamboni N, Fendt SM. A roadmap for interpreting (13)C metabolite labeling patterns from cells. *Curr Opin Biotechnol*. 2015 Aug;34:189-201. doi: 10.1016/j.copbio.2015.02.003. Epub 2015 Feb 28. Review. PubMed PMID: 25731751; PubMed Central PMCID: PMC4552607.

Department of Biochemistry 2015

Morita M, Gravel SP, Hulea L, Larsson O, Pollak M, St-Pierre J, Topisirovic I. mTOR coordinates protein synthesis, mitochondrial activity and proliferation. *Cell Cycle*. 2015;14(4):473-80. doi: 10.4161/15384101.2014.991572. Review. PubMed PMID: 25590164; PubMed Central PMCID: PMC4615141.

SALAVATI, R.

Jha BA, Gazestani VH, Yip CW, Salavati R. The DRBD13 RNA binding protein is involved in the insect-stage differentiation process of *Trypanosoma brucei*. *FEBS Lett*. 2015 Jul 8;589(15):1966-74. doi: 10.1016/j.febslet.2015.05.036. Epub 2015 May 28. PubMed PMID: 26028502.

Rostami S, Salavati R, Beech RN, Babaei Z, Sharbatkhori M, Harandi MF. Genetic variability of *Taenia saginata* inferred from mitochondrial DNA sequences. *Parasitol Res*. 2015 Apr;114(4):1365-76. doi: 10.1007/s00436-015-4314-5. Epub 2015 Feb 17. PubMed PMID: 25687521.

Gazestani VH, Salavati R. Deciphering RNA Regulatory Elements Involved in the Developmental and Environmental Gene Regulation of *Trypanosoma brucei*. *PLoS One*. 2015 Nov 3;10(11):e0142342. doi: 10.1371/journal.pone.0142342. eCollection 2015. PubMed PMID: 26529602; PubMed Central PMCID: PMC4631447.

Mehta V, Sen R, Moshiri H, Salavati R. Mutational analysis of *Trypanosoma brucei* RNA editing ligase reveals regions critical for interaction with KREPA2. *PLoS One*. 2015 Mar 19;10(3):e0120844. doi: 10.1371/journal.pone.0120844. eCollection 2015. PubMed PMID: 25790471; PubMed Central PMCID: PMC4366279.

SALEH, M.

Skeldon, A. M., Morizot, A., Douglas, T., Santoro, N., Kursawe, R., Kozlitina, J., Caprio, S., Mehal, W. Z., Saleh, M. Caspase-12, but Not Caspase-11, Inhibits Obesity and Insulin Resistance. (2015). *The Journal of Immunology*. 196 (1): 437-447.

Dupaul-Chicoine J, Arabzadeh A, Dagenais M, Douglas T, Champagne C, Morizot A, Rodrigue-Gervais IG, Breton V, Colpitts SL, Beauchemin N, Saleh M. The Nlrp3 Inflammasome Suppresses Colorectal Cancer Metastatic Growth in the Liver by Promoting Natural Killer Cell Tumoricidal Activity. *Immunity*. 2015 Oct 20;43(4):751-63. doi: 10.1016/j.immuni.2015.08.013. Epub 2015 Sep 15. PubMed PMID: 26384545.

Douglas T, Champagne C, Morizot A, Lapointe JM, Saleh M. The Inflammatory Caspases-1 and -11 Mediate the Pathogenesis of Dermatitis in Sharpin-Deficient Mice. *J Immunol*. 2015 Sep 1;195(5):2365-73. doi: 10.4049/jimmunol.1500542. Epub 2015 Jul 27. PubMed PMID: 26216893.

Arabzadeh A, Dupaul-Chicoine J, Breton V, Haftchenary S, Yumeen S, Turbide C, Saleh M, McGregor K, Greenwood CM, Akavia UD, Blumberg RS, Gunning PT, Beauchemin N. Carcinoembryonic Antigen Cell Adhesion Molecule 1 long isoform modulates malignancy of

Department of Biochemistry 2015

poorly differentiated colon cancer cells. *Gut*. 2015 Feb 9. pii: gutjnl-2014-308781. doi: 10.1136/gutjnl-2014-308781. [Epub ahead of print] PubMed PMID: 25666195.

Dagenais, M., Dupaul-Chicoine, J., Champagne, C., Skeldon, A., Morizot, A., Saleh, M. A critical role for cellular inhibitor of protein 2 (cIAP2) in colitis-associated colorectal cancer and intestinal homeostasis mediated by the inflammasome and survival pathways. (2015). Mucosal Immunology. 9 (1): 146-158.

SCHMEING, T.M.

Tarry MJ, Schmeing TM. Specific disulfide cross-linking to constrict the mobile carrier domain of nonribosomal peptide synthetases. *Protein Eng Des Sel*. 2015 Jun;28(6):163-70. doi: 10.1093/protein/gzv009. Epub 2015 Feb 23. PubMed PMID: 25713404; PubMed Central PMCID: PMC4502403.

