

Figure 8 Western blotting

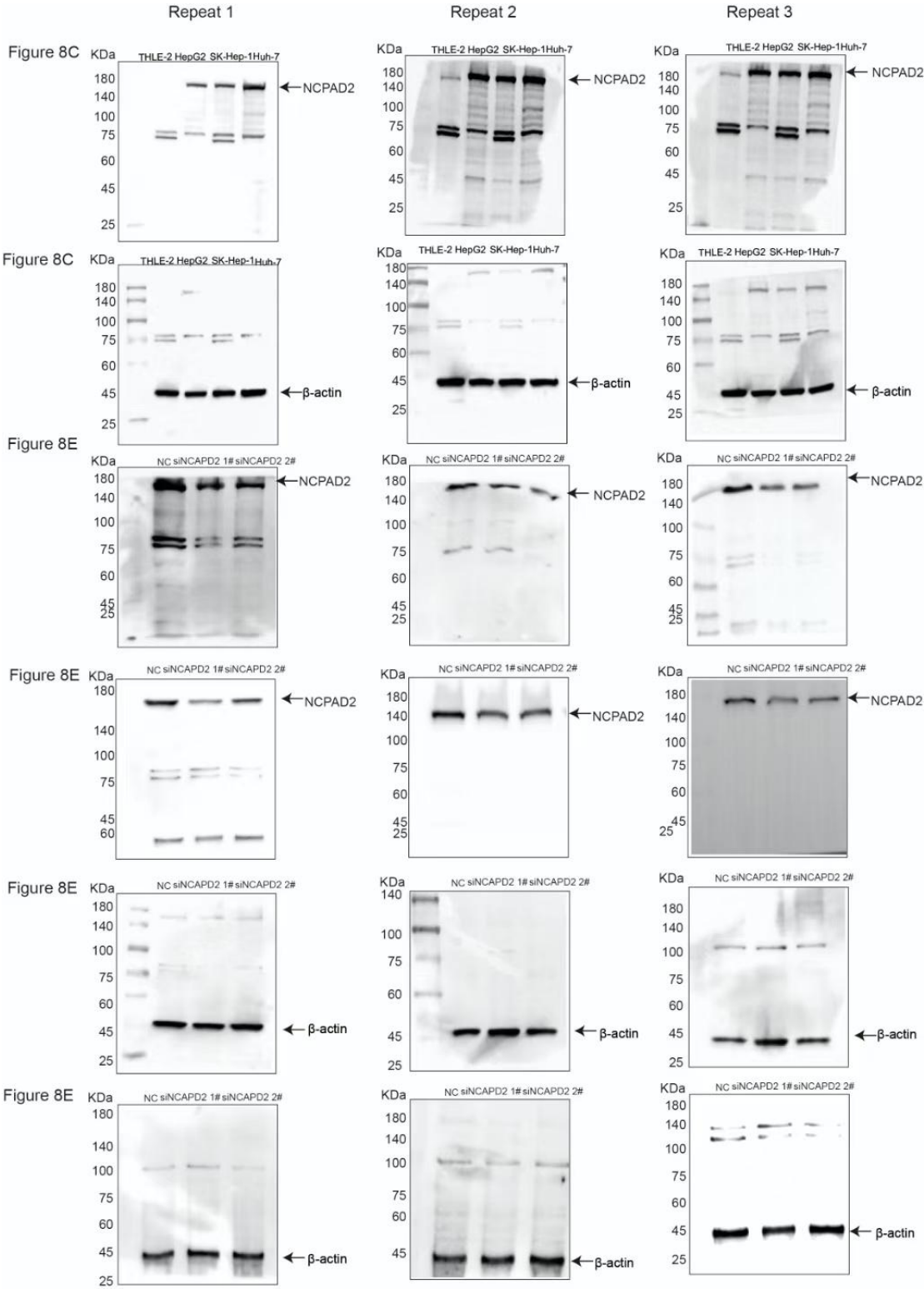


Figure 11 Western blotting

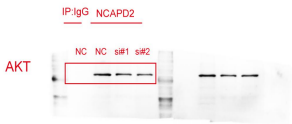
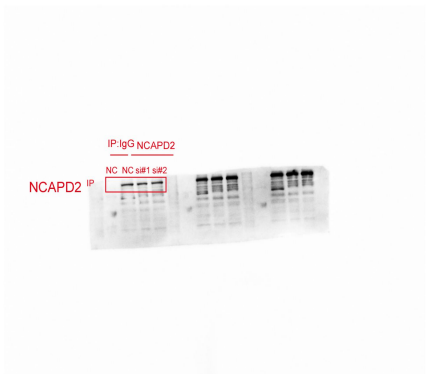
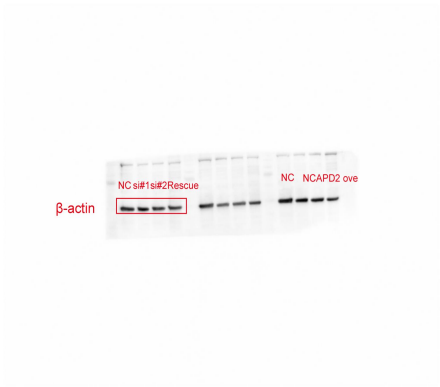
