

Bassem D. Khalil

EDUCATION

- Ph.D., Biomedical Sciences** August 2011 – August 2016
Albert Einstein College of Medicine
Bronx, NY, USA
- M.S., Biomedical Sciences** August 2011 – May 2013
Albert Einstein College of Medicine
Bronx, NY, USA
- M.S., Molecular Biology** September 2008 – June 2011
Lebanese American University
Byblos, Lebanon
- B.S., Biology *Summa Cum Laude*** September 2005 – July 2008
Notre Dame University
Zouk Mosbeh, Lebanon

CURRENT POSITION

- Assistant Professor** October 2021 – Present
Medical Advancement Preparatory Program
Western Atlantic University School of Medicine
Plantation, FL, USA

TEACHING EXPERIENCE

- Adjunct Assistant Professor** Fall 2016 – Spring 2021
Fordham University
Bronx, NY, USA
Course: Human Physiology
- Instructor** Summer 2010 – Spring 2011
Lebanese American University
Byblos, Lebanon
Courses: General Biology I Lab; Introductory Chemistry Lab
- Chemistry Lab Co-supervisor** September 2010 – January 2011
Lebanese American University
Byblos, Lebanon
- Teaching Assistant** Fall 2008 – Spring 2010
Lebanese American University
Byblos, Lebanon
Courses: General Biology I and II Labs; Introductory Biology Lab; Introductory Chemistry Lab

RESEARCH EXPERIENCE

Postdoctoral Fellow

Laboratory of Dr. Julio Aguirre-Ghiso
Icahn School of Medicine at Mount Sinai
New York, NY, USA

April 2019 – September 2021

Postdoctoral Fellow

Laboratory of Dr. Richard Kolesnick
Memorial Sloan Kettering Cancer Center
New York, NY, USA

August 2017 – April 2019

Postdoctoral Fellow

Laboratories of Dr. Jonathan Backer and Dr. Anne Bresnick
Departments of Molecular Pharmacology and Biochemistry
Albert Einstein College of Medicine
Bronx, NY, USA

August 2016 – May 2017

Ph.D. Training

Laboratory of Dr. Jonathan Backer
Co-mentor: Dr. Anne Bresnick
Departments of Molecular Pharmacology and Biochemistry
Albert Einstein College of Medicine
Bronx, NY, USA

August 2011 – August 2016

M.S. Training

Laboratory of Dr. Mirvat El-Sibai
Department of Natural Sciences
Lebanese American University
Byblos, Lebanon

July 2009 – June 2011

Volunteer, Genetics Laboratory

Middle East Institute of Health
Bsalim, Lebanon

September 2008

Volunteer, Genetics Research Laboratory

Chronic Care Center
Baabda, Lebanon

July 2008

GRANTS and FUNDING

National Cancer Institute (NCI)

T32 Postdoctoral Research Training Grant

August 2020 – September 2021

COURSES and WORKSHOPS

Fundamentals of Course Design and Teaching

Albert Einstein College of Medicine
Bronx, NY, USA

January - May 2015

Microscopy workshop

Lebanese American University and American University of Beirut
Byblos and Beirut, Lebanon

May 2011

Bioinformatics workshop
Lebanese American University
Byblos, Lebanon

September 2009

HONORS and AWARDS

Second Prize for Best Oral Presentation

March 2016

NY Graduate School Symposium

Albert Einstein College of Medicine's Nominee

November 2014

Howard Hughes Medical Institute (HHMI) International Student Research Fellowship

Best Poster Presentation

June 2014

Phosphorylation & G-Protein Mediated Signaling Networks Gordon Research Conference

Best Poster Presentation

May 2010

The Third Annual Molecular Biology Poster Conference at Lebanese American University (LAU)

Dean's Honor List (NDU)

2005-2008

Awarded for academic excellence

Beneficiary of highest merit scholarship (NDU)