Alonzo DA, Magarvey NA, Schmeing TM. Characterization of cereulide synthetase, a toxin-producing macromolecular machine. *PLoS One*. 2015 Jun 4;10(6):e0128569. doi: 10.1371/journal.pone.0128569. eCollection 2015. PubMed PMID: 26042597; PubMed Central PMCID: PMC4455996.

SCHURR, E.

Jabot-Hanin F, Cobat A, Feinberg J, Grange G, Remus N, Poirier C, Boland-Auge A, Besse C, Bustamante J, Boisson-Dupuis S, Casanova JL, Schurr E, Alcaïs A, Hoal EG, Delacourt C, Abel L. Major Loci on Chromosomes 8q and 3q Control Interferon γ Production Triggered by *Bacillus Calmette-Guerin* and 6-kDa Early Secretory Antigen Target, Respectively, in Various Populations. *J Infect Dis*. 2015 Dec 21. pii: jiv757. [Epub ahead of print] PubMed PMID: 26690346.

Fava VM, Cobat A, Van Thuc N, Latini AC, Stefani MM, Belone AF, Ba NN, Orlova M, Manry J, Mira MT, Thai VH, Abel L, Alcaïs A, Schurr E. Association of TNFSF8 regulatory variants with excessive inflammatory responses but not leprosy per se. *J Infect Dis*. 2015 Mar 15;211(6):968-77. doi: 10.1093/infdis/jiu566. Epub 2014 Oct 15. PubMed PMID: 25320285.

Cobat A, Poirier C, Hoal E, Boland-Auge A, de La Rocque F, Corrad F, Grange G, Migaud M, Bustamante J, Boisson-Dupuis S, Casanova JL, Schurr E, Alcaïs A, Delacourt C, Abel L. Tuberculin skin test negativity is under tight genetic control of chromosomal region 11p14-15 in settings with different tuberculosis endemicities. *J Infect Dis*. 2015 Jan 15;211(2):317-21. doi: 10.1093/infdis/jiu446. Epub 2014 Aug 20. PubMed PMID: 25143445; PubMed Central PMCID: PMC4279780.

S. Azbaoui, N.A. Mrani, Ayoub Sabri, K. Hattoufi, Z. Jouhadi, F. Ailal, A. A. Bousfiha, J. Najib, N. El Hafidi, C. Deswarte, E. Schurr, J. Bustamante, S. Boisson-Dupuis, J-L. Casanova, L. Abel, J. El Baghdadi Pott's disease in Moroccan children: Clinical features and investigation of the IL-12/IFN- γ pathway, *Int J Tuber Lung Dis*, 19:1455-1462, 2015

Department of Biochemistry 2015

SHORE, G.C.

Prudent J, Zunino R, Sugiura A, Mattie S, Shore GC, McBride HM. MAPL SUMOylation of Drp1 Stabilizes an ER/Mitochondrial Platform Required for Cell Death. *Mol Cell*. 2015 Sep 17;59(6):941-55. doi: 10.1016/j.molcel.2015.08.001. PubMed PMID: 26384664.

Nguyen M, Cencic R, Ertel F, Bernier C, Pelletier J, Roulston A, Silvius JR, Shore GC. Obatoclastin is a direct and potent antagonist of membrane-restricted Mcl-1 and is synthetic lethal with treatment that induces Bim. *BMC Cancer*. 2015 Aug 1;15:568. doi: 10.1186/s12885-015-1582-5. PubMed PMID: 26231047; PubMed Central PMCID: PMC4522062.

Bracken JD, Carlson AD, Frederich JH, Nguyen M, Shore GC, Harran PG. Tailored fragments of roseophilin selectively antagonize Mcl-1 in vitro. *Tetrahedron Lett*. 2015 Jun 3;56(23):3612-3616. PubMed PMID: 26019371; PubMed Central PMCID: PMC4442084.

SIEGEL, P.M.

F. Pettersson , S.V. del Rincon , A. Emond , B. Huor , E. Ngan , J. Ng , M.C. Dobocan , P.M. Siegel and W.H. Miller, Jr. (2015). Genetic and pharmacologic inhibition of eIF4E reduces breast cancer cell migration, invasion and metastasis. *Cancer Res*. 75(6): 1102-1112.

N. Wang, R. Rayes, M. Elahi, Y. Lu, M.A. Hancock, B. Massie, G.E. Rowe, H. Aomari, S. Hossein, Y. Durocher, M. Pinard, S. Tabariès, P.M. Siegel and P. Brodt. (2015). The IGF-trap: novel inhibitor of carcinoma growth and metastasis. *Mol. Cell. Therapeutics* 14(4): 982-993.

H. Li, S. Bergeron, M.G. Annis, P.M. Siegel and David Juncker (2015). Serial analysis of 38 proteins during the progression of human breast tumor in mice using an antibody colocalization microarray. *Mol. Cell. Proteomics*. 14(4): 1024-1037.

G. Maric, M.G. Annis, A.A.N. Rose, Z. Dong, S. Ng, D. Perkins, P. MacDonald, V. Ouellet, C. Russo and P.M. Siegel. (2015). GPNMB Co-operates with Neuropilin-1 to Promote Mammary Tumor Growth and Engages Integrin $\alpha_5\beta_1$ for Efficient Breast Cancer Metastasis. *Oncogene*. 34(43):5494-504.

