

MANPREET KALKAT

EDUCATION

University of Toronto, Toronto, ON
Princess Margaret Cancer Center, University Health Network
PhD, Department of Medical Biophysics (09/2010 – 12/2016)
Thesis: "Identifying novel regulators of Myc activity"
Supervisor: Dr. Linda Z. Penn

University of Toronto, Toronto, ON
Samuel Lunenfeld Research Institute, Mount Sinai Hospital
MSc, Department of Physiology (09/2008 - 09/2010)
Thesis: " Regulation of placental autophagy by the Bcl-2 family proteins Mcl-1 and Mtd"
Supervisor: Dr. Isabella Caniggia

University of Toronto, Toronto, ON
B.Sc in Human Biology, Conferred with Distinction (09/2003 - 05/2008)
Minors: Physiology and Fine Art History

AWARDS

1. Canadian Breast Cancer Foundation Doctoral Fellowship (\$112,500) 09/2013 - 08/2016
2. Canadian Institutes of Health Research Travel Award (\$1,000) 01/2015
3. Ontario Graduate Scholarship OGS (\$15,000) 09/2012 - 08/2013
4. Medical Biophysics Excellence Award OSOTF (\$10,000) 09/2012 - 08/2013
5. Office of Research Trainee (ORT) Travel Award (\$500) 02/2012
6. Medical Biophysics Excellence Award OSOTF (\$15,000) 09/2011 - 08/2012
7. Genesis Research Foundation OGSST (\$15,000) 09/2009 - 08/2010
8. YW Loke International Travel Award, IFPA (\$500) 08/2009
9. University of Toronto Fellowship Grant (\$1,600) 09/2009
10. University of Toronto Fellowship Grant (\$1,600) 09/2008
11. University of Toronto In-Course Scholarship (\$300) 05/2006
12. Queen Elizabeth II Reaching for the Top Scholarship (\$2,000) 09/2003
13. University of Toronto Entrance Scholarship (\$1,000) 09/2003

PUBLICATIONS

1. Lustig LC, Dingar D, Tu WB, Lourenco C, **Kalkat M**, Ponzielli R, Inamoto I, Chan WCW, Shin JA, Penn LZ (2017). Inhibiting MYC binding to the E-box DNA motif by ME47 decreases tumour xenograft growth. *Oncogene (in press)*
2. **Kalkat M**, De Melo J, Hickman KA, Lourenco C, Redel C, Resetca D, Tamachi A, Tu WB, Penn LZ. (2017). MYC Dereglulation in Primary Human Cancers. *Genes* **8**(6):151.
3. Pandyra AA, Mullen PJ, Goard CA, Ericson E, Sharma P, **Kalkat M et al** (2015). Genome-wide RNAi analysis reveals that simultaneous inhibition of specific mevalonate pathway genes potentiates tumor cell death. *Oncotarget* **6**: 26909-26921.

