

Title page

**The Binding of PD-L1 and Akt Facilitates Glioma Cell Invasion upon Starvation
via Akt/autophagy/F-actin Signaling**

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Running title: PD-L1/Akt interaction promotes GBM invasion

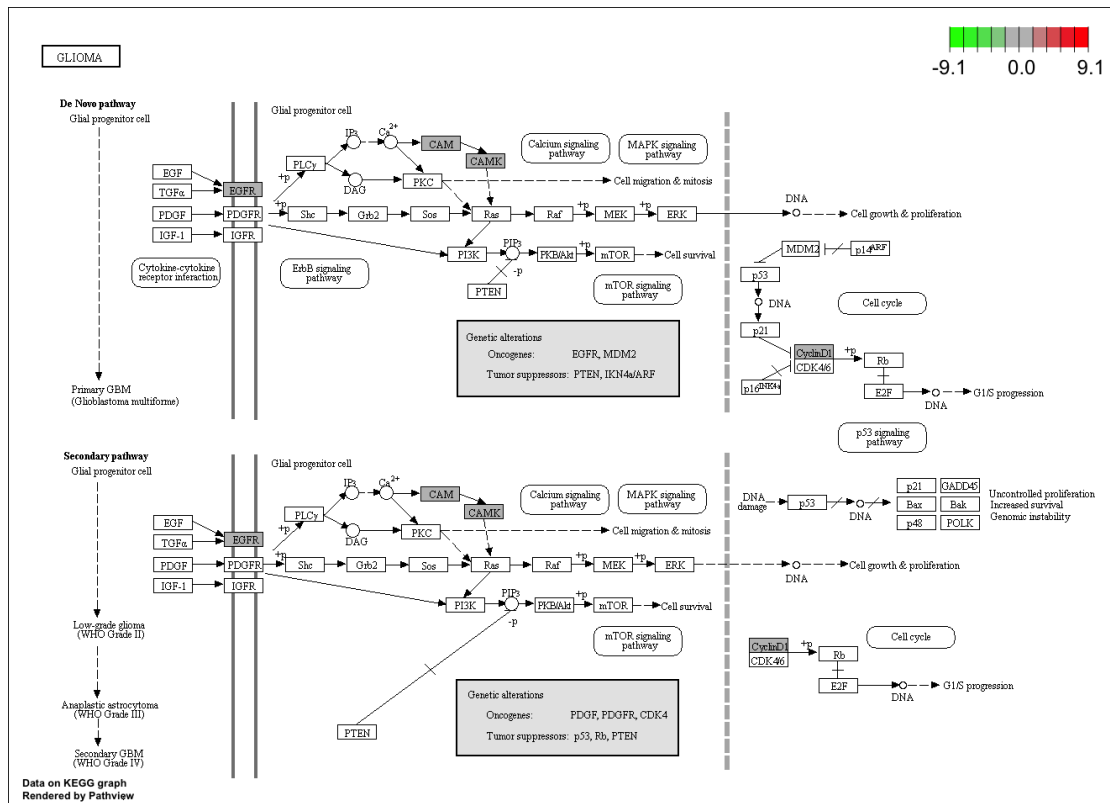


Figure S1. KEGG pathway analysis of PD-L1-altered genes in human glioma.