S. Rafiei, K. Tiedemann, S. Tabariès, P.M. Siegel and S.V. Komarova (2015). Peroxiredoxin 4: A Novel Secreted Mediator of Cancer Induced Osteoclastogenesis. *Cancer Letts*. 361(2): 262-270.

S. Tabariès, M.G. Annis, B.E. Hsu, C.E. Tam, P. Savage, M. Park and P.M. Siegel. (2015). Lyn modulates Claudin-2 expression and is a therapeutic target for breast cancer liver metastasis. *Oncotarget*. 6(11): 9476-9487.

S. Tabariès, V. Ouellet, M.G. Annis, B.E. Hsu, A.A.N. Rose, L. Meunier, Euridice Carmona, C.E. Tam, A-M. Mes-Masson and P.M. Siegel. (2015). Myeloid/Granulocytic infiltration is essential for the efficient formation of breast cancer liver metastases. *Breast Cancer Res*. 17(1): 45.

F. Dupuy, S. Tabariès, S. Andrzejewski, Z. Dong, J. Blagih, M.G. Annis, A. Omeroglu, D. Gao, S. Leung, E. Amir, M. Clemons, A. Aguilar-Mahecha, M. Basik, E.E. Vincent, J. St.-Pierre, R.G.

Department of Biochemistry 2015

Jones* and P.M. Siegel*. (2015). PDK1-dependent metabolic reprogramming dictates metastatic potential in breast cancer. *Cell Metabolism*. 22(4):577-89. *Co-corresponding Authors.

J. Ursini-Siegel and P.M. Siegel. (2015). The Influence of the Pre-Metastatic Niche on Breast Cancer Metastasis. *Cancer Letters*. pii: S0304-3835(15)00683-7.

M. Bhat, N. Skill, V. Marcus, M. Deschenes, X. Tan, J. Bouteaud, S. Negi, Z. Awan Z, R. Aikin, J. Kwan, R. Amre, S. Tabaries, M. Hassanain, N.G. Seidah, M. Maluccio, P. Siegel, P. Metrakos. (2015) Decreased PCSK9 expression in human hepatocellular carcinoma. *BMC Gastroenterol*. 15(1): 176.

SONENBERG, N.

Khoutorsky A, Bonin RP, Sorge RE, Gkogkas CG, Pawlowski SA, Jafarnejad SM, Pitcher MH, Alain T, Perez-Sanchez J, Salter EW, Martin L, Ribeiro-da-Silva A, De Koninck Y, Cervero F, Mogil JS, Sonenberg N. Translational control of nociception via 4E-binding protein 1. *Elife*. 2015 Dec 18;4. pii: e12002. doi: 10.7554/eLife.12002. PubMed PMID: 26678009.

Siddiqui N, Sonenberg N. Signalling to eIF4E in cancer. *Biochem Soc Trans*. 2015 Oct;43(5):763-72. doi: 10.1042/BST20150126. Review. PubMed PMID: 26517881; PubMed Central PMCID: PMC4613458.

Maity S, Rah S, Sonenberg N, Gkogkas CG, Nguyen PV. Norepinephrine triggers metaplasticity of LTP by increasing translation of specific mRNAs. *Learn Mem*. 2015 Sep 15;22(10):499-508. doi: 10.1101/lm.039222.115. Print 2015 Oct. PubMed PMID: 26373828; PubMed Central PMCID: PMC4579357.

Aguilar-Valles A, Matta-Camacho E, Khoutorsky A, Gkogkas C, Nader K, Lacaille JC, Sonenberg N. Inhibition of Group I Metabotropic Glutamate Receptors Reverses Autistic-Like Phenotypes Caused by Deficiency of the Translation Repressor eIF4E Binding Protein 2. *J Neurosci*. 2015 Aug 5;35(31):11125-32. doi: 10.1523/JNEUROSCI.4615-14.2015. PubMed PMID: 26245973; PubMed Central PMCID: PMC4524980.

Zidek LM, Ackermann T, Hartleben G, Eichwald S, Kortman G, Kiehnopf M, Leutz A, Sonenberg N, Wang ZQ, von Maltzahn J, Müller C, Calkhoven CF. Deficiency in mTORC1-controlled C/EBP β -mRNA translation improves metabolic health in mice. *EMBO Rep*. 2015 Aug;16(8):1022-36. doi: 10.15252/embr.201439837. Epub 2015 Jun 25. PubMed PMID: 26113365; PubMed Central PMCID: PMC4552494.

Topisirovic I, Sonenberg N. Translation and cancer. *Biochim Biophys Acta*. 2015 Jul;1849(7):751-2. doi: 10.1016/j.bbagr.2015.05.004. Epub 2015 May 16. PubMed PMID: 25988403.

Cao R, Gkogkas CG, de Zavalía N, Blum ID, Yanagiya A, Tsukumo Y, Xu H, Lee C, Storch KF, Liu AC, Amir S, Sonenberg N. Light-regulated translational control of circadian behavior by eIF4E phosphorylation. *Nat Neurosci*. 2015 Jun;18(6):855-62. doi: 10.1038/nn.4010. Epub 2015 Apr 27. PubMed PMID: 25915475; PubMed Central PMCID: PMC4446158.

