

Stanford



Sophia Chernikova

Sr Res Scientist-Basic Ls, Neurosurgery

CONTACT INFORMATION

- **Administrative Contact**

Christina Bazan - Admin Associate, Neurosurgery

Email gochez@stanford.edu

Tel (650) 498-4548

Bio

EDUCATION AND CERTIFICATIONS

- MS, Engineer-Physicist, Moscow Institute of Physics and Technology , Applied Math and Physics (1990)
- PhD, Colorado State University , Cell and Molecular Radiation Biology (1998)

PROJECTS

- • Role of microtubule-dependent cell trafficking in DNA repair and chemotherapy response of estrogen-negative breast cancer
- • Testing the efficacy of inhibitors of stromal derived factor 1 (SDF-1) pathway in post-irradiation treatment of breast cancer brain metastases
- • Role of SDF-1 mediated pathway in glioblastoma recurrence after whole-brain irradiation - Stanford University
- • Role of chromatin remodeling in radiation response and genomic instability
- • Development of a compound library screen aimed at finding small-molecule inhibitors of homologous recombination
- • Investigating mechanisms of action of hypoxia-activated cytotoxins, including the dinitrobenzamide mustard PR104A and tirapazamine

LINKS

- MyBibliographyNCBI: <http://www.ncbi.nlm.nih.gov/sites/myncbi/1hqm8uwye8jQy/bibliography/49196805/public/?sort=date&direction=descending>

Publications

PUBLICATIONS

- **Dynamin impacts homology-directed repair and breast cancer response to chemotherapy.** *The Journal of clinical investigation*
Chernikova, S. B., Nguyen, R. B., Truong, J. T., Mello, S. S., Stafford, J. H., Hay, M. P., Olson, A. n., Solow-Cordero, D. E., Wood, D. J., Henry, S. n., von Eyben, R. n., Deng, L. n., Gephart, et al
2018
- **Single-Cell RNA-Seq Analysis of Infiltrating Neoplastic Cells at the Migrating Front of Human Glioblastoma.** *Cell reports*
Darmanis, S. n., Sloan, S. A., Croote, D. n., Mignardi, M. n., Chernikova, S. n., Samghababi, P. n., Zhang, Y. n., Neff, N. n., Kowarsky, M. n., Caneda, C. n., Li, G. n., Chang, S. D., Connolly, et al
2017; 21 (5): 1399–1410
- **Colony stimulating factor 1 receptor inhibition delays recurrence of glioblastoma after radiation by altering myeloid cell recruitment and polarization** *NEURO-ONCOLOGY*