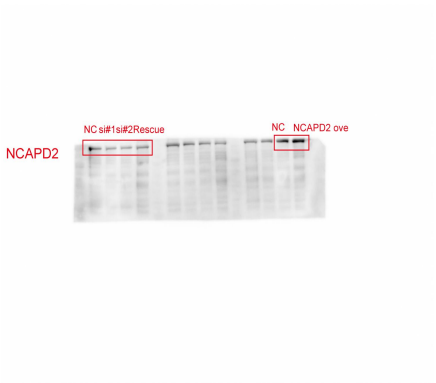
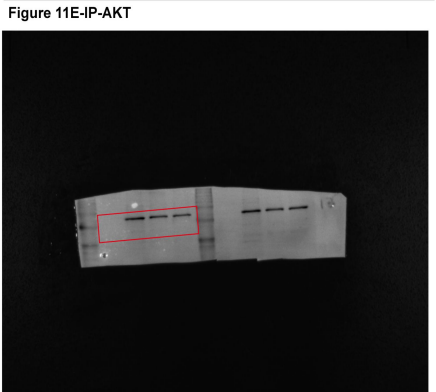
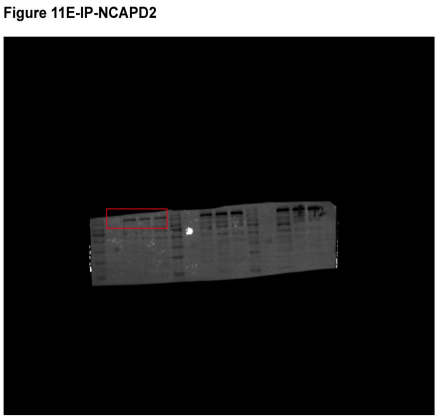
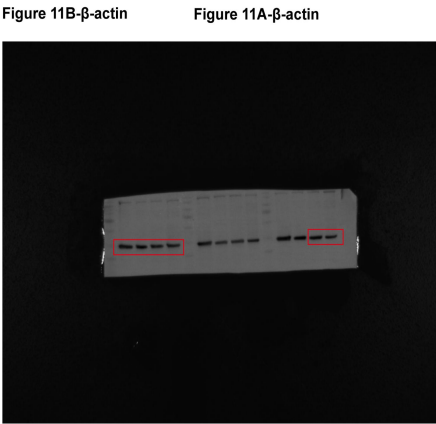
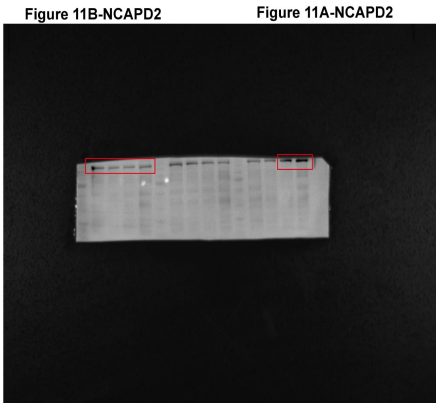