4. Dingar D*, **Kalkat M***, Chan PK, Srikumar T, Bailey SD, Tu WB *et al* (2015). BioID identifies novel c-MYC interacting partners in cultured cells and xenograft tumors. *Journal of proteomics* 118: 95-111. ***These authors contributed equally**
5. Chan PK, Srikumar T, Dingar D, **Kalkat M**, Penn LZ, Raught B (2014). BioID data of c-MYC interacting protein partners in cultured cells and xenograft tumors. *Data in brief* 1: 76-78.
6. **Kalkat M**, Chan PK, Wasylishen AR, Srikumar T, Kim SS, Ponzielli R *et al* (2014). Identification of c-MYC SUMOylation by mass spectrometry. *PloS one* 9: e115337.
7. Pandya A, Mullen PJ, **Kalkat M**, Yu R, Pong JT, Li Z *et al* (2014). Immediate utility of two approved agents to target both the metabolic mevalonate pathway and its restorative feedback loop. *Cancer research* 74: 4772-4782.
8. **Kalkat M** and Penn LZ (2013) Regulation and Function of the MYC Oncogene. *Encyclopedia of Life Sciences (eLS)*. John Wiley & Sons Ltd, Chichester. [http://www.els.net\[doi:10.1002/9780470015902.a0024149\]](http://www.els.net[doi:10.1002/9780470015902.a0024149])
9. Wasylishen AR, **Kalkat M**, Kim SS, Pandya A, Chan PK, Oliveri S, Sedivy E, Konforte D, Bros C, Raught B, Penn LZ (2014) MYC activity is negatively regulated by a C-terminal lysine cluster. *Oncogene* 33(8):1066-72.
10. Wasylishen AR, Chan-Seng-Yue M, Bros C, Dingar D, Tu WB, **Kalkat M**, Chan P-K, Mullen PJ, Huang L, Meyer N, Raught B, Boutros PC, Penn LZ (2013) MYC Phosphorylation at Novel Regulatory Regions Suppresses Transforming Activity. *Cancer Research* 73: 6504-6515.
11. **Kalkat M**, Garcia J, Ebrahimi J, Melland-Smith M, Todros T, Post M *et al* (2013). Placental autophagy regulation by the BOK-MCL1 rheostat. *Autophagy* 9: 2140-2153.
12. **Kalkat M**, Wasylishen AR, Kim SS, Penn L (2011). More than MAX: Discovering the Myc interactome. *Cell Cycle* 10: 374-379.

PUBLISHED ABSTRACTS

1. Dingar D, **Kalkat M**, Chan PK, Bailey SD, Srikumar T, Tu WB, Coyaud E, Ponzielli R, Kolyar M, Jurisica I, Huang A, Lupien M, Raught B, Penn LZ: Abstract B04: In vivo BioID identifies novel Myc interacting partners. *Molecular Cancer Research* 10/2015; 13(10 Supplement):B04-B04. DOI:10.1158/1557-3125.MYC15-B04
2. Lourenco C, Wasylishen A, Chan-Seng-Yue M, Bros C, Dingar D, Tu W, **Kalkat M**, Chan PK, Mullen P, Raught B, Boutros P, Penn L: Abstract A10: The myc post-translational landscape: How novel gain-of-function mutants are revealing new stability and functional regulatory systems. *Molecular Cancer Research* 10/2015; 13(10 Supplement):A10-A10. DOI:10.1158/1557-3125.MYC15-A10
3. Resetca D, **Kalkat M**, Lourenco C, Chan PK, Srikumar T, Raught B, Penn L: Abstract A12: Identifying MYC post-translational modifications using a mass spectrometry-based approach. *Molecular Cancer Research* 10/2015; 13(10 Supplement):A12-A12. DOI:10.1158/1557-3125.MYC15-A12
4. **Kalkat M**, Chan PK, Wasylishen AR, Srikumar T, Kim SS, Ponzielli R, Bazett-Jones D, Raught B, Penn LZ: Abstract A08: Identification of c-MYC SUMOylation by mass spectrometry. *Molecular Cancer Research* 10/2015; 13(10 Supplement):A08-A08. DOI:10.1158/1557-3125.MYC15-A08.

5. **Kalkat M**, Wasylishen A, Chan PK, Pandyra A, Kim SS, Bros C, Raught B, Penn LZ: Abstract 3410: A novel regulatory region of the MYC oncogene decreases Myc transcriptional activity. *Cancer Research* 10/2014; 74(19 Supplement):3410-3410. DOI:10.1158/1538-7445.AM2014-3410.
6. **Kalkat M**, Garcia J, Todros T, Caniggia I (2010). Mcl-1/Mtd Rheostat Determines Autophagy in Placental Development and Disease. *Reproductive Sciences* **17**: 234A-235A.
7. Rolfo A, **Kalkat M**, Todros T, Caniggia I (2010). snMcl-1 Proteolytic Isoform Regulates Cell Growth During Placental Development and in Placental Pathologies. *Placenta* **31**: A86.
8. **Kalkat M**, Garcia J, Ray J, Caniggia I (2009). A novel role for Mcl-1 in autophagic regulation in the human placenta. *Placenta* **30**: A112-A118.

