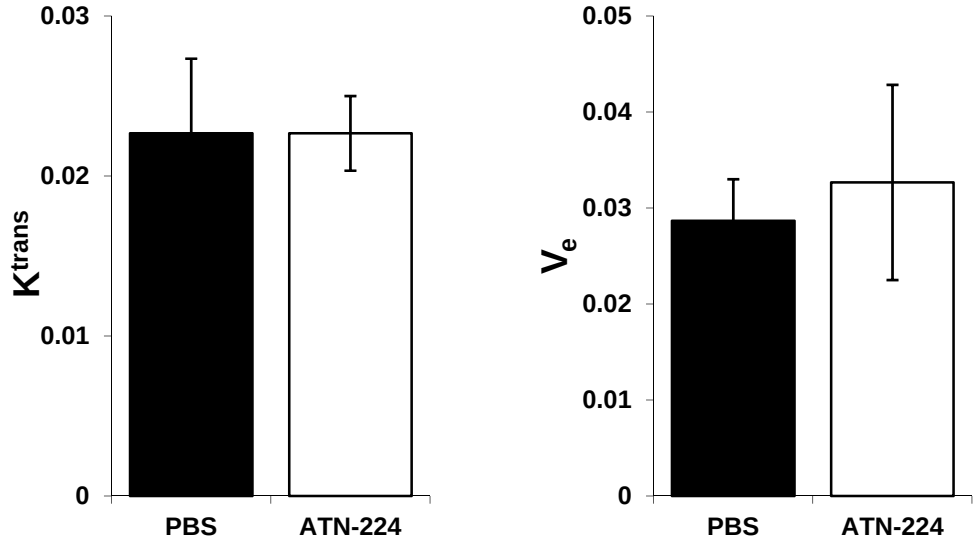
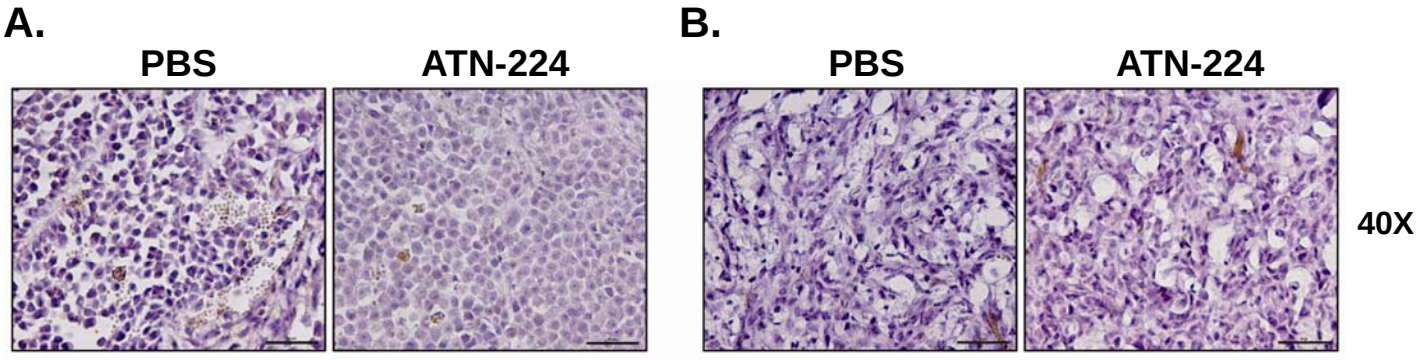
# Supplementary Fig. 1