Figure 11E-Input-NCAPD2



Figure 11E-Input-NCAPD2-β-actin

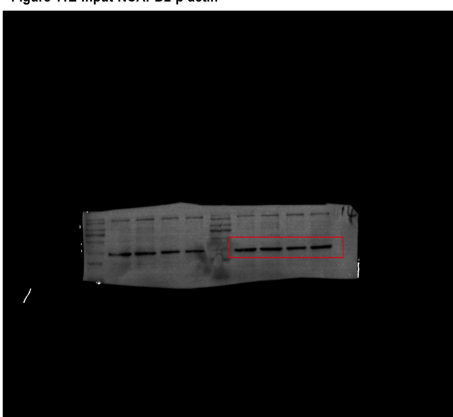


Figure 11E-Input-AKT+β-actin

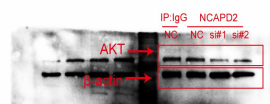
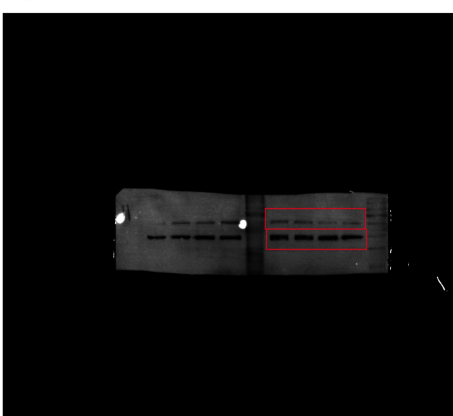


Figure 11G-pAKT

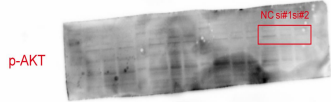
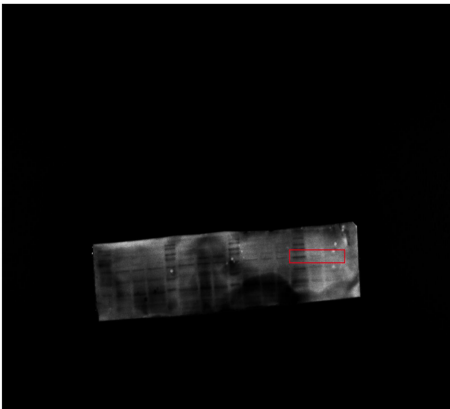


Figure 11G-β-actin

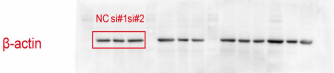


Figure 11G-tAKT

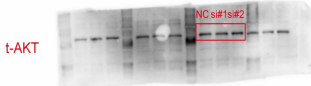
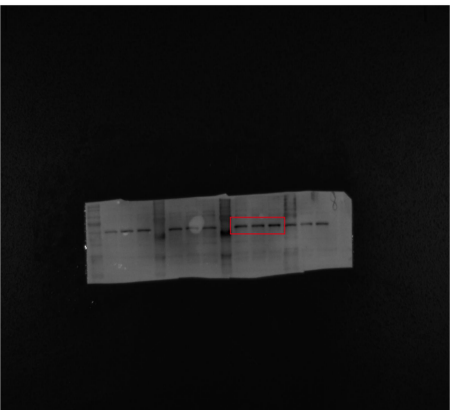


