

Jennifer E. Koblinski, PhD



Assistant Professor of Pathology
Director of the Cancer Mouse Models Core
Department of Pathology
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Education

Graduate Education

1999 Ph.D., Cancer Biology, Wayne State University School of Medicine,
Detroit, MI

Virginia Commonwealth University and Medical Center Appointments

2021 - Present	Co-director, Tissue and Data Acquisition and Analysis Core, Virginia Commonwealth University, Richmond, VA
2015 - Present	Director, Cancer Mouse Model Core, Virginia Commonwealth University, Richmond, VA
2013 - Present	Assistant professor, Department of Pathology, School of Medicine, Virginia Commonwealth University, Massey Cancer Center, Richmond, VA (Tenure Eligible)

Special Honors

December 2018	Chosen to showcase the Cancer Mouse Models Core to Governor Ralph Northam for the Massey Cancer Center
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VCU Service

2021 - Present	Co-director, Tissue and Data Acquisition and Analysis Core
2015 - Present	Director, Cancer Mouse Models Core Laboratory, VCU, Massey Cancer Center, Richmond, VA
2019 - Present	Treasurer, Women in Science, Medicine and Dentistry
2020-21	Member, VCU Bench to community advisory group
2020	Member, Search Committee for Associate Director for the Division of Animal Research
2019-20	Panel member, Investigation of Research Misconduct
2019	Member of planning committee for Annual Women and Science, Medicine and Dentistry meeting
2017-18	Reviewer for VCU Presidential Research Quest Fund, VCU School of Medicine, Richmond, VA

Professional Organizations

American Association for Cancer Research

Women in Cancer Research

Professional Service

NSF National I-Corps Customer Insight member for Rutgers University
Nov. 2020

Academic speaker, Women in STEM leadership series, Minnesota State University, Mankato, MN Oct. 2020

Chair, Search committee for Division Chair, Cellular and Molecular Pathogenesis, Department of Pathology, VCU

Study Section member/reviewer for Cell Biology and Metastasis study section, American Cancer Society, Atlanta, GA

Editorial Advisory Boards

Co-Editor: Analytical Cellular Pathology special issue Molecular Regulation of Cancer Cell Migration, Invasion, and Metastasis.

Recent Invited Presentations

- April 2021 "Updates to CMMC services and discussion of PDX/PDO models"
Speaker for Cancer Biology Program meeting, Massey Cancer Center, VCU, Richmond, VA
- March 2021 "Technologies and animal models that can enhance your research" Speaker for Pharmacology and Toxicology Seminar Series, VCU, Richmond, VA
- Nov. 2020 "Updates/New Technologies in the Cancer Mouse Models Core"
Speaker for Developmental Therapeutics retreat, Massey Cancer Center, VCU, Richmond, VA
- Oct. 2020 "Precision medicine approach to Platinum therapy." In Vivo Imaging Virtual User Group Meeting – Webinar held by PerkinElmer.
- March 2020 "Precision medicine for platinum" Speaker for Grand Rounds, Department of Pathology, VCU, Richmond, VA
- April 2018 "Mechanisms of breast cancer metastasis to the brain", Invited Speaker, 2nd Annual Nanosymposium on Engineered Health, sponsored by: University of Virginia's NanoSTAR, Virginia Tech's Center for Engineered Health and Virginia Commonwealth University, Roanoke, VA

Research Grants/Contracts

May 2017 - April 2022	Role: Director, Cancer Mouse Models Core Laboratory, Winn (PI) NIH/NCI, \$2M Cancer Center Core Support Grant
June 2019 - May 2022	Role: Collaborator, Harada (PI), NIH/NCI, \$50,000, Targeting BCL-2 family-regulated cell death for HNSCC treatment.
June 2020 - May 2024	Role: Collaborator, Faber (PI), NIH/NCI, \$228,750, Neuroblastoma reliance on DNMT1 through amplified MYCN.
June 2020 - May 2022	Role: Collaborator, Bristol (PI), NIH/NIDCR, \$50,000, Estrogen reduces HPV transcription and oncogene expression to target disease.
July 2020 - June 2022	Role: Collaborator, Litovchick (PI), NIH/NIDCR, \$150,000, The role of the DREAM complex in Head and Neck preneoplasia.
Jan. 2021 - Dec. 2022	Role: Collaborator, American Cancer Society Mission boost, Faber (PI), calendar, ACS, \$100,000, Amplified MYCN drives a ferroptotic vulnerability in neuroblastoma.
Jan. 2021 - Dec. 2022	Role: Collaborator, American Cancer Society-RSG, Radhakrishnan (PI), ACS, \$165,000, Understanding and targeting Nrf1 pathway in triple-negative breast cancer.

