**Supplementary Figure Legends**

Supplementary Figure 1. Relative mRNA expression levels of RRAD for glioma subtypes. (A) The lines indicate the mean with standard error. (B) Mean, minimum, percentiles and maximum values of RRAD expression in glioma subtypes. SD, standard deviation. (C) List of genes upregulated (> 2-fold) in High RRAD (36 cases), compared to Low RRAD (73 cases) glioma samples.

Supplementary Figure 2. RRAD expression levels and their association with survival (A) and probability of unfavorable events (B) in glioma patients. P75, 75% percentile; P50, 50% percentile; P25, 25% percentile; \*log-rank test; \*\*HR, Hazard ratio; 95% CI, 95% confidence interval (univariate analysis)

Supplementary Figure 3. EGFR phosphorylation is enhanced in the presence of RRAD and reduced in the absence of RRAD. Serum-starved U87-MG cells transiently transfected with the indicated vector or siRNA were treated with 100 ng/mL EGF for 0-60 min, and whole cell lysates immunoblotted with antibodies specifically recognizing RRAD, EGFR, and phosphotyrosine at Y845 of EGFR. Actin was used to confirm equal sample loading.

Supplementary Figure 4. Depletion of RRAD diminishes phosphorylated STAT3 in U87-MG cells. Monolayer cultured U87-MG cells were transfected with either RRAD or control siRNA. After 48 h, cells were analyzed for expression of p-STAT3 (Y705) via immunoblot analysis. Actin was used to confirm equal loading.

Supplementary Figure 5. Inhibition of RRAD reduces GBM cell survival and proliferation. (A) U251 cells were transfected with either siRRAD or siControl (5x104 cells/well in a six-well plate). After 5 days, the live or dead cell number was estimated using Trypan blue staining. *P*-value, vs siControl (B) U251, U87-MG, and U138-MG cells were transfected with control siRNA (siC) or siRRAD, cultured for the indicated days, and the live cell number estimated using Trypan blue staining.

Supplementary Figure 6. RRAD enhances tumor cell migration. Scratch assay for LN229 cells stably overexpressing a control vector or RRAD. Cells were photographed at 0, 48 and 72 h after scratch application. The dotted lines indicate the original edges of the scratch defect. The images show representative results from experiments performed in triplicate.

Supplementary Figure 7. Quantification of the CD44-positive cell population with FACS. RRAD-expressing clones of LN229 (A) and U87-MG tumor spheres transfected with siControl or siRRAD (B) were subjected to FACS analysis for CD44 expression on the cell surface. Cells were stained with antibody targeting CD44 using anti-CD44-FITC (BD Bioscience) and analyzed with a fluorescence-activated cell sorter (FACS) (Aria III; BD Bioscience). Data are presented as mean values ± SD of three independent experiments.

Supplementary Figure 8. In vitro limiting dilution sphere-forming assay. Temozolomide-resistant LN229-TMZR can generate one tumor sphere in 22.1 cells whereas LN229 can generate one sphere in 79.9 cells (http://bioinf.wehi.edu.au/software/elda). Cells were plated into 96-well plates with various seeding densities (5-500 cells per well, 14 wells per each condition) and were incubated at 37°C for 7 days. Data shown are the mean number ± SD of spheres per indicated number of inoculated cells. \*, *P* < 0.0001 (vs LN229).

Supplementary Figure 9. Depletion of RRAD decreases the survival of GBM cells. Cells (5x104 cells/well in a six-well plate) were treated with either siRRAD or siControl, and trypan blue exclusion staining performed after 5 days of culture. \*, *P* < 0.05 (vs siControl)

Supplementary Figure 10. Depletion of RRAD inhibits differentiation of pluripotent U87-MG into adipogenic cells of mesodermal lineage. U87-MG cells transfected with siControl or siRRAD were transferred to adipogenic medium. After three weeks, adipogenesis was detected based on the formation of lipid droplets stained with Oil-red O. Original magnification is x100.