2005-2008

PUBLICATIONS

1. **Khalil, B.D.**, Sanchez, R., Rahman, T., Rodriguez-Tirado, C., Moritsch, S., Rodriguez Martinez, A., Miles, B., Farias, E., Mezei, M., Cheung, J. F., Nobre, A. R., Kale, N., Sproll, K. C., Sosa, M. S., Aguirre-Ghiso, J. A. (2022). "A specific agonist of the orphan nuclear receptor NR2F1 suppresses metastasis through the induction of cancer cell dormancy." *J Exp Med*, 219(1): e20210836.
2. Abdellatef, S., Fakhoury, I., Al Haddad, M., Jaafar, L., Maalouf, H., Hanna, S., **Khalil, B.D.**, El Masri, Z., Hodgson, L., El-Sibai, M. (2022). "StarD13 negatively regulates invadopodia formation and invasion in high-grade serous (HGS) ovarian adenocarcinoma cells by inhibiting Cdc42." *Eur J Cell Biol*, 101(1):151197.
3. Sun, D., Filipescu, D., Hasson, D., Singh, D., Carcamo, S., **Khalil, B.D.**, Miles, B.A., Westra, W., Sproll, K.S., Bernstein, E., Aguirre-Ghiso, J. A. (2021). "MacroH2A impedes metastatic growth by enforcing a discrete dormancy program in disseminated cancer cells." *bioRxiv*, doi: <https://doi.org/10.1101/2021.12.07.471619>.
4. Rodriguez-Tirado, C., Kale, N., Carlini, M. J., Shrivastava, N., **Khalil, B.D.**, Bravo-Cordero, J. J., Alexander, M., Ji, J., Sosa, M. S. (2021). "NR2F1 is a barrier to dissemination of early-evolved mammary cancer cells." *bioRxiv* 2021.01.29.428822; doi: <https://doi.org/10.1101/2021.01.29.428822>.
5. Heitz, S.D., Hamelin, D.J., Hoffman, R.M., Greenberg, N., Salloum, G., Erami, Z., **Khalil, B.D.**, Shymanets, A., Steidle, E.A., Gong, G.Q., Nürnberg, B., Burke, J.E., Flanagan, J.U., Bresnick, A.R., and Backer, J.M. (2019). "A single discrete Rab5 binding site in PI3K β is required for tumor cell invasion." *J Biol Chem*, 294(12): 4621-4633.
6. Erami, Z.*, **Khalil, B.D.***, Salloum, G., Yao, Y., LoPiccolo, J., Shymanets, A., Nürnberg, B., Bresnick, A.R., and Backer, J.M. (2017). "Rac1-stimulated macropinocytosis enhances G $\beta\gamma$ activation of PI3K β ." *Biochemical J.*, 474(23): 3903-3914. * **Contributed equally**

7. **Khalil, B.D.**, Hsueh, C., Cao, Y., Abi Saab, W., Wang, Y., Condeelis, J.S., Bresnick, A.R., and Backer, J.M. (2016). "GPCR signaling mediates tumor metastasis via PI3K β ." *Cancer Research*, **76**(10): 2944-2953.
8. Hanna, S., **Khalil, B.D.**, Nasrallah, A., Saykali, B.A., Sobh, R., Nasser, S., and El-Sibai, M. (2014). "StarD13 is a tumor suppressor in breast cancer that regulates cell motility and invasion." *Int J Oncol*, **44**(5): 1499-1511.
9. **Khalil, B.D.**, Hanna, S., Saykali, B.A., El-Sitt, S., Nasrallah, A., Marston, D., El-Sabban, M., Hahn, K.M., Symons, M., and El-Sibai, M. (2014). "The regulation of RhoA at focal adhesions by StarD13 is important for astrocytoma cell motility." *Exp Cell Res*, **321**(2): 109-122.
10. Vadas, O., Dbouk, H.A., Shymanets, A., Perisic, O., Burke, J.E., Abi Saab, W.F., **Khalil, B.D.**, Harteneck, C., Bresnick, A.R., Nurnberg, B., Backer, J.M., and Williams, R.L. (2013). "Molecular determinants of PI3K γ -mediated activation downstream of G-protein-coupled receptors (GPCRs)." *Proc Natl Acad Sci U S A*, **110**(47): 18862-18867.
11. Dbouk, H.A., **Khalil, B.D.**, Wu, H., Shymanets, A., Nurnberg, B., and Backer, J.M. (2013). "Characterization of a tumor-associated activating mutation of the p110 β PI 3-kinase." *PLoS One*, **8**(5): e63833.
12. Dbouk, H.A., Vadas, O., Shymanets, A., Burke, J.E., Salamon, R.S., **Khalil, B.D.**, Barrett, M.O., Waldo, G.L., Surve, C., Hsueh, C., Perisic, O., Harteneck, C., Shepherd, P.R., Harden, T.K., Smrcka, A.V., Taussig, R., Bresnick, A.R., Nurnberg, B., Williams, R.L., and Backer, J.M. (2012). "G protein-coupled receptor-mediated activation of p110 β by G β γ is required for cellular transformation and invasiveness." *Science Signaling*, **5**(253): ra89.
13. El-Sitt, S., **Khalil, B.D.**, Hanna, S., El-Sabban, M., Fakhreddine, N., and El-Sibai, M. (2012). "DLC2/StarD13 plays a role of a tumor suppressor in astrocytoma." *Oncol Rep*, **28**(2): 511-518.
14. **Khalil, B.D.** and El-Sibai, M. (2012). "Rho GTPases in primary brain tumor malignancy and invasion." *J Neurooncology*, **108**(3): 333-339.
15. Bahnan, W., Koussa, J., Younes, S., Abi Rizk, M., **Khalil, B.D.**, El Sitt, S., Hanna, S., El-Sibai, M., and Khalaf, R. A. (2012). "Deletion of the *Candida albicans* PIR32 results in increased virulence, stress response, and upregulation of cell wall chitin deposition." *Mycopathologia*, **174**(2): 107-119.