Figure 11G-p-GSK-3β

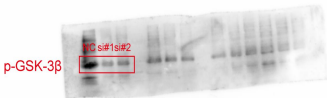


Figure 11G-p-GSK-3β-β-actin



Figure 11G-t-GSK-3β

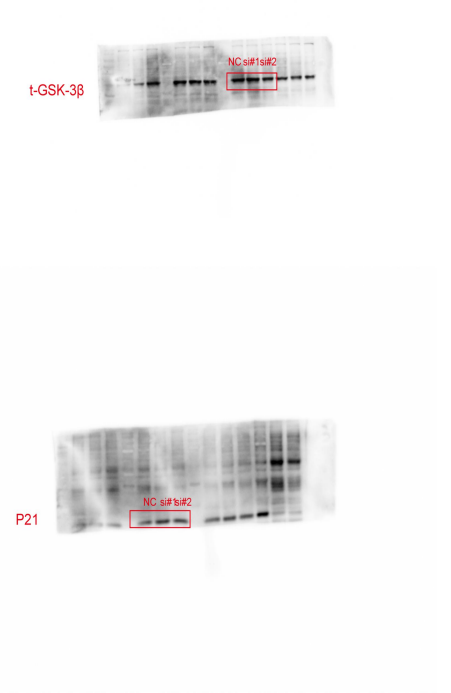
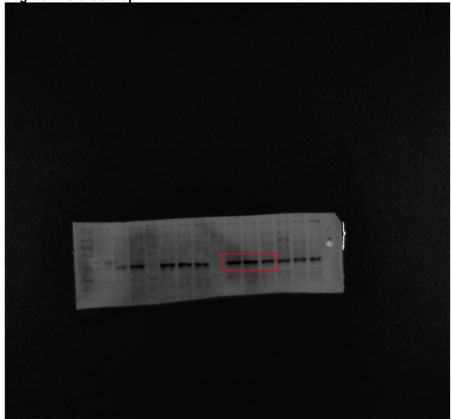


Figure 11H-P21

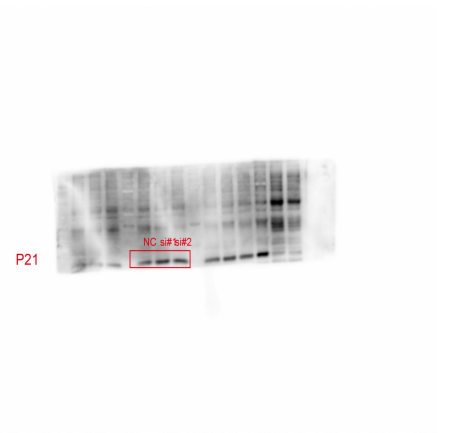


Figure 11H-β-actin

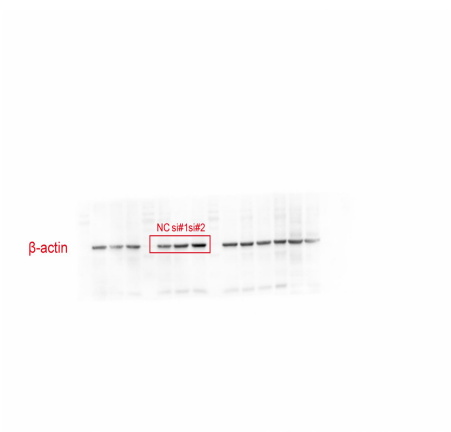
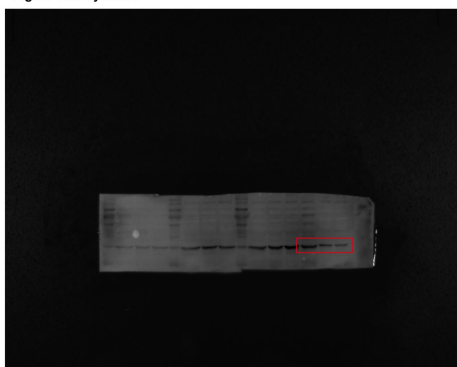


Figure 11H-CyclinD1



CyclinD1

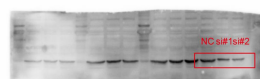
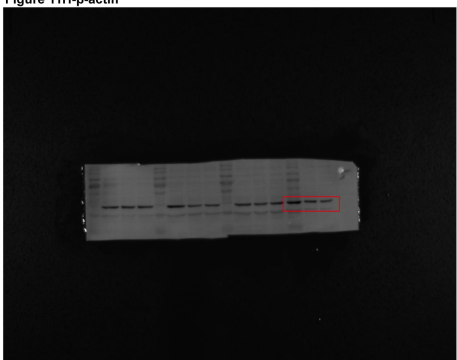
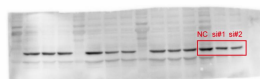


