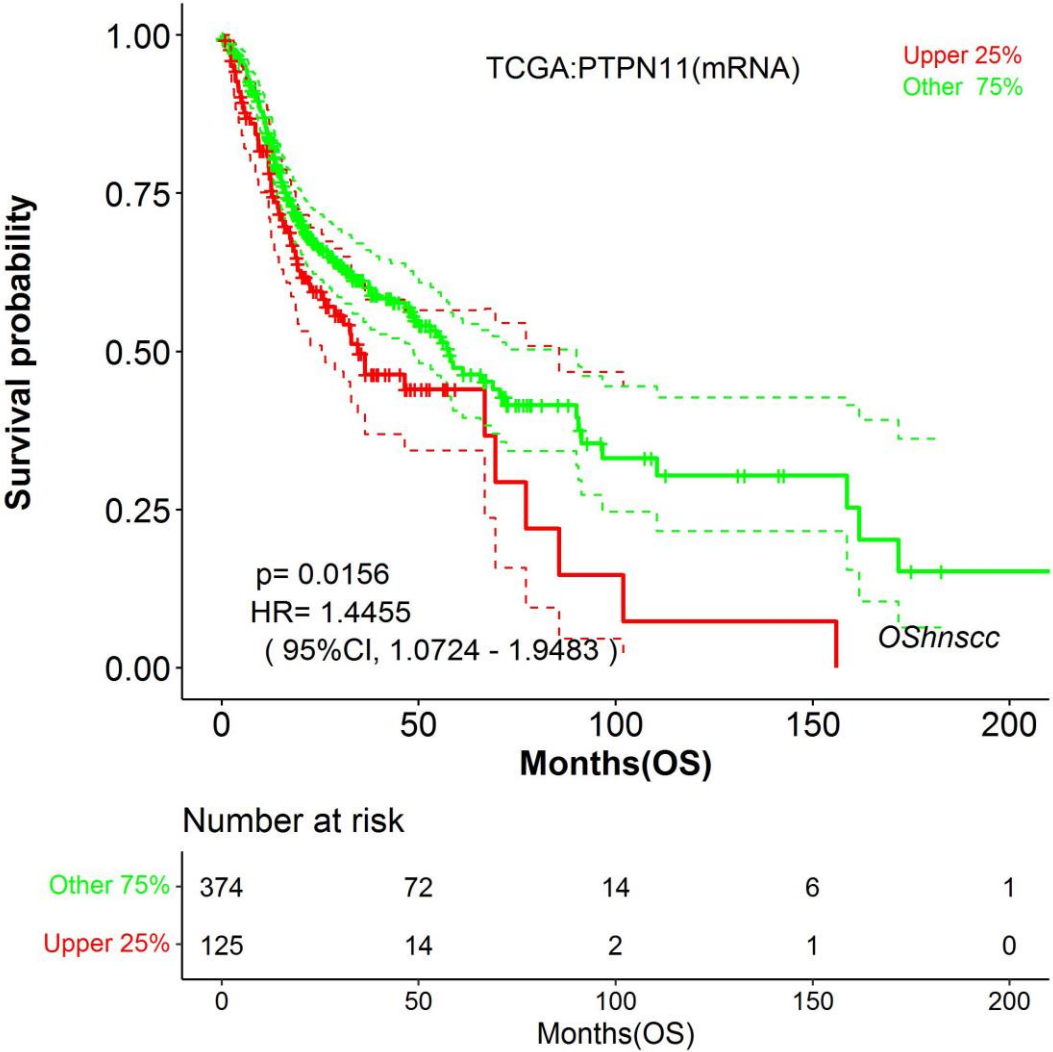


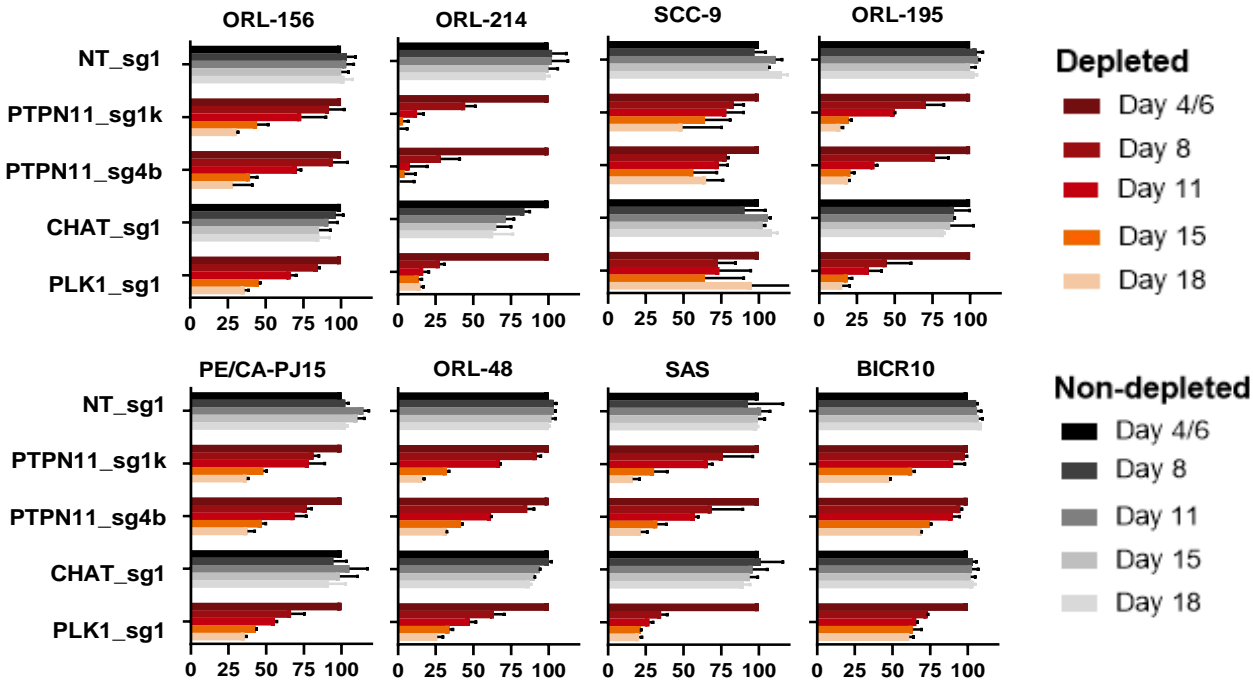
**Supplementary Figure 1**



**Supplementary Figure 1** - Kaplan-Meier survival curve of *PTPN11* expression with overall survival using TCGA head and neck cancer patients cohort, plotted with default parameters using OShnscc (<http://bioinfo.henu.edu.cn/HNSC/HNSCList.jsp>).

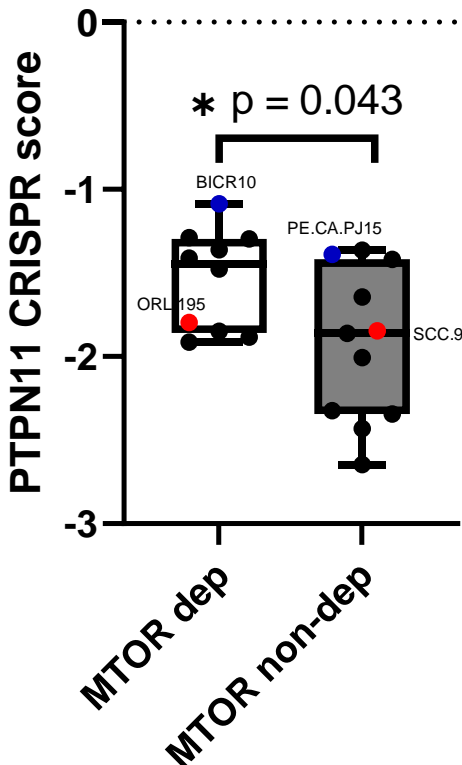
OShnscc: Online consensus Survival tool for Head and Neck Squamous Cell Carcinoma; TCGA: The Cancer Genome Atlas; OS: overall survival; HR: hazard ratio; CI: confidence interval; mRNA: messenger RNA.

**Supplementary Figure 2**



**Supplementary Figure 2** - Co-competition assays between non-transduced cells with either Non-targeting (NT) or *PTPN11* sgRNAs-transduced OSCC to validate dependency on *PTPN11*. The percentage of BFP-positive transduced cells obtained at different time points were normalized to the day 4 or 6 readings for respective sgRNAs. *PLK1* is a core essential gene included as a positive control. Negative controls include *CHAT* which is a non-essential gene across the panel of cell lines, and NT serves as a non-targeting control.

