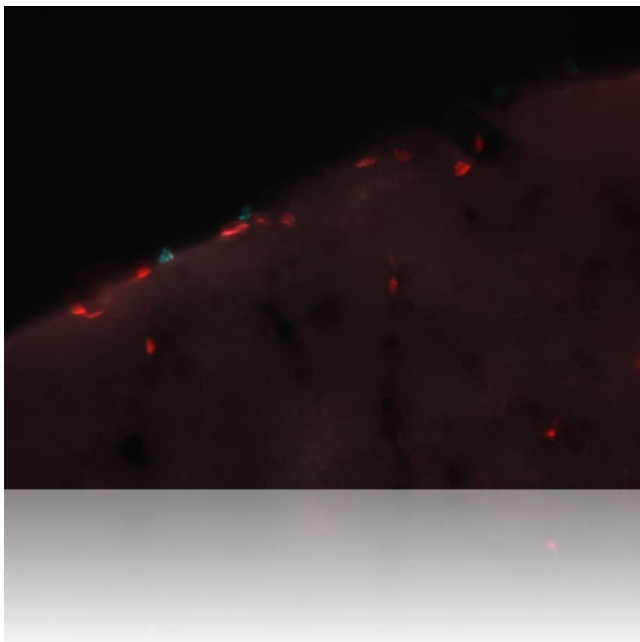


Welcome to the Persson Laboratory

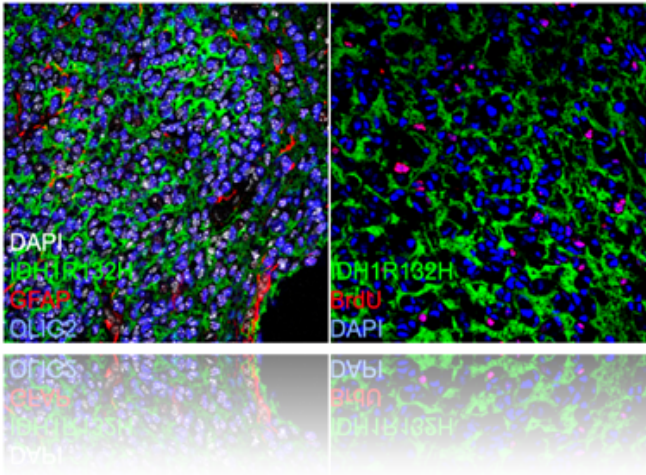
Identification of a novel NSC population

We have established a team of collaborators to characterize the tumorigenic capacity potential of a novel NSC population. In addition, we study the regenerative potential using fate-mapping techniques during normal development and following traumatic brain injury (TBI). We also study cell genesis following stress, enriched environment, and exercise.



Development of IDH1^{R132H}, H3F3A, and PDGF-driven mutant glioma models

Human gliomas displaying mutations in the isocitrate dehydrogenase 1/2 (IDH1/2) genes are diagnosed in young adults. In high-grade glioblastoma (GBM), H3F3A (K27) and H3F3A (G34) tumors are expressed in young children and adolescent patients, respectively. We are using retroviral (RCAS) transformation of cells expressing the TVA receptor to produce these tumors in mice.



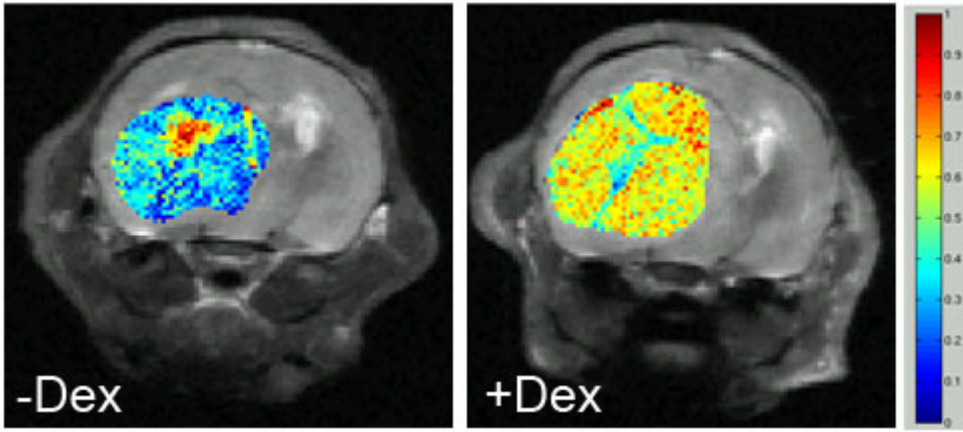
Targeting stemness in glioblastoma

Pre-clinical experiments show that radiotherapy and treatment with temozolomide enrich for dormant and stem-like tumor cells in human GBMs. We optimize IR regimens to better target these stem-like cells. Our laboratory use GEMMs and human GBM biopsies to study the mechanisms underlying treatment-resistance, including dormancy and epigenetic control of translation of genes. In particular, we identify small non-coding RNAs that regulate glioma biology.



Osmotic swelling as a therapeutic target in cancer

High pressure is a major obstacle for uptake in solid tumors, less is known how elevated interstitial fluid pressure impacts tumor biology. We find that high pressure drive tumor proliferation in solid cancers. In this NIH-supported project, we have identified a mechanism that blocks the ability of GBM cells to regulate cell volume, leading to massive apoptosis and reduced survival of xenografted mice. We currently test whether osmotic swelling regulates translational control of genes that drives GBM aggressiveness.



UCSF Main Site

© 2013 The Regents of the University of California

Source URL: <https://perssonlab.ucsf.edu/welcome-persson-laboratory>