

CURRICULUM VITAE

I. Education:

1991-1993 Postdoctoral Fellow Stanford University, Palo Alto, CA., USA.
1986-1990 Ph.D. University of California, Davis, CA., USA.

II. Experience:

2021-present Topic editor, Biomarkers and Therapeutic Strategies in Acute Lymphoblastic Leukemia, *Frontiers in Cell and Developmental Biology*.
2019-present General Faculty Council (GFC) Member, University of Calgary, Calgary, AB. Canada.
2019/7 Invited Speaker/Session Chair, 4th Global Insight Conference on Breast Cancer, London, UK.
2018 Canadian Institutes of Health Research (CIHR)'s CM2 Grant Panel Member
2014-2016 CIHR's New Investigator Panel Member.
2012/9 - 2015/8 General Faculty Council (GFC) Member, University of Calgary, Calgary, AB. Canada.
2012-present Full Professor/Tenured, Department of Cell Biology and Anatomy, University of Calgary, Calgary, AB. Canada.
2012/2 - 2015/7 Symposium Chair, Canada Korea Conference, Association of Korean-Canadian Scientist and Engineers (AKCSE).
2012-2014 CIHR Fellowships-Post-PhD Awards Committee Member.
2011-2013 Canadian Breast Cancer Foundation (CBCF), Grant Review Panel Member.
2012/9 - 2013/3 Board of Directors, Faculty Association Faculty Association, University of Calgary
2004/7 - 2012/3 Associate Professor, Department of Cell Biology and Anatomy, University of Calgary, Calgary, AB. Canada.
2008/5 - 2011/12 Founding President, Calgary Korean Scholarship Foundation (CKSF).
2004/7 - 2011/6 AHFMR Senior Scholar, AHFMR.
2002/2 - 2003/3 Associate Editor, *Journal of Alzheimer's Disease*.
1999/7 - 2004/6 AHFMR Scholar, AHFMR.
1999/7 - 2004/6 Assistant Professor, Department of Cell Biology and Anatomy, University of Calgary, Calgary, AB. Canada.
1996/11 - 1999/6 Adj. Assistant Professor, Department of Cell Biology and Anatomy, University of Calgary, Calgary, AB. Canada.
1993/11 - 1996/10 AHFMR Fellow, AHFMR.

III. Grant support in the past 3 years: Principal Investigator: Lee, K. -Y.

2021- 2026 Canadian Institutes of Health Research Grant. Operating Grant. "L-asparaginase-induced mechanisms of acute lymphoblastic leukemia (aLL) cell apoptosis" \$898,875.
2019- 2025 NSERC Discovery. Operating Grant. "Cdk5 regulation of calcium dynamics" \$192,000.
2012-2018 Canadian Institutes of Health Research Grant. Operating Grant. "Cdk5: its regulation and function" \$810,400.

IV. # of trainees trained during the past 5 years: 1 research assistant professor, 3 PDFs, 6 graduate students and 10 undergraduate students.