Department of Biochemistry 2015

Aulas A, Caron G, Gkogkas CG, Mohamed NV, Destroismaisons L, Sonenberg N, Leclerc N, Parker JA, Vande Velde C. G3BP1 promotes stress-induced RNA granule interactions to preserve polyadenylated mRNA. *J Cell Biol.* 2015 Apr 13;209(1):73-84. doi: 10.1083/jcb.201408092. Epub 2015 Apr 6. PubMed PMID: 25847539; PubMed Central PMCID: PMC4395486.

Filipowicz W, Sonenberg N. The long unfinished march towards understanding microRNA-mediated repression. *RNA.* 2015 Apr;21(4):519-24. doi: 10.1261/rna.051219.115. PubMed PMID: 25780122; PubMed Central PMCID: PMC4371264.

Liberman N, Gandin V, Svitkin YV, David M, Virgili G, Jaramillo M, Holcik M, Nagar B, Kimchi A, Sonenberg N. DAP5 associates with eIF2 β and eIF4AI to promote Internal Ribosome Entry Site driven translation. *Nucleic Acids Res.* 2015 Apr 20;43(7):3764-75. doi: 10.1093/nar/gkv205. Epub 2015 Mar 16. PubMed PMID: 25779044; PubMed Central PMCID: PMC4402527.

Bhat M, Robichaud N, Hulea L, Sonenberg N, Pelletier J, Topisirovic I. Targeting the translation machinery in cancer. *Nat Rev Drug Discov.* 2015 Apr;14(4):261-78. doi: 10.1038/nrd4505. Epub 2015 Mar 6. Review. PubMed PMID: 25743081.

Robichaud N, del Rincon SV, Huor B, Alain T, Petrucci LA, Hearnden J, Goncalves C, Grotegut S, Spruck CH, Furic L, Larsson O, Muller WJ, Miller WH, Sonenberg N. Phosphorylation of eIF4E promotes EMT and metastasis via translational control of SNAIL and MMP-3. *Oncogene.* 2015 Apr 16;34(16):2032-42. doi: 10.1038/onc.2014.146. Epub 2014 Jun 9. PubMed PMID: 24909168.

Arulanandam R, Batenchuk C, Varette O, Zakaria C, Garcia V, Forbes NE, Davis C, Krishnan R, Karmacharya R, Cox J, Sinha A, Babawy A, Waite K, Weinstein E, Falls T, Chen A, Hamill J, De Silva N, Conrad DP, Atkins H, Garson K, Ilkow C, Kærn M, Vanderhyden B, Sonenberg N, Alain T, Le Boeuf F, Bell JC, Diallo JS. Microtubule disruption synergizes with oncolytic virotherapy by inhibiting interferon translation and potentiating bystander killing. *Nat Commun.* 2015 Mar 30;6:6410. doi: 10.1038/ncomms7410. PubMed PMID: 25817275.

Bah A, Vernon RM, Siddiqui Z, Krzeminski M, Muhandiram R, Zhao C, Sonenberg N, Kay LE, Forman-Kay JD. Folding of an intrinsically disordered protein by phosphorylation as a regulatory switch. *Nature.* 2015 Mar 5;519(7541):106-9. doi: 10.1038/nature13999. Epub 2014 Dec 22. PubMed PMID: 25533957.

Sinvani H, Haimov O, Svitkin Y, Sonenberg N, Tamarkin-Ben-Harush A, Viollet B, Dikstein R. Translational tolerance of mitochondrial genes to metabolic energy stress involves TISU and eIF1-eIF4GI cooperation in start codon selection. *Cell Metab.* 2015 Mar 3;21(3):479-92. doi: 10.1016/j.cmet.2015.02.010. PubMed PMID: 25738462.

Im YK, La Selva R, Gandin V, Ha JR, Sabourin V, Sonenberg N, Pawson T, Topisirovic I, Ursini-Siegel J. The ShcA adaptor activates AKT signaling to potentiate breast tumor angiogenesis by stimulating VEGF mRNA translation in a 4E-BP-dependent manner. *Oncogene.* 2015 Mar 26;34(13):1729-35. doi: 10.1038/onc.2014.110. Epub 2014 May 19. PubMed PMID: 24837366.

Department of Biochemistry 2015

Martínez A, Sesé M, Losa JH, Robichaud N, Sonenberg N, Aasen T, Ramón Y Cajal S. Phosphorylation of eIF4E Confers Resistance to Cellular Stress and DNA-Damaging Agents through an Interaction with 4E-T: A Rationale for Novel Therapeutic Approaches. *PLoS One*. 2015 Apr 29;10(4):e0123352. doi: 10.1371/journal.pone.0123352. eCollection 2015. PubMed PMID: 25923732; PubMed Central PMCID: PMC4414544.

Pelletier J, Graff J, Ruggiero D, Sonenberg N. Targeting the eIF4F translation initiation complex: a critical nexus for cancer development. *Cancer Res*. 2015 Jan 15;75(2):250-63. doi: 10.1158/0008-5472.CAN-14-2789. Review. PubMed PMID: 25593033; PubMed Central PMCID: PMC4299928.