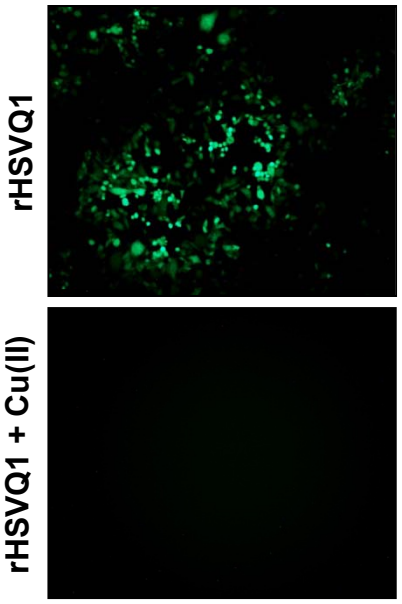


## Supplementary Fig. 2

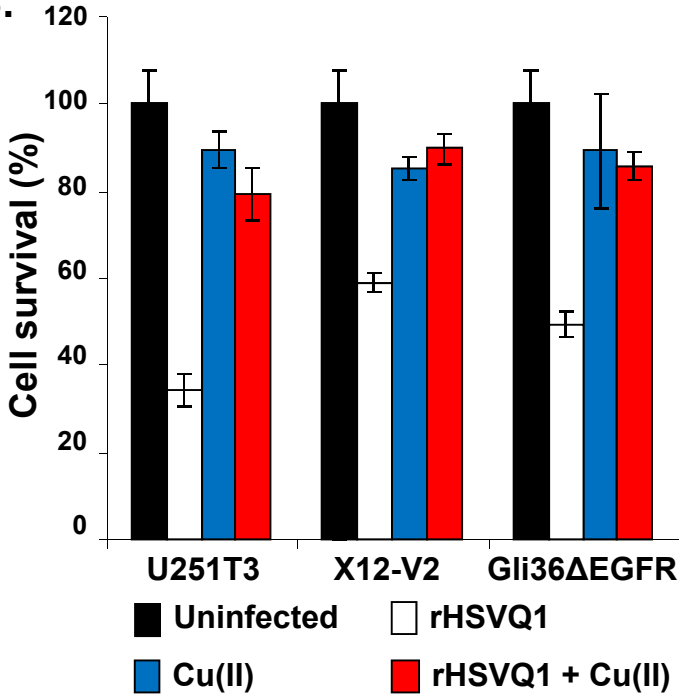


# Supplementary Fig.3

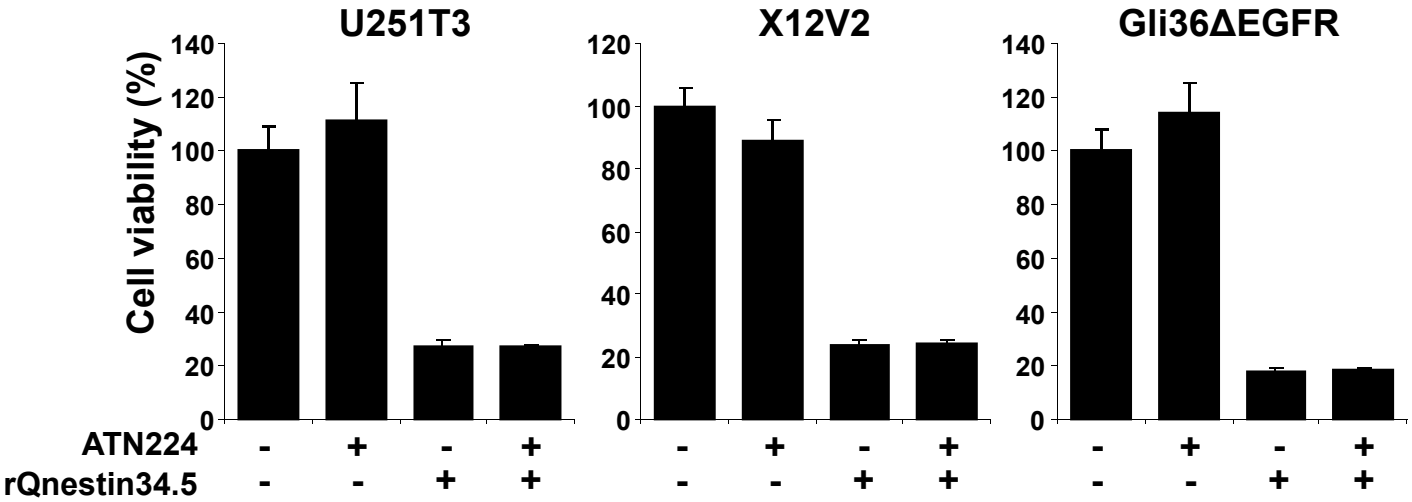
**A.**



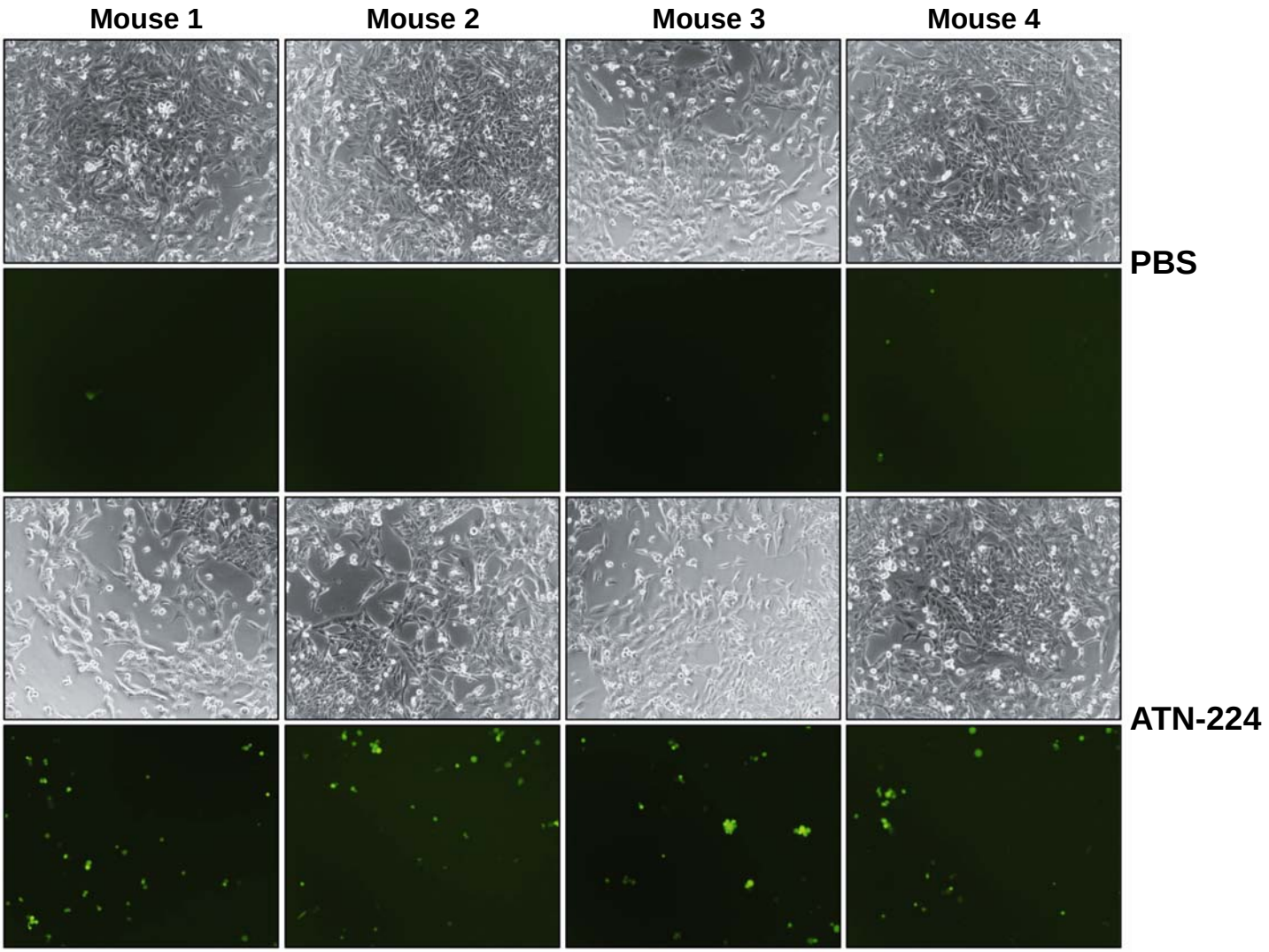

**B.**



# Supplementary Fig.4



## Supplementary Fig. 5



**Supplementary Figure S1.**

Quantification of color coded $K_{trans}$ and $v_e$ parametric images following DCE-MRI. Mice bearing U87ΔEGFR intracranial tumors were treated with either PBS or ATN-224 (0.7mg) for thirteen days by daily gavage.

**Supplementary Figure S2.**

HSV-1-stained sections of subcutaneous and intracranial tumors treated with PBS or ATN-224 (0.7mg) by daily gavage. Representative photomicrographs for each treatment group are shown. Original magnification, × 40 A) U251T3 subcutaneous tumor B) U87ΔEGFR intracranial tumor.

**Supplementary Figure S3.**

Effect of copper on virus therapy for glioma cells. Gli36ΔEGFR glioma cells were infected with rHSVQ (MOI=0.1), incubated with buffer ± Copper (1 mg/L). A) Fluorescence microscopic images of GFP positive Gli36ΔEGFR glioma cells. B) Cell survival of U251T3, X12-V2 and Gli36 ΔEGFR was measured by a standard crystal violet assay 48 hrs post infection. (* = $P<0.05$).

**Supplementary Figure S4.**

ATN-224 by itself does not effect glioma cell viability or oHSV efficacy in the absence of copper. The indicated glioma cells were treated with ATN-224 or PBS in the presence or absence of rQnestin34.5, and their viability was measured by a standard crystal violet assay.

**Supplementary Figure S5.**

Ex vivo serum rescue assay. Serum from mice fed PBS or ATN-224 (0.7 mg/day (n=4) by daily gavage) was collected on day 10, incubated with rQnestin34.5 for 30 min at 37 °C, and plated on Vero cells for 3 days. Phase contrast and fluorescent microscopy images indicate GFP positive cells, magnification, × 10.