

# Evaluation of cellular water exchange in a mouse glioma model using Dynamic Contrast-Enhanced MRI with two flip angles

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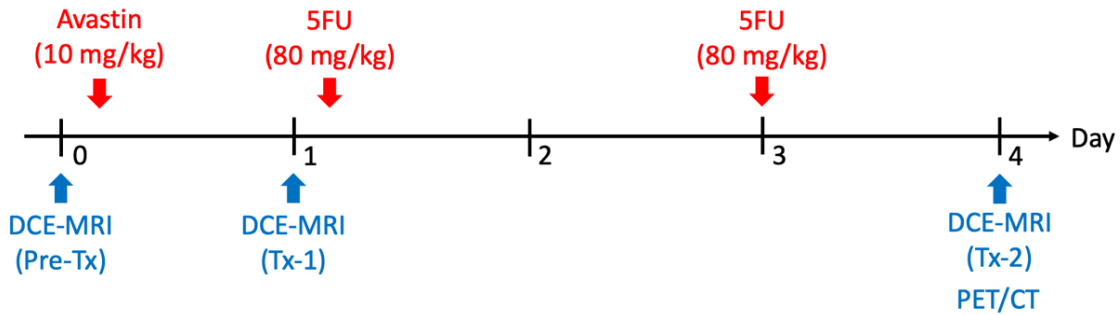
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12 Pompanuck Way