V. Peer-Reviewed Publications (*PI's trainees: during the past 5 years)

1. NavaneethaKrishnan S*, Law V*, Lee JK*, Rosales JL*, **Lee KY**. (2021) Cdk5 regulates IP3R1-mediated Ca²⁺ dynamics and Ca²⁺-mediated cell proliferation. **PNAS** (under revision; MS# 2020-10437).
2. Wang X*, Sipila P*, Si Z*, Rosales JL*, Gao X, **Lee KY**. (2021) Loss of Cdk5rap2 triggers cellular senescence via β -catenin-mediated downregulation of WIP1. **Cell Death & Disease** (under revision: CDD-21-0032).
3. Wang X*, Sipila P*, Rosales JL*, Jin Y, Fu S, Gao X, **Lee KY**. (2021). Loss of Cdk5rap2, a transcriptional activator of CENP-A, compromises centromeric chromatin integrity. **Biomed. Pharmacol.** 138:111463.
4. NavaneethaKrishnan S*, Rosales JL*, **Lee KY**. (2021) Cdk5 loss alters mitochondrial cristate organization. **J Cancer Treatment Diagn.** 5(1): 5-8.
5. NavaneethaKrishnan S*, Rosales JL*, **Lee KY**. (2021). ROS-mediated apoptosis in cancer. **Oxidative Stress in Cancer**, p1-19.
6. Lee J*, Rosales JL*, **Lee KY**. (2021). D,L-methadone causes leukemic cell apoptosis via an OPRM1-triggered increase in IP3R-mediated ER Ca²⁺ release and decrease in Ca²⁺ efflux, elevating [Ca²⁺]. **Scientific Reports.** 11: 1009 (doi: 10.1038/s41598-020-80520-w), PMID: 33441856.
7. NavaneethaKrishnan S*, Rosales JL*, **Lee KY**. (2020). Cdk5: a mediator of mPTP opening. **J Cancer Treatment Diagn.** 4(2):12-13
8. NavaneethaKrishnan S*, Rosales JL*, **Lee KY**. (2020). mPTP opening caused by Cdk5 loss is due to increased mitochondrial Ca²⁺ uptake. **Oncogene.** 39(13):2797-2806.
9. NavaneethaKrishnan S*, Rosales JL*, **Lee KY**. (2019). ROS-Mediated Cancer Cell Killing through Dietary Phytochemicals. **Oxidative Medicine & Cellular Longevity.** Article ID 9051542, <https://doi.org/10.1155/2019/9051542>.
10. Lee J*, Kang S*, Wang X*, Rosales JL*, Gao X, Byun HG, Jin Y, Fu S, Wang J, **Lee KY**. (2019) HAP1 loss confers L-asparaginase resistance in ALL by downregulating the calpain-1-Bid-caspase-3/12 pathway. **Blood (Impact factor: 17.8)** 133: 2222–2232.
11. NavaneethaKrishnan S*, Rosales JL*, **Lee KY**. (2018). Targeting Cdk5 for killing of breast cancer cells via perturbation of redox homeostasis. **Oncoscience.** 5(5-6): 152-154.
12. Bat-Erdene U*, Quan E*, Chan K*, Lee BM*, Matook W*, **Lee KY****, Rosales JL** (**The two senior authors have equal contributions). (2018). Neutrophil TLR4 and PKR are targets of breast cancer cell glycosaminoglycans and effectors of glycosaminoglycan-induced APRIL secretion. **Oncogenesis.** 7(6): 45 doi: 10.1038/s413.
13. NavaneethaKrishnan S*, Rosales JL*, **Lee KY**. (2018). Loss of Cdk5 in breast cancer cells promotes ROS mediated cell death through dysregulation of the mitochondrial permeability transition pore. **Oncogene.** 37(13): 1788-1804.
14. Kang SM*, Rosales JL*, Meier-Stephenson V, Kim S, **Lee KY****, Narandran A** (**The two senior authors have equal contributions; Lee KY is a corresponding author). (2017). Genome wide loss-of-function genetic screening identifies opioid receptor mu 1 as a key regulator of L-asparaginase resistance in pediatric acute lymphocytic leukemia. **Oncogene.** 36: 5910-5913.
15. Sidhoo S*, Rosales JL*, **Lee KY**. (2017). Integration of a bacterial gene sequence into a chronic eosinophilic leukemia patient's genome as part of a fusion gene linker. **Biomarker Research.** 5(20): DOI: 10.1186/s40364.
16. Liang H, Lv G, Tan P, Liu Y, Nie J, Zhang Y, Diao Y, He Q, Hou B, Zhao T, Li Y, Huang H, **Lee KY**, Gao X, Zhou L. (2017). The effect of iron on cholesterol-7-alpha-hydroxylase expression in alcohol-induced hepatic steatosis in mouse. **J. Lipid Research.** 58(8): 1548-1560.

17. Law V*, Dong S, Rosales JL*, Jeong M, Zochodne D, **Lee KY**. (2016). Enhancement of peripheral nerve regrowth by the purine nucleoside analog and cell cycle inhibitor, roscovitine. **Frontiers in Cellular Neuroscience**. 10(238): eCollection 2016.