Figure 11H-β-actin



β-actin



Supplementary Table 1 Databases and data download links

UCSC_Xena	Group	Type	Number	Download Links (gene expression RNAseq - HTSeq - FPKM)	Masking	Download Links (DNA methylation - Illumina Human Methylation 450)		
ACC	Tumor	77	ACC.htseq.fpkm.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-ACC.htseq.fpkm.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=FPKM	ACC.varscan2.snvs.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-ACC.varscan2.snvs.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=SNVs	ACC.methylation450.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-ACC.methylation450.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=Methylation
BLCA	Normal	19	BLCA.htseq.fpkm.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-BLCA.htseq.fpkm.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=FPKM	BLCA.varscan2.snvs.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-BLCA.varscan2.snvs.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=SNVs	BLCA.methylation450.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-BLCA.methylation450.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=Methylation
BRCA	Tumor	111	BRCA.htseq.fpkm.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-BRCA.htseq.fpkm.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=FPKM	BRCA.varscan2.snvs.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-BRCA.varscan2.snvs.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=SNVs	BRCA.methylation450.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-BRCA.methylation450.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=Methylation
CESC	Normal	3	CESC.htseq.fpkm.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-CESC.htseq.fpkm.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=FPKM	CESC.varscan2.snvs.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-CESC.varscan2.snvs.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=SNVs	CESC.methylation450.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-CESC.methylation450.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=Methylation
CHOL	Tumor	36	CHOL.htseq.fpkm.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-CHOL.htseq.fpkm.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=FPKM	CHOL.varscan2.snvs.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-CHOL.varscan2.snvs.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=SNVs	CHOL.methylation450.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-CHOL.methylation450.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=Methylation
COAD	Normal	41	COAD.htseq.fpkm.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-COAD.htseq.fpkm.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=FPKM	COAD.varscan2.snvs.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-COAD.varscan2.snvs.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=SNVs	COAD.methylation450.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-COAD.methylation450.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=Methylation
DLBC	Tumor	48	DLBC.htseq.fpkm.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-DLBC.htseq.fpkm.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=FPKM	DLBC.varscan2.snvs.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-DLBC.varscan2.snvs.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=SNVs	DLBC.methylation450.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-DLBC.methylation450.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=Methylation
ESCA	Normal	11	ESCA.htseq.fpkm.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-ESCA.htseq.fpkm.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=FPKM	ESCA.varscan2.snvs.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-ESCA.varscan2.snvs.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=SNVs	ESCA.methylation450.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-ESCA.methylation450.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=Methylation
GBM	Normal	5	GBM.htseq.fpkm.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-GBM.htseq.fpkm.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=FPKM	GBM.varscan2.snvs.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-GBM.varscan2.snvs.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=SNVs	GBM.methylation450.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-GBM.methylation450.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=Methylation
HNSC	Tumor	168	HNSC.htseq.fpkm.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-HNSC.htseq.fpkm.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=FPKM	HNSC.varscan2.snvs.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-HNSC.varscan2.snvs.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=SNVs	HNSC.methylation450.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-HNSC.methylation450.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=Methylation
KICH	Normal	502	KICH.htseq.fpkm.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-KICH.htseq.fpkm.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=FPKM	KICH.varscan2.snvs.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-KICH.varscan2.snvs.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=SNVs	KICH.methylation450.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-KICH.methylation450.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=Methylation
KIRC	Tumor	65	KIRC.htseq.fpkm.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-KIRC.htseq.fpkm.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=FPKM	KIRC.varscan2.snvs.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-KIRC.varscan2.snvs.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=SNVs	KIRC.methylation450.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-KIRC.methylation450.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=Methylation
KIRP	Normal	72	KIRP.htseq.fpkm.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-KIRP.htseq.fpkm.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=FPKM	KIRP.varscan2.snvs.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-KIRP.varscan2.snvs.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=SNVs	KIRP.methylation450.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-KIRP.methylation450.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=Methylation