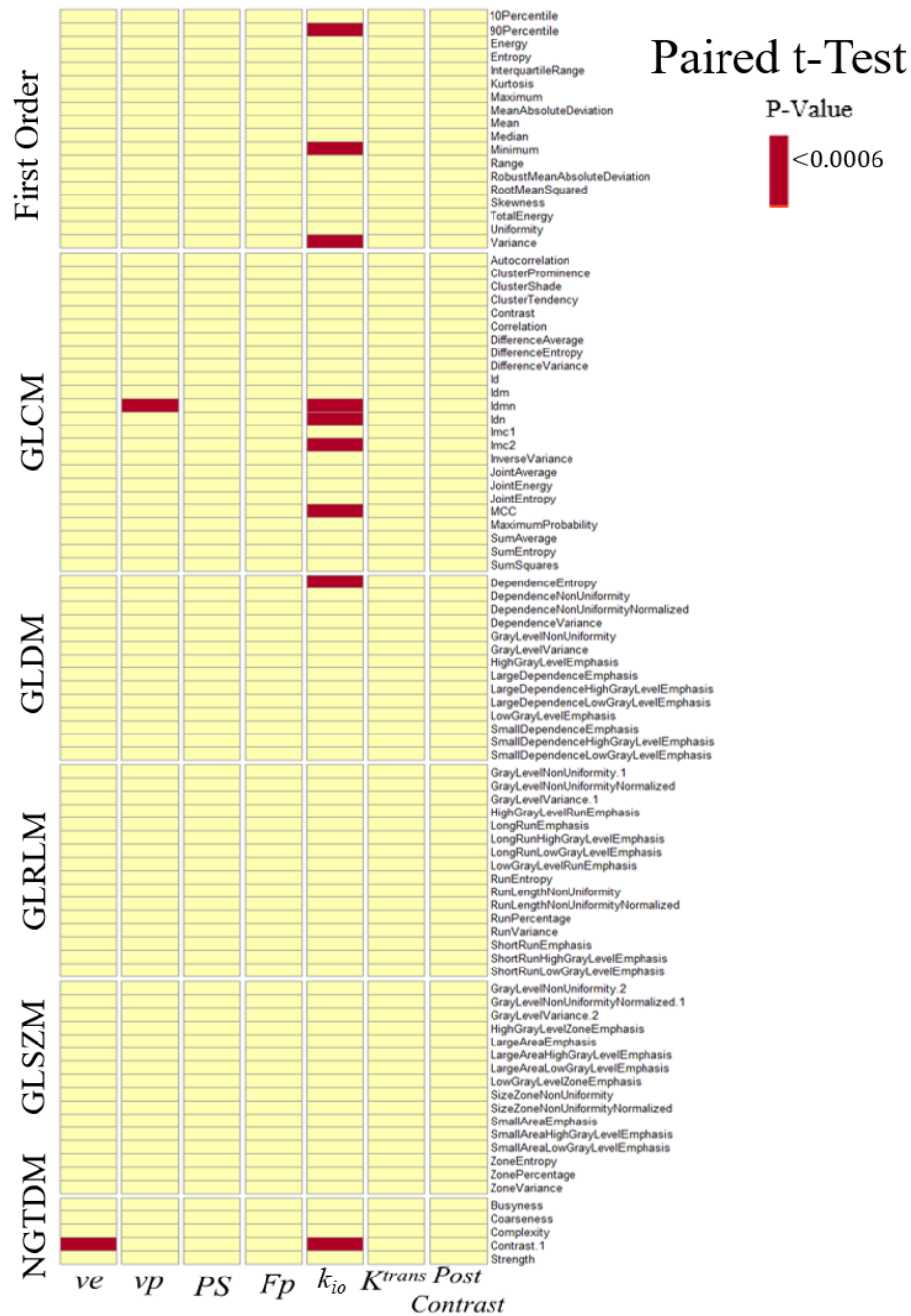
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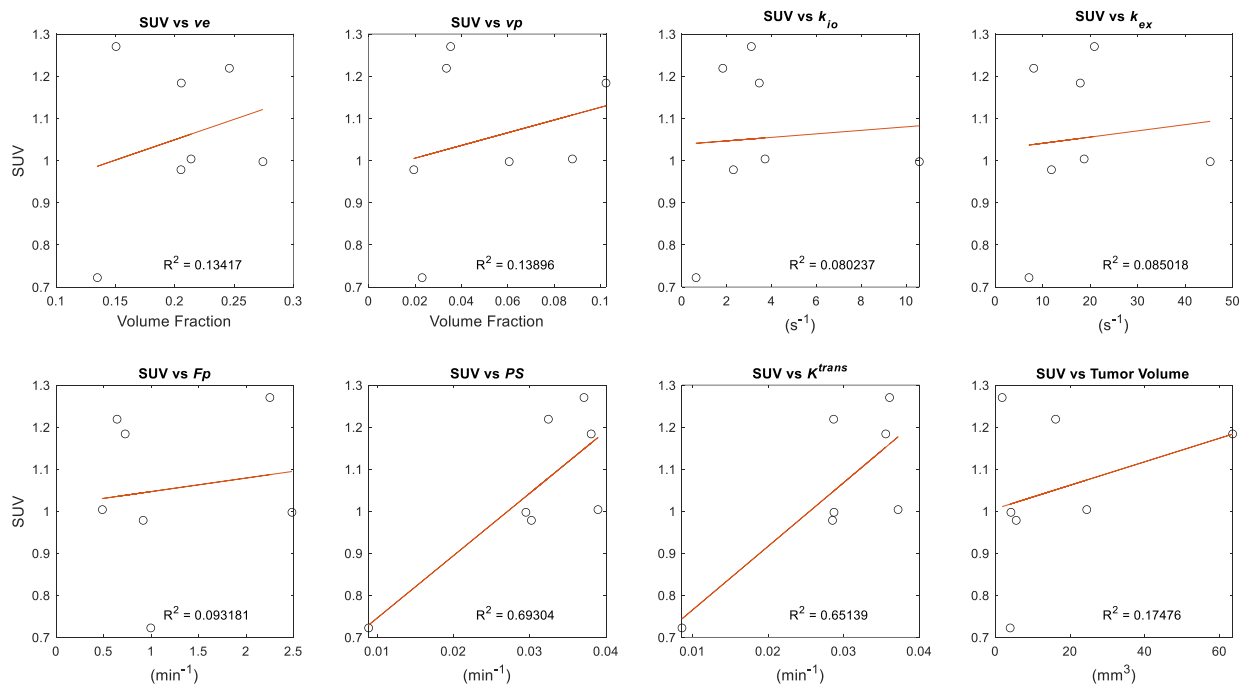
## Supplemental Figures