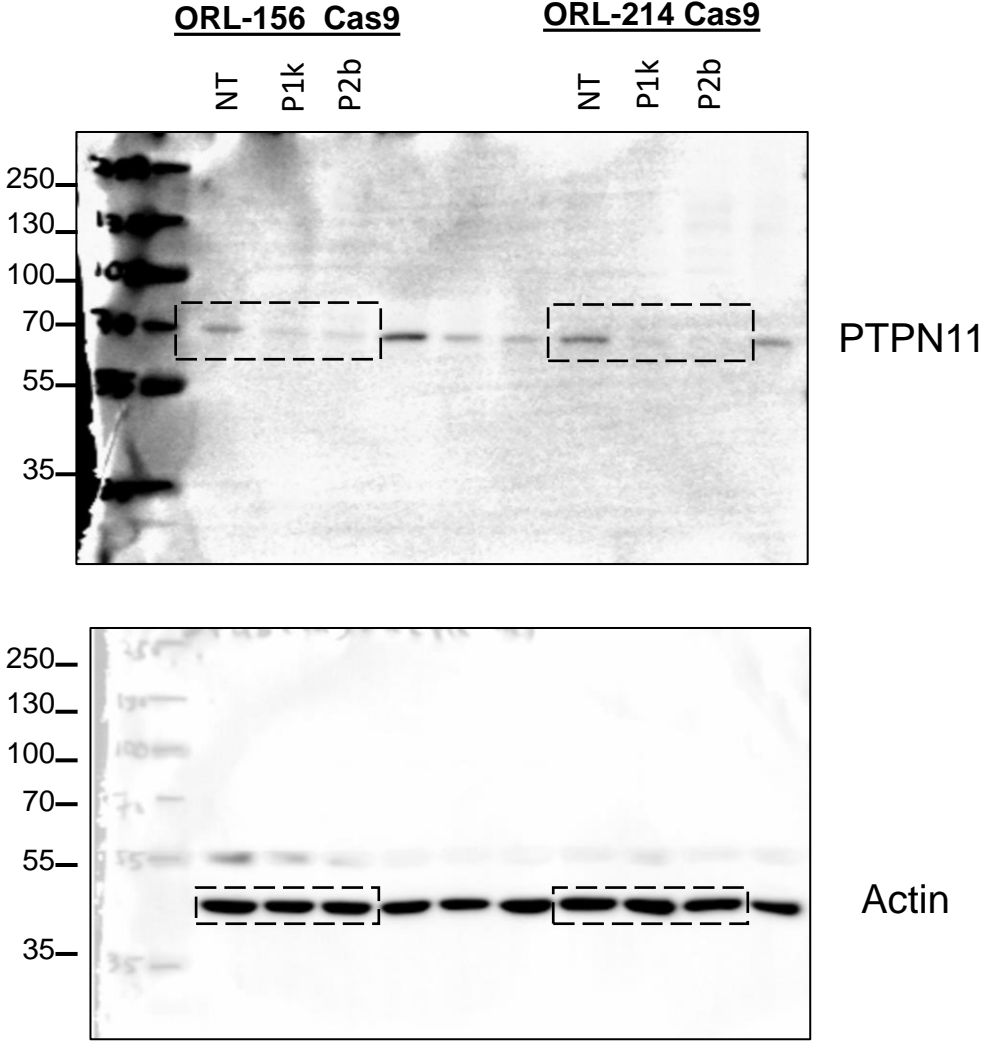
Supplementary Figure 3



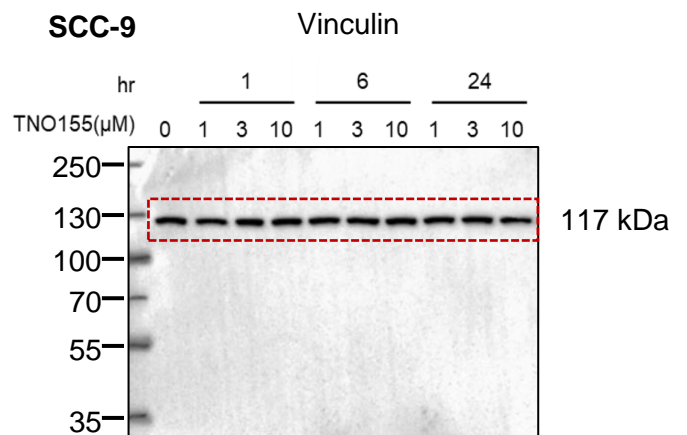
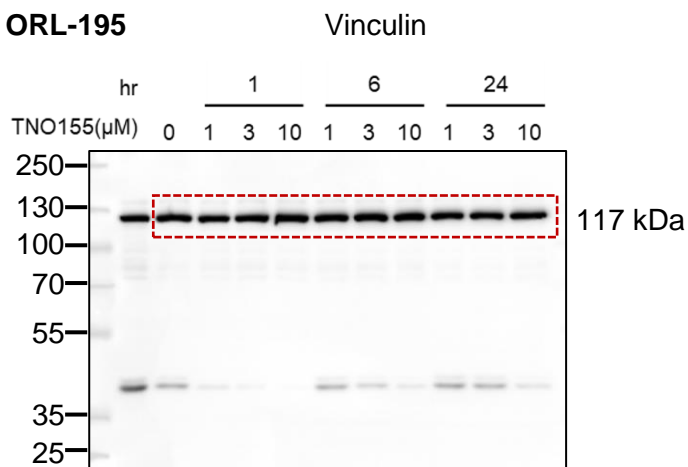
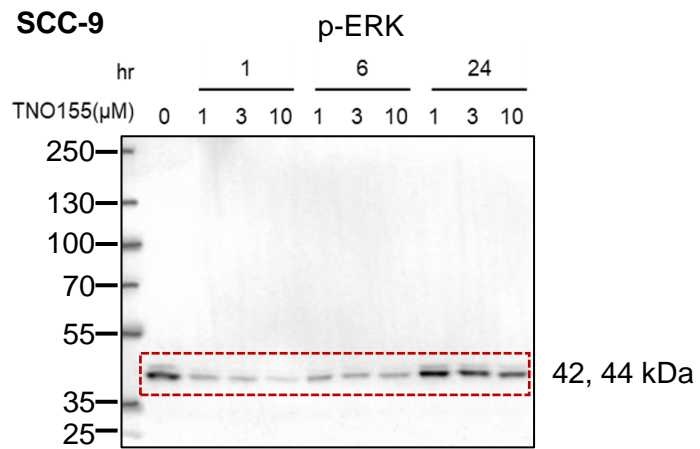
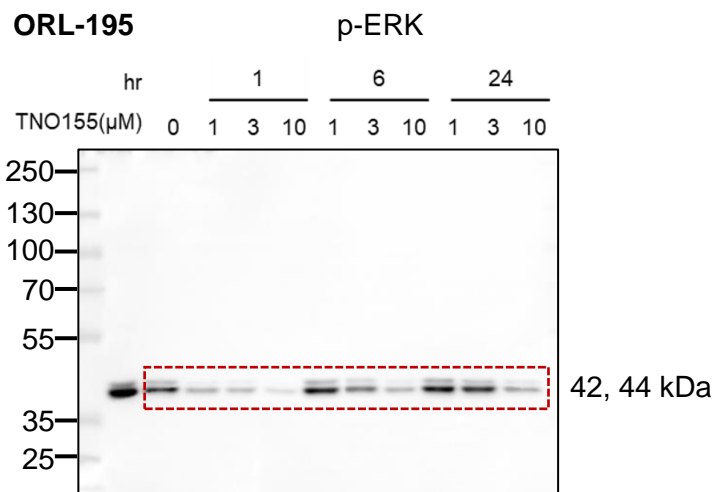
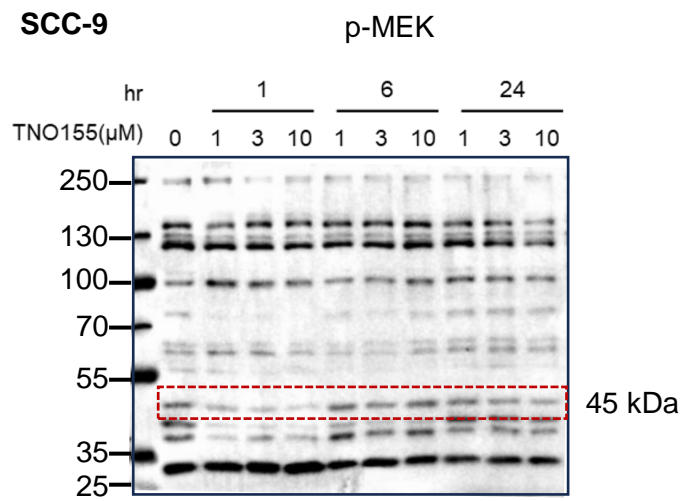