KIRP	Tumor	329	KIRP.htseq.fpkm.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-KIRP.htseq.fpkm.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=FPKM	KIRP.varscan2.snvs.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-KIRP.varscan2.snvs.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=SNVs	KIRP.methylation450.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-KIRP.methylation450.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=Methylation
LAML	Tumor	151	LAML.htseq.fpkm.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-LAML.htseq.fpkm.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=FPKM	LAML.varscan2.snvs.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-LAML.varscan2.snvs.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=SNVs	LAML.methylation450.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-LAML.methylation450.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=Methylation
LGG	Tumor	529	LGG.htseq.fpkm.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-LGG.htseq.fpkm.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=FPKM	LGG.varscan2.snvs.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-LGG.varscan2.snvs.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=SNVs	LGG.methylation450.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-LGG.methylation450.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=Methylation
LHC	Normal	50	LHC.htseq.fpkm.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-LHC.htseq.fpkm.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=FPKM	LHC.varscan2.snvs.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-LHC.varscan2.snvs.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=SNVs	LHC.methylation450.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-LHC.methylation450.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=Methylation
LUAD	Tumor	374	LUAD.htseq.fpkm.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-LUAD.htseq.fpkm.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=FPKM	LUAD.varscan2.snvs.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-LUAD.varscan2.snvs.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=SNVs	LUAD.methylation450.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-LUAD.methylation450.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=Methylation
LUSC	Normal	526	LUSC.htseq.fpkm.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-LUSC.htseq.fpkm.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=FPKM	LUSC.varscan2.snvs.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-LUSC.varscan2.snvs.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=SNVs	LUSC.methylation450.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-LUSC.methylation450.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=Methylation
LUSC	Tumor	501	LUSC.htseq.fpkm.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-LUSC.htseq.fpkm.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=FPKM	LUSC.varscan2.snvs.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-LUSC.varscan2.snvs.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=SNVs	LUSC.methylation450.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-LUSC.methylation450.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=Methylation
MESO	Tumor	86	MESO.htseq.fpkm.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-MESO.htseq.fpkm.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=FPKM	MESO.varscan2.snvs.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-MESO.varscan2.snvs.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=SNVs	MESO.methylation450.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-MESO.methylation450.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=Methylation
OV	Tumor	379	OV.htseq.fpkm.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-OV.htseq.fpkm.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=FPKM	OV.varscan2.snvs.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-OV.varscan2.snvs.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=SNVs	OV.methylation450.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-OV.methylation450.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=Methylation
PAAD	Normal	4	PAAD.htseq.fpkm.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-PAAD.htseq.fpkm.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=FPKM	PAAD.varscan2.snvs.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-PAAD.varscan2.snvs.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=SNVs	PAAD.methylation450.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-PAAD.methylation450.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=Methylation
PCPG	Tumor	183	PCPG.htseq.fpkm.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-PCPG.htseq.fpkm.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=FPKM	PCPG.varscan2.snvs.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-PCPG.varscan2.snvs.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=SNVs	PCPG.methylation450.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-PCPG.methylation450.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=Methylation
PRAD	Normal	52	PRAD.htseq.fpkm.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-PRAD.htseq.fpkm.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=FPKM	PRAD.varscan2.snvs.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-PRAD.varscan2.snvs.tsv&host=https%3A%2F%2Fgdc.xenahubs.net&removeHub=https%3A%2F%2Fxenahubs.net&track=SNVs	PRAD.methylation450.tsv	https://xenabrowser.net/datapages/?dataset=TCGA-PRAD.m

TCGA Pan-Cancer	Download link(TCGA Pan-Cancer (PANCAN)- Curated clinical data) https://xenabrowser.net/datapages/?dataset=Survival_SupplementalTable_ST_20171025_xena_sp&host=https%3A%2F%2Fpancanatlas.xenahubs.net&removeHub=https%3A%2F%2FExena.treehouse.gi.ucsc.edu%3A4443
TCGA LIHC	Download link(TCGA LIHC) https://portal.gdc.cancer.gov/