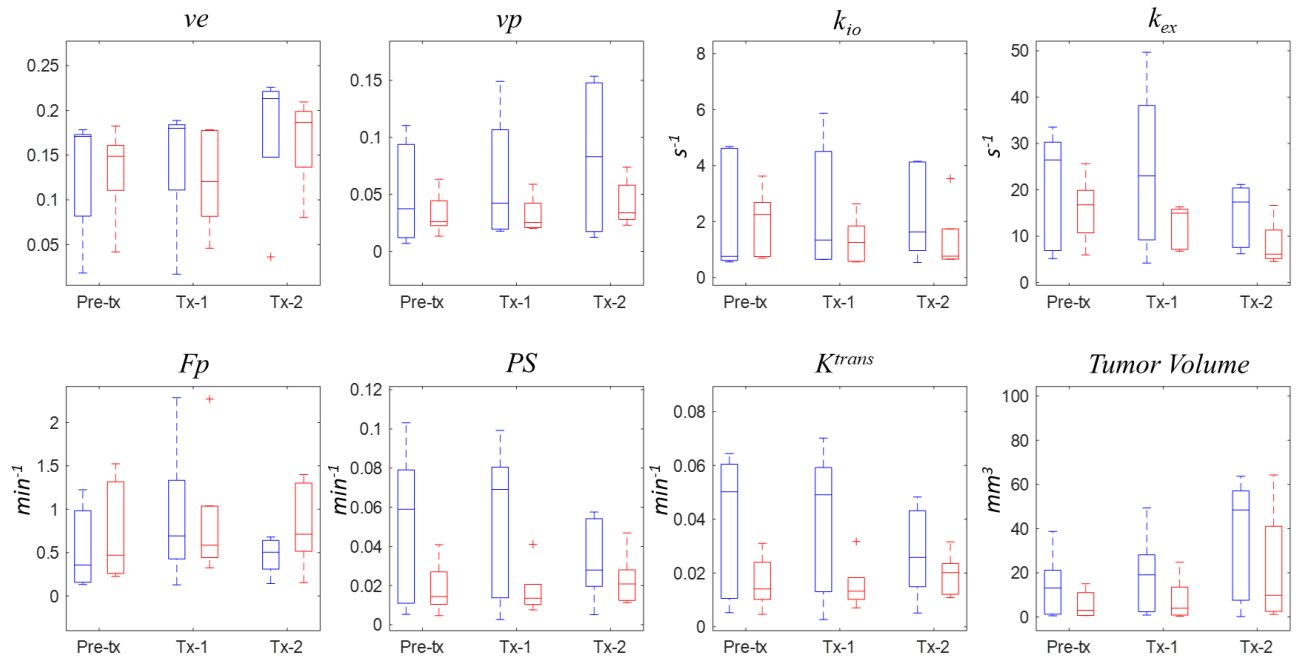
**Supplemental Figure S1.** Timing diagram for imaging protocol and treatment regime for the assessment of treatment response study. For the treatment group, pre-treatment DCE-MRI (Pre-Tx) was immediately followed by an intraperitoneal (IP) injection of bevacizumab (Avastin, Genentech) at 10 mg/kg. After 24 hours, mice were scanned again (Tx-1) and subsequently given an IP injection of fluorouracil (5FU, Fresenius Kabi) at 80mg/kg. A second dose of 5FU (80mg/kg) was given after 48 hours. Post-treatment DCE-MRI (Tx-2) was conducted 24 hours after the second 5FU treatment (i.e., four days after the pre-treatment DCE-MRI). The control group was treated with sodium chloride solution (10 ml/kg) and imaged at the same time points as the treatment group.



**Supplemental Figure S2.** Heatmap of the radiomics features with significant difference ( $p < 0.0006$ , depicted in red) between the control and treated cohorts. Among the 93 histogram and texture features extracted from the parameter maps, 9  $k_{io}$  features and one feature for  $v_e$  and  $v_p$  maps were found to be significantly different. This heatmap was partially created using R Core Team (2022). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL <https://www.R-project.org/>.



**Supplemental Figure S3.** Scatter plots to assess the association between the contrast kinetic parameters and  $k_{io}$  estimated from whole tumor DCE-MRI and whole tumor standardized uptake values (SUV) from FDG-PET. Data used in these plots are the median values of individual tumors (n=7). The red lines are linear regression lines with the  $R^2$  values shown in the plots.



**Supplemental Figure S4.** Whole tumor contrast kinetic parameter and  $k_{io}$  median values for the control (blue, left) and treated (red, right) cohorts for pre-treatment (Pre-tx), 24 hours post bevacizumab (Tx-1) and post two doses of fluorouracil (Tx-2) time points.