Recent Publications

Peer Reviewed Publications

1. Faber, A. High-risk neuroblastoma with NF1 loss of function is targetable using SHP2 inhibition. In preparation to be resubmitted to MCT. April 2022
2. Cai, J., Kurupi, R., Greninger, P., Egan, R.,K., Stein, G.,T., Muchie, E., McClanaghan, J., Puchalapalli, M., Dozmov, M., Gold, H, Boikos, S.A.,

Koblinski, J.E., Hao, H., Caponigro, G., Benes, C.H., and Faber, A. High-risk neuroblastoma with NF1 loss of function is targetable using SHP2 inhibition. *In preparation to be resubmitted to MCT. April 2022*

3. Kurupi, R. Chawla, A.T., Cai, J., Hu, B., Puchalapalli, M., Coon, C.M., Crowther, G.S., Egan, R.K., Murchie, E., Greninger, P., Powell, K.M., Jacob, S., Ghotra, M.S., Boikos, S.A., **Koblinski, J.E.**, Harada, H., Sun, Y., Morgan, I.M., Basu, D., Benes, C.H., and Faber, A. Targeting SHP2 blocks both PI3K and MEK signaling in HNSCC. *In preparation to be resubmitted to Cancer Research April 2022*
4. Hampton, J.D, Peterson, E.J., Katner, S.J., Turner, T.H., Alzubi, M.A., Harrell, J.C., Dozmorov, M.G., Gigliotti, P.J., Kraskauskiene, V., Shende, M., Idowu, M.O., Puchalapalli, M., Hu, B., Litovchick. L., Katsuta, E., Takabe, K., and *Farrell, N.P. and ***Koblinski, J.E.** Exploitation of sulfated glycosaminoglycan status for precision medicine of platinum in triple-negative breast cancer. In press Mol. Cancer Ther. *These authors are both corresponding author. **Research Highlight in the issue.** (2022) Mol. Cancer Ther. 21:243.
5. Jacob, S., Tuner, T.H., Yu, A., Coon, C., Alzubi, M.A., Dozmorov, M.G., Boikos, S., **Koblinski, J.E.**, Harrell, J.C., Benes, C., Costa, C., and Faber, A. UBA1 is a potent and druggable target in diverse models of triple negative breast cancer. *resubmitted to MCT March 2022*
6. Ahmadinejad, F., Bos, T., Hu, B., Britt, E., **Koblinski, J.**, Souers, A.J., Levenson, J.D., Faber, A.C., Gewirtz, D., and Harada, H. Senolytic-mediated elimination of head and neck tumor cells induced into senescence by cisplatin. (2022) Mol Pharmacol. 101:168-180. PMID:34907000.
7. Fairchild, C.K., Floros, K. V., Jacob, S., Coon, C.M., Puchalapalli, M., Hu, B., Harada, H., Dozmorov, M.G., **Koblinski, J.E.**, Smith, S.C., Domson, G., Levenson, J.D., Souers, A.J., Takabe, N., Ebi, H., Faber, A.C., and Boikos, S.A. Unmasking BCL-2 Addiction in Synovial Sarcoma by Overcoming Low NOXA. (2021) Cancers 13:2310. PMCID: PMC8150384.
8. Heisey, D., Jacob, S. Lochman, T.L., Kurupi, R., Ghotra, M.S., Calbert, M.L., Maves, Y.K., Shende, M., Maves, Y.K., **Koblinski, J.E.**, Dozmorov, M.G., Boikos, S.A., Benes, C.H., and Faber, A.C. Pharmaceutical interference of the EWS-FLI1-driven transcriptome by co-targeting H4K27ac and RNA polymerase activity in Ewing Sarcoma. . (2021) Mol. Cancer Ther. 20:1868-1879. PMID: 34315769.
9. Floros, K., Cai, J., Kurupi, R., Fairchild, C., Shende, M., Coon, C., Powell, K.,