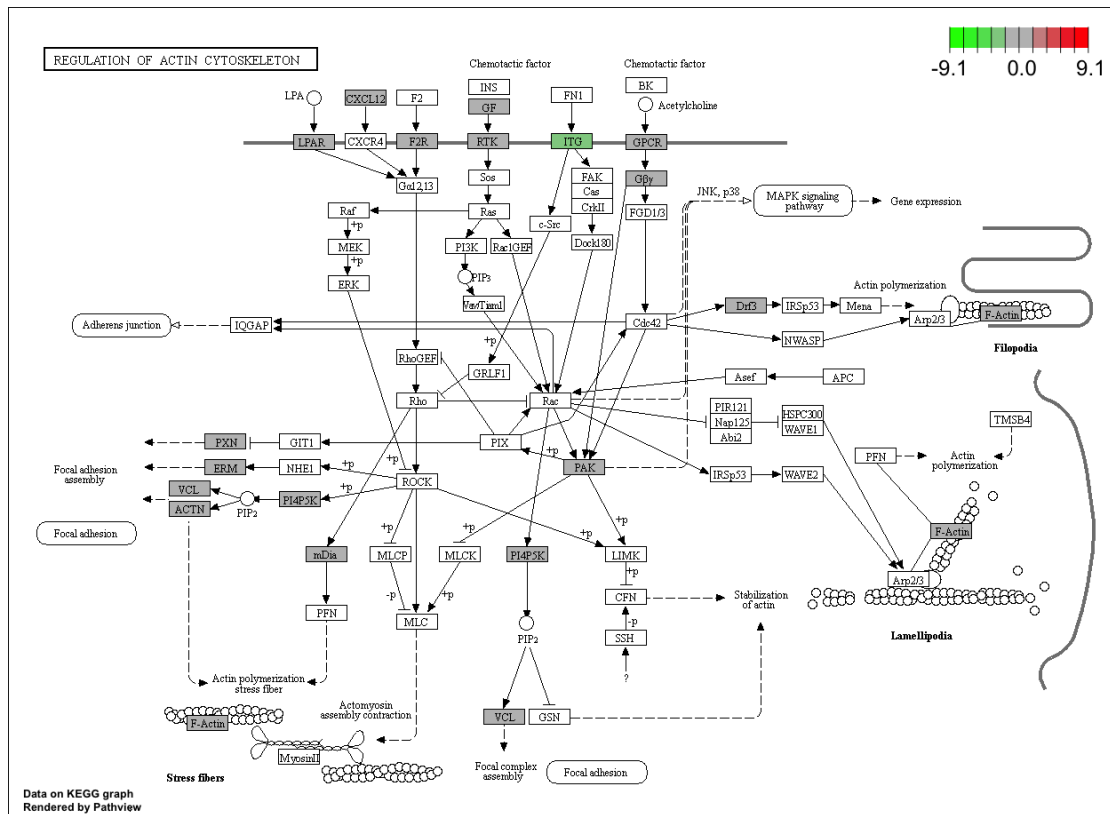


Figure S3. KEGG pathway analysis of PD-L1-altered genes in regulation of actin cytoskeleton.

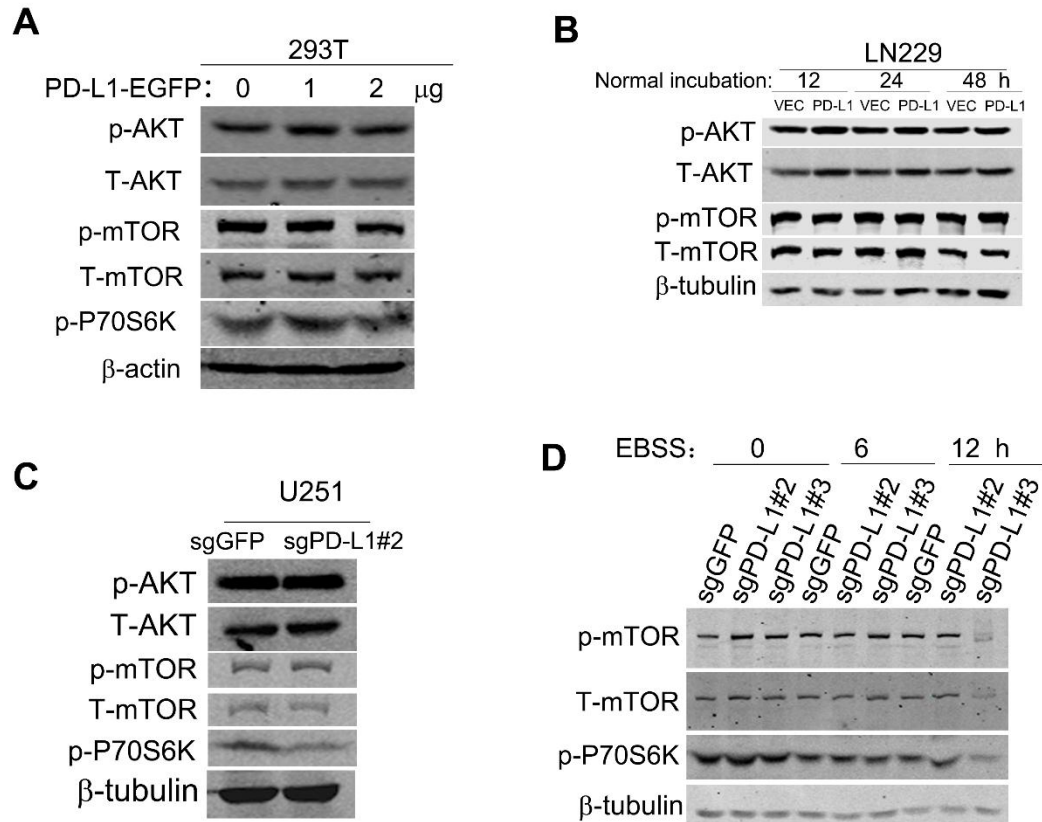


Figure S4. Effects of PD-L1 on Akt/mTOR signaling. (A) Effects of pPD-L1-EGFP plasmid transfection of different plasmid amounts on p-Akt, Akt, p-mTOR, mTOR, p-P70S6K expression in 29T cells. (B) Effects of PD-L1 overexpression on p-Akt, Akt, p-mTOR, mTOR expression in LN229 cells at various time points after initial cell seeding. (C) Effects of PD-L1 knockout (sgCD274#2) on p-Akt, Akt, p-mTOR, mTOR, p-P70S6K expression in U251 cells. (D) Effects of PD-L1 knockout (sgCD274#2, #3) on p-mTOR, mTOR, p-P70S6K expression in U251 cells upon EBSS incubation.