- Stafford, J. H., Hirai, T., Deng, L., Chernikova, S. B., Urata, K., West, B. L., Brown, J. M.
2016; 18 (6): 797-806
- **Inhibition of CXCR7 extends survival following irradiation of brain tumours in mice and rats** *BRITISH JOURNAL OF CANCER*
Walters, M. J., Ebsworth, K., Berahovich, R. D., Penfold, M. E., Liu, S., Al Omran, R., Kioi, M., Chernikova, S. B., Tseng, D., Mulkearns-Hubert, E. E., Sinyuk, M., Ransohoff, R. M., Lathia, et al
2014; 110 (5): 1179-1188
 - **Blockade of SDF-1 after irradiation inhibits tumor recurrences of autochthonous brain tumors in rats** *NEURO-ONCOLOGY*
Liu, S., Alomran, R., Chernikova, S. B., Lartey, F., Stafford, J., Jang, T., Merchant, M., Zboralski, D., Zoellner, S., Kruschinski, A., Klussmann, S., Recht, L., Brown, et al
2014; 16 (1): 21-28
 - **R-loops and genomic instability in Bre1 (RNF20/40)-deficient cells** *CELL CYCLE*
Chernikova, S. B., Brown, J. M.
2012; 11 (16): 2980-2984
 - **Deficiency in Mammalian Histone H2B Ubiquitin Ligase Bre1 (Rnf20/Rnf40) Leads to Replication Stress and Chromosomal Instability** *CANCER RESEARCH*
Chernikova, S. B., Razorenova, O. V., Higgins, J. P., Sishc, B. J., Nicolau, M., Dorth, J. A., Chernikova, D. A., Kwok, S., Brooks, J. D., Bailey, S. M., Game, J. C., Brown, J. M.
2012; 72 (8): 2111-2119
 - **Inhibiting homologous recombination for cancer therapy** *CANCER BIOLOGY & THERAPY*
Chernikova, S. B., Game, J. C., Brown, J. M.
2012; 13 (2): 61-68
 - **The DNA repair endonuclease XPG interacts directly and functionally with the WRN helicase defective in Werner syndrome** *CELL CYCLE*
Trego, K. S., Chernikova, S. B., Davalos, A. R., Perry, J. J., Finger, L. D., Ng, C., Tsai, M., Yannone, S. M., Tainer, J. A., Campisi, J., Cooper, P. K.
2011; 10 (12): 1998-2007
 - **VHL loss in renal cell carcinoma leads to up-regulation of CUB domain-containing protein 1 to stimulate PKC delta-driven migration** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Razorenova, O. V., Finger, E. C., Colavitti, R., Chernikova, S. B., Boiko, A. D., Chan, C. K., Krieg, A., Bedogni, B., LaGory, E., Weissman, I. L., Broome-Powell, M., Giaccia, A. J.
2011; 108 (5): 1931-1936
 - **Deficiency in Bre1 Impairs Homologous Recombination Repair and Cell Cycle Checkpoint Response to Radiation Damage in Mammalian Cells** *RADIATION RESEARCH*
Chernikova, S. B., Dorth, J. A., Razorenova, O. V., Game, J. C., Brown, J. M.
2010; 174 (5): 558-565
 - **Roles of DNA repair and reductase activity in the cytotoxicity of the hypoxia-activated dinitrobenzamide mustard PR-104A** *MOLECULAR CANCER THERAPEUTICS*
Gu, Y., Patterson, A. V., Atwell, G. J., Chernikova, S. B., Brown, J. M., Thompson, L. H., Wilson, W. R.
2009; 8 (6): 1714-1723
 - **The role of RAD6 in recombinational repair, checkpoints and meiosis via histone modification** *DNA REPAIR*
Game, J. C., Chernikova, S. B.
2009; 8 (4): 470-482
 - **Homologous recombination is the principal pathway for the repair of DNA damage induced by tirapazamine in mammalian cells** *CANCER RESEARCH*
Evans, J. W., Chernikova, S. B., Kachnic, L. A., Banath, J. P., Sordet, O., Delahoussaye, Y. M., Treszezamsky, A., Chon, B. H., Feng, Z., Gu, Y., Wilson, W. R., Pommier, Y., Olive, et al
2008; 68 (1): 257-265
 - **Cell cycle-dependent effects of wortmannin on radiation survival and mutation** *RADIATION RESEARCH*
Chernikova, S. B., Lindquist, K. L., Elkind, M. M.
2001; 155 (6): 826-831
 - **Wortmannin sensitizes mammalian cells to radiation by inhibiting the DNA-dependent protein kinase-mediated rejoining of double-strand breaks** *RADIATION RESEARCH*

Chernikova, S. B., Wells, R. L., Elkind, M. M.
1999; 151 (2): 159-166

- **[A comparison of the patterns of delayed cell death after exposure to genotoxic agents].** *Tsitologiya*
Gotlib, V. I., SEREBRIANYI, A. M., Chernikova, S. B., Kudriashova, O. V., PELEVINA, I. I.
1996; 38 (9): 974-982
- **[Effect of low-dose ionizing radiation on radiosensitivity to the next irradiation].** *Radiatsionnaya biologiya, radioecologiya / Rossiyskaya akademiya nauk*
Chernikova, S. B., Gotlib, V. I., PELEVINA, I. I.
1993; 33 (4): 537-541
- **[The action of low doses of nitrosomethylurea on a stationary cell population. An experiment and modelling].** *Izvestiya Akademii nauk SSSR. Seriya biologicheskaya*
Krutova, T. V., Chernikova, S. B., Konradov, A. A., Burlakova, E. B.
1992: 511-518