- Belvin, B., Hu, B., Puchalapalli, M., Ramamoorthy, S., Swift, K., Lewis, J., Dozmorov, M., Glod, J., **Koblinski, J.E.**, Boikos, S., Jacob, S., and Faber, A.C. MYCN-amplified neuroblastoma is addicted to iron and vulnerable to inhibition of the system Xc-/glutathione axis. (2021) *Cancer Res.* 81:1896-1908. PMID:33483374.
10. Powell, K.M., Lochmann, T.L., Floros, K.V., Calbert, M.L., Kurupi, R., Stein, G.T., McClanaghan, J., Murchie, E., Egan, R.K., Greninger, P., Dozmorov, M., Ramamorrthy, S., Puchalapalli, M., Hu, B., Shock, L., **Koblinski, J.E.**, Glod, J., Boikos, S.A., Benes, C.H., and Faber, A.C. Catastrophic ATP loss underlines a metabolic combination therapy tailored for MYCN-amplified neuroblastoma. (2021) *PNAS* 118:e2009620118.
11. Gorle, A.K., Haselhorst, T., Katner, S.J., Everest-Dass, A.V., Hampton, J.D., Peterson, E.J., **Koblinski, J.E.**, Katsuta, E., Takabe, K., von Itzstein, M., Berners-Price, S., and Farrell, N.P. Conformational modulation of iduronic acid-containing sulfated glycosaminoglycans by a polynuclear platinum compound. Implications for development of antimetastatic platinum drugs. (2021) *Angew Chem. Int. Ed. Engl.* 60:3283-3289. PMID: PMC7902481.
12. Floros, K., Jacob, S., Hu, B., Puchalapalli, M., **Koblinski, J.E.**, Boikos, S., Scaltriti, M., and Faber, A.C. Targeting transcription of MCL-1 overcomes NOXA-deficiency to sensitize HER2-amplified breast cancers to HER2 inhibitors. (2021) *Cell Death & Disease* 12:179. PMID: PMC7884408.
13. Aqbi, H.F., Coleman, C., Zarei, M., Manjili, S.H., Graham, L., **Koblinski, J.**, Guo, C., Xie, Y., Guruli, G., Bear, H.D., Idowu, M.O., Habibi, M., Wang, X., and Manjili, M. Local and distant tumor dormancy during early-stage breast cancer are associated with the predominance of infiltrating T effector subsets. (2020) *Breast Cancer Res.* 22:116. PMID: PMC7594332.
14. Hakim, S., Craig, J.M., **Koblinski, J.E.**, and Clevenger, C.V. Inhibition of prolyl isomerase activity of cyclophilin A by a non-immunosuppressive cyclosporine impedes prolactin receptor mediated signaling, mammary tumorigenesis and metastases. (2020) *iScience* 23:101581. PMID: PMC7549119.
15. Wang, D., Naydenov, N.G., Dozmorov, M.G., **Koblinski, J.E.**, and Ivanov, A. Anillin regulates breast cancer cell migration, growth and metastasis by non-canonical mechanism involving control of cell stemness and differentiation. (2020) *Breast Cancer Res.* 22: 3. PMID: PMC6947866.
16. Sayyad, M., Puchalapalli, M., Vergara, N., Wangensteen Mosticone, S., Moore,

M., Mu, L., Edwards, E., Anderson, A., Kall, S., Sullivan, M., Dozmorov, M., Singh, J., Idowu, M., and **Koblinski, J.E.** Syndecan 1 facilitates breast cancer cell metastasis to the brain. (2019) *Breast Cancer Res. Treat.* 178: 35-49. PMID: 31327090. PMID: 31327090.

17. Verma, A., Cohen, D.J., Schwartz, N., Muktipaty, C., **Koblinski, J.**, Boyan, B.D., and Schwartz. 24R,25-Dihydroxyvitamin D3 regulates breast cancer cell in vitro and in vivo. (2019) *BBA -General Subjects.* 1863: 1498-1512. PMID: 31125679.

18. Puchalapalli, M, Mu, L, Edwards, C., Kaplan-Singer, B, Eni, P, Belani, K, Finkelstein, D, Patel, A, Sayyad, M., and **Koblinski, J.E.** The laminin- α 1 chain derived peptide, AG73, binds to syndecans on breast cancer cells and alters filopodia formation. (2019)

19. *Anal Cell Pathol.* 9192516 eCollection 2019. PMCID: PMC6515157. Garcia, E., Kraskauskene, V., **Koblinski, J.E.**, and Jefferson, K. Interaction of *Gardnerella vaginalis* and vaginolysin with the apical versus basolateral face of a 3-dimensional model of vaginal epithelium. (2019) *Infection and Immunity.* 87: e00646-18. PMCID: PMC6434120.