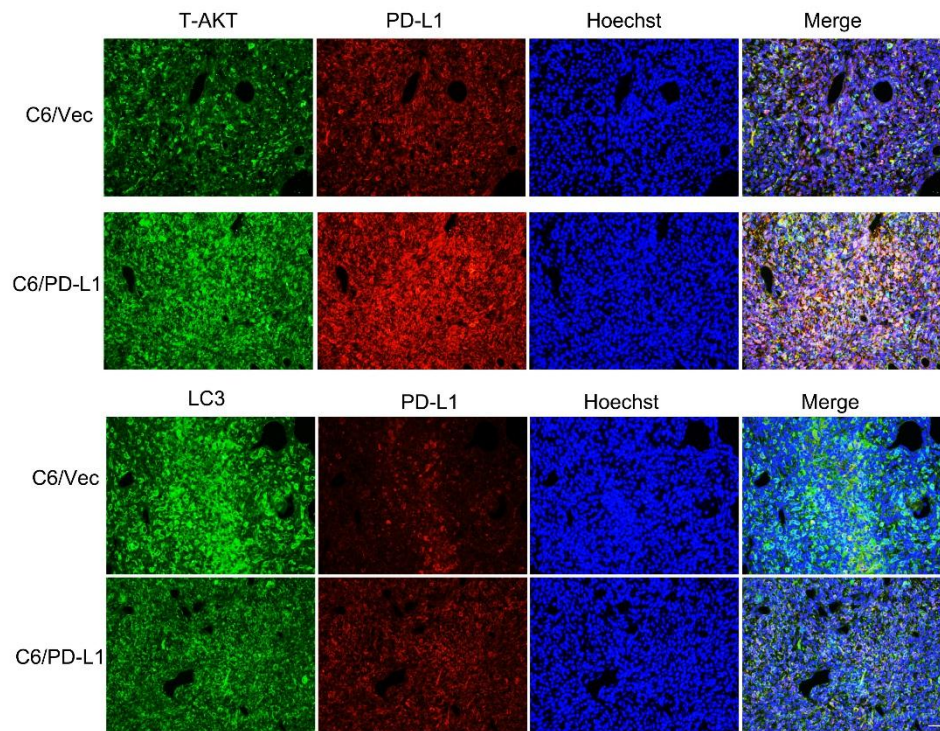


Figure S5. Double fluorescent-immunostaining shows the effects of PD-L1 overexpression on Akt and LC3 expression in orthotopic rat/C6 glioma tissues. C6 cells were lentiviral-infected for PD-L1 overexpression (C6/PD-L1). Equal amounts of C6/PD-L1 or C6/Vec were microinjected into right striatum of rats and the glioma tissues were subjected to analysis at 20 d after initial C6 cells injection. Bar, 20 μ m.

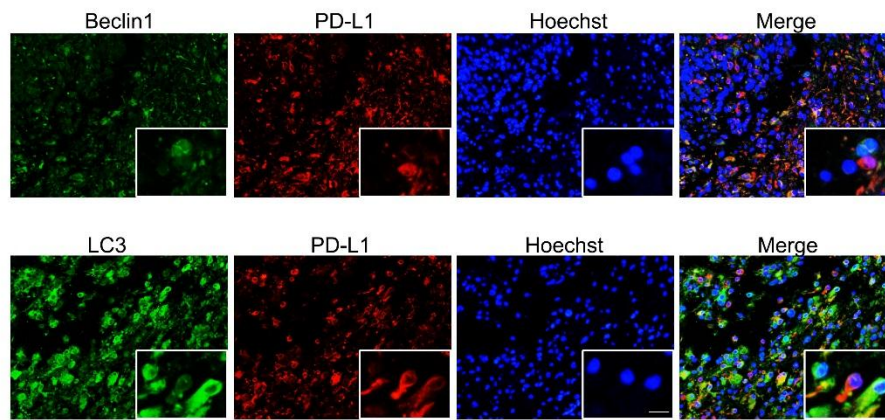


Figure S6. Double fluorescent immunostaining shows that higher PD-L1 expression in individual GBM cells is associated with lower Beclin-1 and LC3 expression in GBM patient tissue. Bar, 20 μm .

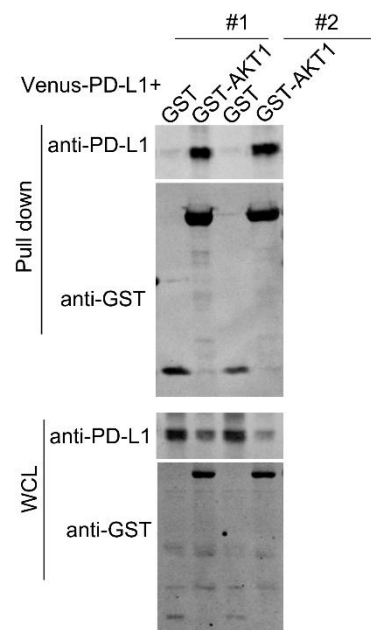


Figure S7. GST-pull down shows that PD-L1 binds to Akt. WCL, whole cell lysate.