Figure S1. Expression levels of PKD3 and PD-L1 in HNSCC. Variation in RNAseq expression levels expressed as RSEM units of PKD3 and PD-L1 (TCGA, 564 HNSCC controls and tumor specimens). PKD3, protein kinase D3; PD-L1, programmed death ligand-1.



Figure S2. TCGA gene expression database was used to analyze the association among the major signaling pathway members involved in regulating PD-L1 expression in a large number of HNSCC samples, such as MAPK, NF- $\kappa$ B, PI3K and STAT1/3. MAPK1, mitogen-activated protein kinase 1; PIK3CA, phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit alpha; STAT, signal transducer and activator of transcription; CD274, also known as programmed death ligand-1 (PD-L1); PRKD3, protein kinase D3 (also known as PKD3).



Figure S3. Cancer cells were transfected with PKD3-shRNA or control shRNA and treated with or without IFN-γ (20 ng/ml). Phosphorylation levels at tyrosine residue of STAT1 and STAT3 were determined by western blot analysis. IFN-γ, interferon-γ; PKD3, protein kinase D3; PD-L1, programmed death ligand-1.

