**Supplementary Fig. 1.** Comparison of the  $T_2$ -weighted MR images of several established glioma models at 4.7 T. 9L (12 days post-implantation, 25 thousand cells implanted); F98 (11 days post-implantation, 25 thousand cells); U87MG (11 days post-implantation, 1 million cells); U251 (20 days post-implantation, 1 million cells).

