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Publisher Correction: Imaging the transmembrane and transendothelial sodium gradients in gliomas

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The original version of this Article contained an error in Figure 4 where MRI images in the far left column had multiple white circles. The original Figure 4 and accompanying legend appear below.

The original Article has been corrected.

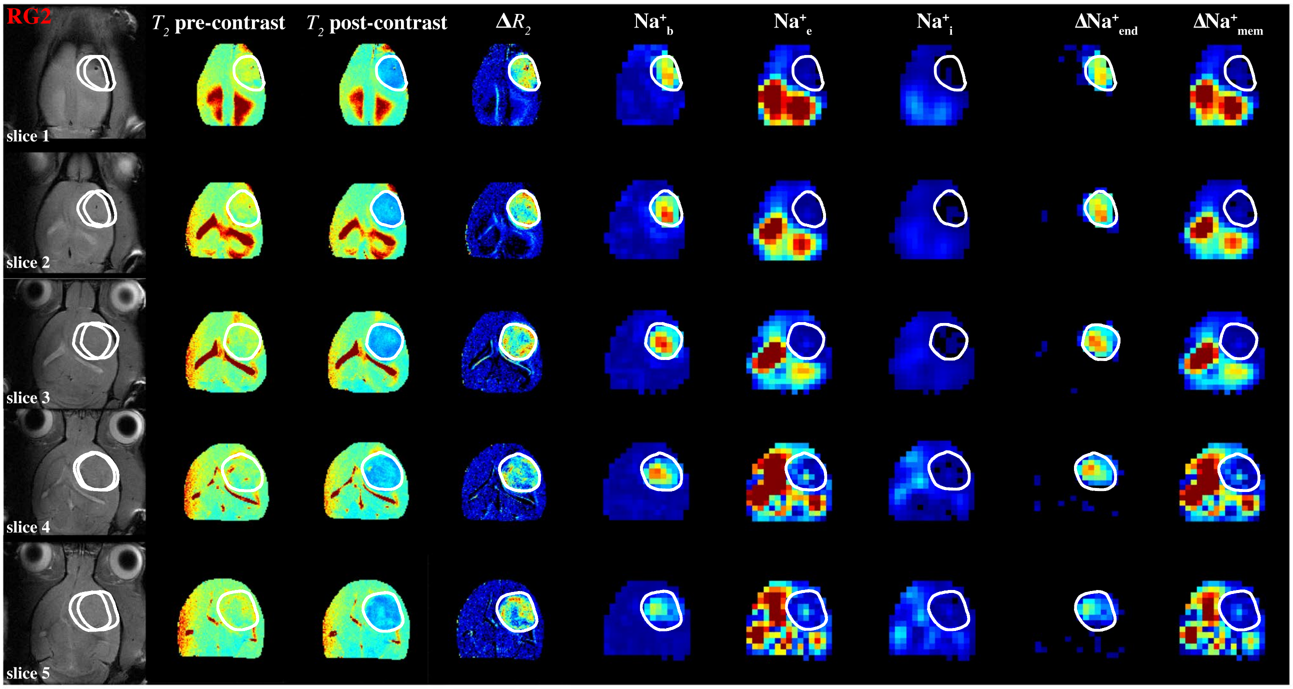

Figure 4. Spatial distributions of compartmentalized ^{23}Na signals (Na^+_b, Na^+_e, Na^+_i) as well as transendothelial (ΔNa^+_{end}) and transmembrane (ΔNa^+_{mem}) gradients in an RG2 tumor. The high-resolution ^{1}H-MRI data are shown in the left four columns, whereas the lower resolution ^{23}Na-MRSI data are shown in the next five columns on the right. The left column shows the tumor location (white outline) on the anatomical ^{1}H-MRI (left), whereas the next two columns show the T_2 maps (range shown: 0–100 ms) before and after $TmDOTP^{5-}$ injection, and the subsequent column depicts the ΔR_2 map (i.e., difference between $1/T_2$ maps before and after, range shown: 0–30 s^{-1}), which is proportional to [$TmDOTP^{5-}$] in healthy and tumor tissues. Since ΔR_2 values are more heterogeneous within the tumor, the ^{23}Na-MRSI data are needed to separate the blood and extracellular compartment signals for the tumor. Since the integral of each ^{23}Na peak represents the [Na^+], the respective three columns show the integral maps of Na^+_b, Na^+_e, and Na^+_i from left to right (i.e., $\int Na^+_b$, $\int Na^+_e$, $\int Na^+_i$). The last two columns on the right show $\Delta Na^+_{end} = \int Na^+_b - \int Na^+_e$ and $\Delta Na^+_{mem} = \int Na^+_e - \int Na^+_i$. The $\int Na^+_b$ map reveals low values in healthy tissue compared to tumor tissue, and within the tumor boundary a high degree of heterogeneity. The $\int Na^+_e$ map reveals low values in tumor and normal tissues, but within the tumor boundary a small degree of heterogeneity is visible while ventricular voxels show very high values. The $\int Na^+_i$ map reveals low values ubiquitously except some ventricular voxels. The ΔNa^+_{end} map reveals dramatically high values within the tumor only. The ΔNa^+_{end} was driven primarily by an increase of $\int Na^+_b$ inside the tumor and which was more pronounced in superficial regions of the brain compared to deeper slices. The ΔNa^+_{mem} map shows low values in tumor tissue compared to normal tissue, although ventricular voxels show very high values. The ΔNa^+_{mem} is driven primarily by decreased $\int Na^+_e$ and thus shows similar level of heterogeneity as the $\int Na^+_e$ map. All maps use the same color scale and are relative. See Figure S4 for an example for a U87 tumor.