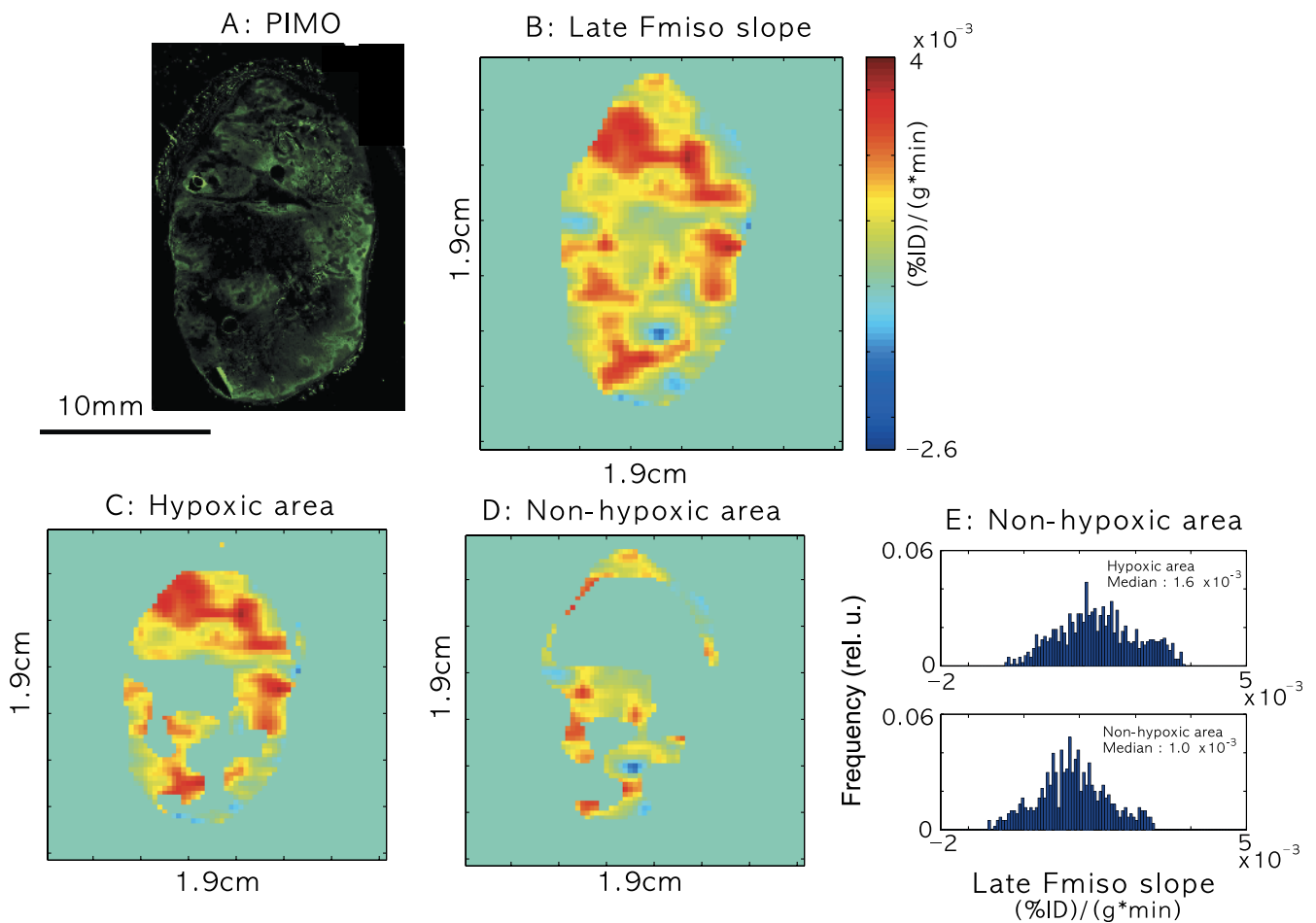


**Figure W1.** T<sub>2</sub>-weighted MR image of a slice from one animal (A), corresponding H&E-stained tissue section (B), and corresponding DCE Akep map (C). D and E are the masked Akep values for the necrotic and viable tumor areas, respectively. The histograms in F plot the Akep values for viable and necrotic tumor areas, respectively. The median Akep values for viable tumor regions were significantly higher ( $P < .001$ ) than those of necrotic regions. The tumor size was 870 mm<sup>3</sup>.



**Figure W2.** (A) Pimonidazole-stained (PIMO) section. (B) Late slope map of  $^{18}\text{F}$ -Fmiso PET uptake curves. C and D are masked later  $^{18}\text{F}$ -Fmiso PET slope values for hypoxic and nonhypoxic areas of the tumors, respectively. (E) Histogram plots of the late  $^{18}\text{F}$ -Fmiso PET slope values for hypoxic and nonhypoxic areas of the tumors. The median values of later  $^{18}\text{F}$ -Fmiso PET slope for hypoxic regions were significantly higher ( $P < .001$ ) than those of nonhypoxic regions, but there was significant overlap. The tumor size was  $870 \text{ mm}^3$ .