Faller WJ, Jackson TJ, Knight JR, Ridgway RA, Jamieson T, Karim SA, Jones C, Radulescu S, Huels DJ, Myant KB, Dudek KM, Casey HA, Scopelliti A, Cordero JB, Vidal M, Pende M, Ryazanov AG, Sonenberg N, Meyuhas O, Hall MN, Bushell M, Willis AE, Sansom OJ. mTORC1-mediated translational elongation limits intestinal tumour initiation and growth. *Nature*. 2015 Jan 22;517(7535):497-500. doi: 10.1038/nature13896. Epub 2014 Nov 5. PubMed PMID: 25383520; PubMed Central PMCID: PMC4304784.

TEODORO, J.G.

Zagani R, El-Assaad W, Gamache I, Teodoro JG. Inhibition of adipose triglyceride lipase (ATGL) by the putative tumor suppressor G0S2 or a small molecule inhibitor attenuates the growth of cancer cells. *Oncotarget*. 2015 Sep 29;6(29):28282-95. doi: 10.18632/oncotarget.5061. PubMed PMID: 26318046; PubMed Central PMCID: PMC4695060.

Zhang X, Teodoro JG, Nadeau JL. Intratumoral gold-doxorubicin is effective in treating melanoma in mice. *Nanomedicine*. 2015 Aug;11(6):1365-75. doi: 10.1016/j.nano.2015.04.001. Epub 2015 Apr 15. PubMed PMID: 25888279.

Poon W, Zhang X, Bekah D, Teodoro JG, Nadeau JL. Targeting B16 tumors in vivo with peptide-conjugated gold nanoparticles. *Nanotechnology*. 2015 Jul 17;26(28):285101. doi: 10.1088/0957-4484/26/28/285101. Epub 2015 Jun 26. PubMed PMID: 26111959.

Sriskandarajah N, Blanchette P, Kucharski TJ, Teodoro JG, Branton PE. Analysis by live imaging of effects of the adenovirus E4orf4 protein on passage through mitosis of H1299 tumor cells. *J Virol*. 2015 Apr;89(8):4685-9. doi: 10.1128/JVI.03437-14. Epub 2015 Feb 4. PubMed PMID: 25653433; PubMed Central PMCID: PMC4442376.

El-Assaad W, El-Kouhen K, Mohammad AH, Yang J, Morita M, Gamache I, Mamer O, Avizonis D, Hermance N, Kersten S, Tremblay ML, Kelliher MA, Teodoro JG. Deletion of the gene encoding G0/G 1 switch protein 2 (G0s2) alleviates high-fat-diet-induced weight gain and insulin resistance, and promotes browning of white adipose tissue in mice. *Diabetologia*. 2015 Jan;58(1):149-57. doi: 10.1007/s00125-014-3429-z. Epub 2014 Nov 9. PubMed PMID: 25381555.

Department of Biochemistry 2015

THOMAS, D.Y.

Hegde RN, Parashuraman S, Iorio F, Ciciriello F, Capuani F, Carissimo A, Carrella D, Belcastro V, Subramanian A, Bounti L, Persico M, Carlile G, Galiotta L, Thomas DY, Di Bernardo D, Luini A. Unravelling druggable signalling networks that control F508del-CFTR proteostasis. *Elife*. 2015 Dec 23;4. pii: e10365. doi: 10.7554/eLife.10365. PubMed PMID: 26701908; PubMed Central PMCID: PMC4749566.

Carlile GW, Robert R, Goepp J, Matthes E, Liao J, Kus B, Macknight SD, Rotin D, Hanrahan JW, Thomas DY. Ibuprofen rescues mutant cystic fibrosis transmembrane conductance regulator trafficking. *J Cyst Fibros*. 2015 Jan;14(1):16-25. doi: 10.1016/j.jcf.2014.06.001. Epub 2014 Jun 25. PubMed PMID: 24974227.

TOPISIROVIC, I.

Feng Y, Pinkerton AB, Hulea L, Zhang T, Davies MA, Grotegut S, Cheli Y, Yin H, Lau E, Kim H, De SK, Barile E, Pellicchia M, Bosenberg M, Li JL, James B, Hassig CA, Brown KM, Topisirovic I, Ronai ZA. SBI-0640756 Attenuates the Growth of Clinically Unresponsive Melanomas by Disrupting the eIF4F Translation Initiation Complex. *Cancer Res*. 2015 Dec 15;75(24):5211-8. doi: 10.1158/0008-5472.CAN-15-0885. Epub 2015 Nov 24. PubMed PMID: 26603897; PubMed Central PMCID: PMC4681635.

Topisirovic I, Sonenberg N. Translation and cancer. *Biochim Biophys Acta*. 2015 Jul;1849(7):751-2. doi: 10.1016/j.bbagr.2015.05.004. Epub 2015 May 16. PubMed PMID: 25988403.

Thandapani P, Song J, Gandin V, Cai Y, Rouleau SG, Garant JM, Boisvert FM, Yu Z, Perreault JP, Topisirovic I, Richard S. Aven recognition of RNA G-quadruplexes regulates translation of the mixed lineage leukemia protooncogenes. *Elife*. 2015 Aug 12;4. doi: 10.7554/eLife.06234. PubMed PMID: 26267306; PubMed Central PMCID: PMC4561382.