ABSTRACTS and POSTER PRESENTATIONS

1. **Khalil, B.D.**, Cao, Y., Abi Saab, W., Wang, Y., Hsueh, C., Bresnick, A.R., and Backer, J.M. GPCR signaling to p110 β is required for invasion and metastasis of breast cancer cells. The New York Graduate Student Symposium on Cancer Biology. Cold Spring Harbor Laboratory, NY, USA, April 2015.
2. **Khalil, B.D.**, Cao, Y., Abi Saab, W., Wang, Y., Hsueh, C., Bresnick, A.R., and Backer, J.M. GPCR signaling to p110 β is required for invasion and metastasis of breast cancer cells. Phosphorylation & G-Protein Mediated Signaling Networks Gordon Research Conference, University of New England, Biddeford, ME, USA, June 2014
3. **Khalil, B.D.**, Cao, Y., Abi Saab, W., Wang, Y., Bresnick, A.R., and Backer, J.M. GPCR signaling to p110 β is required for tumor growth and extravasation of breast cancer cells. PTEN Pathways & Targets, Cold Spring Harbor Laboratory, NY, USA, March 2014.

4. **Khalil, B.D.** and El-Sibai, M. The regulation of RhoA in focal adhesions by StarD13 is essential for astrocytoma cell motility. The Lebanese Association for the Advancement of Science (LAAS), Lebanon, March 2012.
5. **Khalil, B.D.**, El-Sitt, S., El-Sabban, M., Backer, J.M., and El-Sibai, M. The regulation of RhoA by Stard13 in focal adhesions is essential for astrocytoma cell motility. The American Society for Cell Biology (ASCB), Denver, CO, USA, December 2011.
6. **Khalil, B.D.**, El-Sitt, S., El-Sabban, M., Backer, J.M., and El-Sibai, M. The regulation of RhoA by Stard13 in focal adhesions is essential for astrocytoma cell motility. European Molecular Biology Association (EMBO), Vienna, Austria, September 2011.
7. **Khalil, B.D.**, El-Sitt, S., El-Sabban, M., Backer, J.M., and El-Sibai, M. The regulation of RhoA by Stard13 in focal adhesions is essential for astrocytoma cell motility. Mechanisms & Models of Cancer Meeting at the Salk Institute, San Diego, CA, USA, August 2011.
8. **Khalil, B.D.**, El-Sitt, S., El-Sabban, M., Backer, J.M., and El-Sibai, M. The role of StarD13 and RhoA in astrocytoma cell motility. Gordon research conference on motile and contractile systems, Colby-Sawyer College in New London, NH, USA, July 2011
9. **Khalil, B.D.**, El-Sitt, S., El-Sabban, M., Backer, J.M., and El-Sibai, M. The roles of RhoA and StarD13 in astrocytoma motility. The 44th Middle East Medical Assembly (MEMA), American University of Beirut (AUB), Lebanon, May 2011.
10. **Khalil, B.D.**, El-Sitt, S., El-Sabban, M., Backer, J.M., and El-Sibai, M. The role of StarD13, a RhoA and Cdc42 GAP, in astrocytoma cell motility. The Lebanese Association for the Advancement of Science (LAAS), Lebanon, November 2010.
11. **Khalil, B.D.**, El-Sitt, S., El-Sabban, M., Backer, J.M., and El-Sibai, M. The role of StarD13, a RhoA and Cdc42 GAP, in astrocytoma cell motility. The Third Annual Molecular Biology Poster Conference at Lebanese American University (LAU), Lebanon, May 2010.