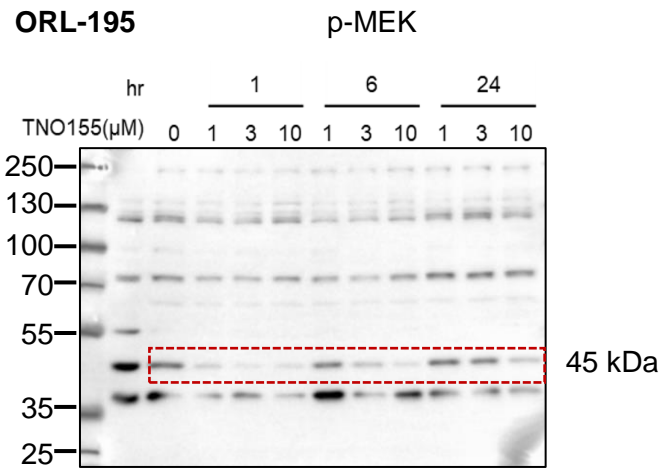
Supplementary Figure 3 - Boxplot of CRISPR scores on *PTPN11* in *MTOR*-dependent OSCCs and *MTOR*-non-dependent OSCCs.

Supplementary Figure 4 – Uncropped western blot images

Fig. 1D



**Fig. 3A Sensitive lines**



**Fig. 3A** Resistant lines