Bhat M, Robichaud N, Hulea L, Sonenberg N, Pelletier J, Topisirovic I. Targeting the translation machinery in cancer. *Nat Rev Drug Discov*. 2015 Apr;14(4):261-78. doi: 10.1038/nrd4505. Epub 2015 Mar 6. Review. PubMed PMID: 25743081.

Zhan Y, Dahabieh MS, Rajakumar A, Dobocan MC, M'Boutchou MN, Goncalves C, Shiru L L, Pettersson F, Topisirovic I, van Kempen L, Del Rincón SV, Miller WH Jr. The role of eIF4E in response and acquired resistance to vemurafenib in melanoma. *J Invest Dermatol*. 2015 May;135(5):1368-76. doi: 10.1038/jid.2015.11. Epub 2015 Jan 23. PubMed PMID: 25615552.

Morita M, Gravel SP, Hulea L, Larsson O, Pollak M, St-Pierre J, Topisirovic I. mTOR coordinates protein synthesis, mitochondrial activity and proliferation. *Cell Cycle*. 2015;14(4):473-80. doi: 10.4161/15384101.2014.991572. Review. PubMed PMID: 25590164; PubMed Central PMCID: PMC4615141.

Takizawa I, Lawrence MG, Balanathan P, Rebello R, Pearson HB, Garg E, Pedersen J, Pouliot N, Nadon R, Watt MJ, Taylor RA, Humbert P, Topisirovic I, Larsson O, Risbridger GP, Furic L. Estrogen receptor alpha drives proliferation in PTEN-deficient prostate carcinoma by stimulating

Department of Biochemistry 2015

survival signaling, MYC expression and altering glucose sensitivity. *Oncotarget*. 2015 Jan 20;6(2):604-16. PubMed PMID: 25436982; PubMed Central PMCID: PMC4359242.

Kyuen Im Y, La Selva R, Gandin V, Ha JR, Sabourin V, Sonenberg N, Pawson T, Topisirovic I and Ursini-Siegel J (2015) The ShcA adaptor activates AKT signaling to potentiate breast tumor angiogenesis by stimulating VEGF mRNA translation in a 4E-BP-dependent manner. *Oncogene* 34(13):1729-35 doi: 10.1038/onc.2014.110.

TREMBLAY, M.L.

Haftchenary S, Jouk AO, Aubry I, Lewis AM, Landry M, Ball DP, Shouksmith AE, Collins CV, Tremblay ML, Gunning PT. Identification of Bidentate Salicylic Acid Inhibitors of PTP1B. *ACS Med Chem Lett*. 2015 Jul 22;6(9):982-6. doi: 10.1021/acsmedchemlett.5b00171. eCollection 2015 Sep 10. PubMed PMID: 26396684; PubMed Central PMCID: PMC4569880.

Bunin A, Sisirak V, Ghosh HS, Grajkowska LT, Hou ZE, Miron M, Yang C, Ceribelli M, Uetani N, Chaperot L, Plumas J, Hendriks W, Tremblay ML, Häcker H, Staudt LM, Green PH, Bhagat G, Reizis B. Protein Tyrosine Phosphatase PTPRS Is an Inhibitory Receptor on Human and Murine Plasmacytoid Dendritic Cells. *Immunity*. 2015 Aug 18;43(2):277-88. doi: 10.1016/j.immuni.2015.07.009. Epub 2015 Jul 28. PubMed PMID: 26231120; PubMed Central PMCID: PMC4547994.

Doody KM, Stanford SM, Sacchetti C, Svensson MN, Coles CH, Mitakidis N, Kiosses WB, Bartok B, Fos C, Cory E, Sah RL, Liu-Bryan R, Boyle DL, Arnett HA, Mustelin T, Corr M, Esko JD, Tremblay ML, Firestein GS, Aricescu AR, Bottini N. Targeting phosphatase-dependent proteoglycan switch for rheumatoid arthritis therapy. *Sci Transl Med*. 2015 May 20;7(288):288ra76. doi: 10.1126/scitranslmed.aaa4616. PubMed PMID: 25995222; PubMed Central PMCID: PMC4458332.

Hatzihristidis T, Desai N, Hutchins AP, Meng TC, Tremblay ML, Miranda-Saavedra D. A Drosophila-centric view of protein tyrosine phosphatases. *FEBS Lett*. 2015 Apr 13;589(9):951-66. doi: 10.1016/j.febslet.2015.03.005. Epub 2015 Mar 13. Review. PubMed PMID: 25771859.

Herren DJ, Norman JB, Anderson R, Tremblay ML, Huby AC, Belin de Chantemèle EJ. Deletion of Protein Tyrosine Phosphatase 1B (PTP1B) Enhances Endothelial Cyclooxygenase 2 Expression and Protects Mice from Type 1 Diabetes-Induced Endothelial Dysfunction. *PLoS One*. 2015 May 14;10(5):e0126866. doi: 10.1371/journal.pone.0126866. eCollection 2015. Erratum in: *PLoS One*. 2015;10(6):e0130781. Herre, David J [corrected to Herren, David J]. PubMed PMID: 25974252; PubMed Central PMCID: PMC4431674.