Editorials, Reviews, Book Chapters (Peer and Non-Peer Reviewed):

1. Bear, H., Landry, J., Rozeboom, A., Muralidaran, V., Peran, I., Byers, S.W., Kraskauskene, V., Berry, D.L., and **Koblinski, J.E.** "Multiplex immunofluorescence for Murine Tissue Models" In: M. Surace, H. Abdulsater, and J. Rodriguez Canales (Ed.), *Methods in Molecular Biology*, Springer Nature *to be published in Spring 2022.*
2. Neff, E. P. **Koblinski, J.E.**, Covid-19 Q&A: Keeping a cancer core going. (2020) *Lab Animal* 49:163.
3. Kall, S. and **Koblinski, J.E.** Genes that mediate organotropism. In: R. Jandial and K. Hunter (Ed.), *Metastatic Cancer: Integrated Organ System and Biology Approach.* Landes Bioscience, Austin, TX. 2012, Available: <http://www.landesbioscience.com/curie/chapter/5371/>
4. **Koblinski, J.E.** Review of Metastasis Research Protocols, 2nd Edition, Doody's Review Service (on-line). 2012, Available: <http://www.doody.com>
5. Kikkawa, Y, Hozumi, K, Katagiri, F, Nomizu, M, Kleinman, HK, and **Koblinski, J.E.** Laminin-111 derived peptides in cancer. *Cell Adh Migr.* 7: 105-256, 2013.

PMCID:PMC3544779

6. Benton, G., Arnaoutova, I., George, J., Kleinman, H.K., and **Koblinski, J.** Matrigel: from discovery and ECM mimicry to assays and models for cancer research. *Adv. Drug Deliv. Rev.*, 2014. PMID:24997339

Editorials, Reviews, Book Chapters (Peer and Non-Peer Reviewed):

1. Naydenov, N., Wang, D, Dozmorov, D., **Koblinski, JE**, and Ivanov, A. "Anillin regulates breast cancer cell migration, growth and metastasis by non-canonical mechanisms involving control stemness and differentiation." *Experimental Biology 2020*, April 4-7, 2020, San Diego, CA.
2. **Koblinski, J.E.** Peterson, E.J., Hampton, J.D., Harrell, J.C. and Farrell, N.P. "Toward Precision medicine for platinum " 2019 AACR-NCI-EORTC International Conference on Molecular Targets and Cancer Therapeutics, October 26-30, 2019, Boston, MA.
3. Oh Y, Qing C, Harrell JC, **Koblinski JE**. "A novel targeted antibody therapy for cancer: Exploring the IGFBP3/IGFBP-3 receptor axis as an anti-tumor and anti-metastatic signaling in cancer". 2019 AACR-NCI-EORTC International Conference on Molecular Targets and Cancer Therapeutics, October 26-30, 2019, Boston, MA.
4. Mosticone Wangensteen, S., Sayyad, M., Puchalapalli, M, Sullivan, M. Singh, J., Ratchfor, B., Abrams, J., Jahromi,M., Hu, B., Idowu, M. and **Koblinski, J.E.** Syndecan-1 mediates breast cancer metastasis to the brain through IL-8 and PECAM-1 signaling, *AACR Immunobiology of primary and metastatic CNS Cancer*. 2018. *chosen for mini-symposium talk.
5. Sayyad, M., Puchalapalli, Hu, B., and **Koblinski, J.E.** Brain metastatic versus non-metastatic breast cancer exosomes influence astrocyte response. *Proc. Am. Assoc. Koblinski Ramachandran, Jennifer E.* 26 of 34 *Cancer Res*. 2018.
6. Katner, S., Hampton, D.J, Petterson, E., Katsuto, E., Sayyad, M., Takabe, K., **Koblinski, J.**, and Farrell, N. Heparan sulfate, a new target for platinum in metastatic TNBC. *Proc. Am. Assoc. Cancer Res*. 2018.

Lay Press Interview or Publications:

Interview with Studylog. October 2021

<https://www.studylog.com/interview-with-jennifer-koblinski/>