CONFERENCE PRESENTATIONS

1. **Kalkat M**, Chan PK, Lourenco C, Resetca D, Dingar D, Wasylishen A, Raught B, Penn, LZ. Identifying Novel Regulators of Myc Activity. Personalizing Cancer Medicine in 2016; Toronto, Ontario, Feb 1-2, 2016. **(poster presentation)**
2. **Kalkat M**, Chan PK, Wasylishen AR, Srikumar T, Kim SS, Ponzielli R, Bazett-Jones D, Raught B, Penn LZ: Identification of c-MYC SUMOylation by mass spectrometry. MYC: From Biology to Therapy; La Jolla, California, January 7-10, 2015. **(poster presentation)**
3. **Kalkat M**, Wasylishen A, Chan PK, Pandyra A, Kim SS, Bros C, Raught B, Penn LZ: A novel regulatory region of the MYC oncogene decreases Myc transcriptional activity. American Association for Cancer Research Annual Meeting; San Diego, California, April 5-9, 2014. **(poster presentation)**
4. **Kalkat M**, Wasylishen AR, Chan PK, Pandyra AA, Kim SS, Oliveri S, Sedivy E, Konforte D, Bros C, Raught B, Penn LZ. Identification of a novel negative regulatory region of the MYC oncogene. Canadian Cancer Research Conference, Toronto, Ontario, November 3-6, 2013. **(poster presentation)**
5. **Kalkat M**, Chan PK, Wasylishen AR, Kim SS, Bros C, Raught B, Penn LZ. Characterizing post-translational mechanisms of Myc deregulation. SUMO, Ubiquitin, UBL Proteins: Implications for Human Diseases; MD Anderson, Houston, Texas, February 8-11, 2012. **(poster presentation)**
6. **Kalkat M**, Garcia J, Caniggia I. Regulation of Placental Autophagy by the Bcl-2 Family Proteins Mcl-1 and Mtd. Obstetrics and Gynaecology Research Day, Toronto, Ontario, May 7, 2010. **(oral presentation)**
7. **Kalkat M**, Garcia J, Todros T, Caniggia I. Mcl-1/Mtd rheostat determines autophagy in placental development and disease. Society of Gynaecological Investigation; Orlando, Florida, March 24-27, 2010. **(poster presentation)**
8. **Kalkat M**, Garcia J, Ray J, Caniggia I. The Inhibitory role of Mcl-1 on the induction of autophagy in the human placenta. Perinatal Investigator's Meeting, Kingston, Ontario, November 12-13 2009. **(oral presentation)**
9. **Kalkat M**, Garcia J, Ray J, Caniggia I. The Inhibitory role of Mcl-1 on the induction of autophagy in the human placenta. International Federation of Placental Associations; Adelaide, Australia,

October 6-9, 2009. (**poster presentation - Top 10 poster presentation shortlist**)

10. **Kalkat M**, Rolfo A, Caniggia I. Interaction of Mcl-1 proteolytic isoform with Cdk1 prevents cell cycle progression during placental development. Perinatal Investigator's Meeting, Kingston, Ontario, November 2008 . (**poster presentation**)

PUBLIC PRESENTATIONS

"Introduction to Cancer Biology and Cancer Research" Invited Speaker for the English Language Program, Ontario Institute for Studies in Education (OISE), Toronto, Ontario, March 16, 2012.

RELATED EXPERIENCE

Department of Pathology and Laboratory Medicine
Mount Sinai Hospital, Toronto, ON

Volunteer

2007 – 2008

- Responsible for organization of biospecimens, assisted with sample preparation and documentation.