Lee D, Kraus A, Prins D, Groenendyk J, Aubry I, Liu WX, Li HD, Julien O, Touret N, Sykes BD, Tremblay ML, Michalak M. UBC9-dependent association between calnexin and protein tyrosine phosphatase 1B (PTP1B) at the endoplasmic reticulum. *J Biol Chem*. 2015 Feb 27;290(9):5725-38. doi: 10.1074/jbc.M114.635474. Epub 2015 Jan 13. PubMed PMID: 25586181; PubMed Central PMCID: PMC4342483.

Hardy S, Uetani N, Wong N, Kostantin E, Labbé DP, Bégin LR, Mes-Masson A, Miranda-Saavedra D, Tremblay ML. The protein tyrosine phosphatase PRL-2 interacts with the

Department of Biochemistry 2015

magnesium transporter CNNM3 to promote oncogenesis. *Oncogene*. 2015 Feb 19;34(8):986-95. doi: 10.1038/onc.2014.33. Epub 2014 Mar 17. PubMed PMID: 24632616.

El-Assaad W, El-Kouhen K, Mohammad AH, Yang J, Morita M, Gamache I, Mamer O, Avizonis D, Hermance N, Kersten S, Tremblay ML, Kelliher MA, Teodoro JG. Deletion of the gene encoding G0/G 1 switch protein 2 (G0s2) alleviates high-fat-diet-induced weight gain and insulin resistance, and promotes browning of white adipose tissue in mice. *Diabetologia*. 2015 Jan;58(1):149-57. doi: 10.1007/s00125-014-3429-z. Epub 2014 Nov 9. PubMed PMID: 25381555.

TSANTRIZOS, Y.S.

Moiseeva O, Lessard F, Acevedo-Aquino M, Vernier M, Tsantrizos YS, Ferbeyre G. Mutant lamin A links prophase to a p53 independent senescence program. *Cell Cycle*. 2015 Aug 3;14(15):2408-21. doi: 10.1080/15384101.2015.1053671. Epub 2015 Jun 1. PubMed PMID: 26029982; PubMed Central PMCID: PMC4614274.

Fandrick KR, Li W, Zhang Y, Tang W, Gao J, Rodriguez S, Patel ND, Reeves DC, Wu JP, Sanyal S, Gonnella N, Qu B, Haddad N, Lorenz JC, Sidhu K, Wang J, Ma S, Grinberg N, Lee H, Tsantrizos Y, Poupart MA, Busacca CA, Yee NK, Lu BZ, Senanayake CH. Concise and Practical Asymmetric Synthesis of a Challenging Atropisomeric HIV Integrase Inhibitor. *Angew Chem Int Ed Engl*. 2015 Jun 8;54(24):7144-8. doi: 10.1002/anie.201501575. Epub 2015 May 4. PubMed PMID: 25939331.

Gritzalis D, Park J, Chiu W, Cho H, Lin YS, De Schutter JW, Lacbay CM, Zielinski M, Berghuis AM, Tsantrizos YS. Probing the molecular and structural elements of ligands binding to the active site versus an allosteric pocket of the human farnesyl pyrophosphate synthase. *Bioorg Med Chem Lett*. 2015 Mar 1;25(5):1117-23. doi: 10.1016/j.bmcl.2014.12.089. Epub 2015 Jan 13. PubMed PMID: 25630225.

Tsantrizos, Y.S. Synthetic Challenges in the Assembly of Macrocyclic HCV NS3/4A Protease Inhibitors: The Case of BILN 2061 and its Analogs Synthesis of Heterocycles in Contemporary Medicinal Chemistry in *Topics in Heterocyclic Chemistry*; Springer, 2015.

URSINI-SIEGEL, J.

Jones LM, Broz ML, Ranger JJ, Ozcelik J, Ahn R, Zuo D, Ursini-Siegel J, Hallett M, Krummel M, Muller WJ. Stat3 establishes an immunosuppressive microenvironment during the early stages of breast carcinogenesis to promote tumor growth and metastasis. *Cancer Res*. 2015 Dec 30. pii: canres.2770.2015. [Epub ahead of print] PubMed PMID: 26719528.

Ursini-Siegel J, Siegel PM. The influence of the pre-metastatic niche on breast cancer metastasis. *Cancer Lett*. 2015 Nov 11. pii: S0304-3835(15)00683-7. doi: 10.1016/j.canlet.2015.11.009. [Epub ahead of print] PubMed PMID: 26577808.

Department of Biochemistry 2015

Bolt AM, Sabourin V, Molina MF, Police AM, Negro Silva LF, Plourde D, Lemaire M, Ursini-Siegel J, Mann KK. Tungsten targets the tumor microenvironment to enhance breast cancer metastasis. *Toxicol Sci.* 2015 Jan;143(1):165-77. doi: 10.1093/toxsci/kfu219. Epub 2014 Oct 15. PubMed PMID: 25324207; PubMed Central PMCID: PMC4274385.

Im YK, La Selva R, Gandin V, Ha JR, Sabourin V, Sonenberg N, Pawson T, Topisirovic I, Ursini-Siegel J. The ShcA adaptor activates AKT signaling to potentiate breast tumor angiogenesis by stimulating VEGF mRNA translation in a 4E-BP-dependent manner. *Oncogene.* 2015 Mar 26;34(13):1729-35. doi: 10.1038/onc.2014.110. Epub 2014 May 19. PubMed PMID: 24837366.

Dumeaux V, Ursini-Siegel J, Flatberg A, Fjosne HE, Frantzen JO, Holmen MM, Rodegerdts E, Schlichting E, Lund E. Peripheral blood cells inform on the presence of breast cancer: a population-based case-control study. *Int J Cancer.* 2015 Feb 1;136(3):656-67. doi: 10.1002/ijc.29030. Epub 2014 Jun 25. PubMed PMID: 24931809; PubMed Central PMCID: PMC4278533.

WING, S.S.

Bédard N, Jammoul S, Moore T, Wykes L, Hallauer PL, Hastings KE, Stretch C, Baracos V, Chevalier S, Plourde M, Coyne E, Wing SS. Inactivation of the ubiquitin-specific protease 19 deubiquitinating enzyme protects against muscle wasting. *FASEB J.* 2015 Sep;29(9):3889-98. doi: 10.1096/fj.15-270579. Epub 2015 Jun 5. PubMed PMID: 26048142.

Wiles B, Miao M, Coyne E, Larose L, Cybulsky AV, Wing SS. USP19 deubiquitinating enzyme inhibits muscle cell differentiation by suppressing unfolded-protein response signaling. *Mol Biol Cell.* 2015 Mar 1;26(5):913-23. doi: 10.1091/mbc.E14-06-1129. Epub 2015 Jan 7. PubMed PMID: 25568336; PubMed Central PMCID: PMC4342027.

YANG, X.J.

Li L, Yang XJ. Tubulin acetylation: responsible enzymes, biological functions and human diseases. *Cell Mol Life Sci.* 2015 Nov;72(22):4237-55. doi: 10.1007/s00018-015-2000-5. Epub 2015 Jul 31. PubMed PMID: 26227334.

Yang XJ. MOZ and MORF acetyltransferases: Molecular interaction, animal development and human disease. *Biochim Biophys Acta.* 2015 Aug;1853(8):1818-26. doi: 10.1016/j.bbamcr.2015.04.014. Epub 2015 Apr 25. Review. PubMed PMID: 25920810.

You L, Yan K, Zou J, Zhao H, Bertos NR, Park M, Wang E, Yang XJ. Correction: The Lysine Acetyltransferase Activator Brpf1 Governs Dentate Gyrus Development through Neural Stem Cells and Progenitors. *PLoS Genet.* 2015 Jun 15;11(6):e1005329. doi: 10.1371/journal.pgen.1005329. eCollection 2015 Jun. PubMed PMID: 26075600; PubMed Central PMCID: PMC4468260.

You L, Yan K, Zou J, Zhao H, Bertos NR, Park M, Wang E, Yang XJ. The chromatin regulator Brpf1 regulates embryo development and cell proliferation. *J Biol Chem.* 2015 May

Department of Biochemistry 2015

1;290(18):11349-64. doi: 10.1074/jbc.M115.643189. Epub 2015 Mar 15. PubMed PMID: 25773539; PubMed Central PMCID: PMC4416840.

Nie J, Xu C, Jin J, Aka JA, Tempel W, Nguyen V, You L, Weist R, Min J, Pawson T, Yang XJ. Ankyrin repeats of ANKRA2 recognize a PxLPxL motif on the 3M syndrome protein CCDC8. *Structure*. 2015 Apr 7;23(4):700-12. doi: 10.1016/j.str.2015.02.001. Epub 2015 Mar 5. PubMed PMID: 25752541.

You L, Yan K, Zou J, Zhao H, Bertos NR, Park M, Wang E, Yang XJ. The lysine acetyltransferase activator Brpf1 governs dentate gyrus development through neural stem cells and progenitors. *PLoS Genet*. 2015 Mar 10;11(3):e1005034. doi: 10.1371/journal.pgen.1005034. eCollection 2015 Mar. Erratum in: *PLoS Genet*. 2015 Jun;11(6):e1005329. Zhou, Jinfeng [corrected to Zou, Jinfeng]. PubMed PMID: 25757017; PubMed Central PMCID: PMC4355587.

You L, Zou J, Zhao H, Bertos NR, Park M, Wang E, Yang XJ. Deficiency of the chromatin regulator BRPF1 causes abnormal brain development. *J Biol Chem*. 2015 Mar 13;290(11):7114-29. doi: 10.1074/jbc.M114.635250. Epub 2015 Jan 7. PubMed PMID: 25568313; PubMed Central PMCID: PMC4358132.

WATSON, I.R.

Cancer Genome Atlas Network. Genomic Classification of Cutaneous Melanoma. *Cell*. 2015 Jun 18;161(7):1681-96. doi: 10.1016/j.cell.2015.05.044. PubMed PMID: 26091043; PubMed Central PMCID: PMC4580370.