

Supplementary Materials

TANRIC: A User-friendly, Interactive, Open Platform for Exploring the Function of LncRNAs in Cancer

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Supplementary Table 1 Summary of known tumor subtypes in TCGA datasets

Supplementary Table 2 List of clinically actionable genes

Supplementary Figure 1 The Kaplan-Meier plot of lncRNA-expression subtypes in another independent KIRC cohort

Supplementary Table 1 Summary of known tumor subtypes in TCGA datasets

Cancer	Tumor Subtype	Subtype names: Number of samples in each subtype
GBM	Expression	Classical;G-CIMP;Mesenchymal;Neural;Proneural:39;8;49;26;29
KIRC	Expression	1;2;3;4:135;83;90;81
LUAD	iCluster	1;2;3;4;5;6:22;32;51;32;52;41
BRCA	PAM50	Basal;Her2;LumA;LumB;Normal_like:139;67;417;191;23
BRCA	ER/PR/HER2	ERPR-/Her2-;ERPR-/Her2+;ERPR+/Her2; ERPR+/Her2+:119;30;482;80
BLCA	Papillary	Non-Papillary;Papillary: 88;28
LUSC	Expression	basal;classical;primitive;secretory:43;65;27;42
HNSC	HPV	Negative;Positive:44;9
STAD	Lauren Class	Diffuse;Intestinal;Mixed:66;178;17
STAD	Molecular	CIN;EBV;GS;MSI:133;25;55;59
UCEC	Histology	Endometrioid;Mixed;Serous:258;8;50
UCEC	Integrative	CN high;CN low;MSI;POLE:58;90;65;17
READ	Expression	CIN;Invasive;MSI/CIMP:30;24;12
COAD	Expression	CIN;Invasive;MSI/CIMP 45;26;47
COAD	MSI	MSI-H;MSI-L;MSS:33;33;91

Supplementary Table 2 List of clinically actionable genes

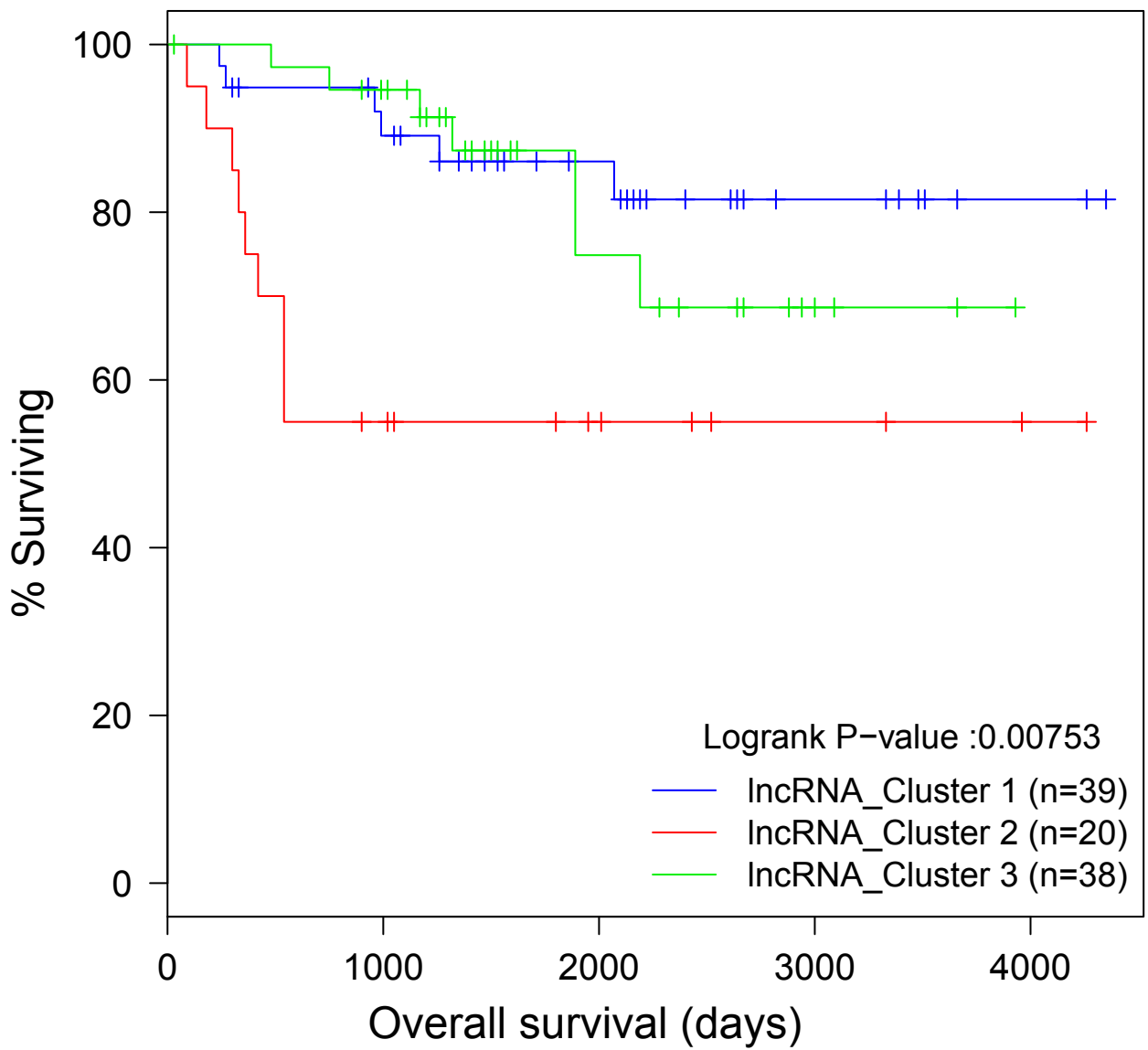
Gene	Types of Recurrent Alterations	Examples of Therapeutic Agents	Type
ABL1	Rearrangement; Mutation	Imatinib, Dasatinib, Nilotinib, ABL1 inhibitors	1
ALK	Rearrangement; Mutation; Amplification	Crizotinib, ALK inhibitors	1
AR	Amplification	Androgen Deprivation Enzalutamide	1
ARAF	Mutation	Sorafenib, Vemurafenib, Dabrafenib, RAF inhibitors	1
BAP1	Biallelic inactivation	HDAC Inhibitors, Vorinostat and romidepsin	1
BRAF	Mutation; Amplification; Rearrangement	Vemurafenib, Dabrafenib, RAF inhibitors MEK inhibitors	1
BRD2	Rearrangement	HDAC Inhibitors Bromodomain inhibitors	1
BRD3	Rearrangement	HDAC Inhibitors Bromodomain inhibitors	1
BRD4	Rearrangement	HDAC Inhibitors Bromodomain inhibitors	1
c15orf55	Rearrangement	HDAC Inhibitors Bromodomain inhibitors	1
CRKL	Amplification	Gefitinib, Erlotinib, EGFR inhibitors Vemurafenib, Dabrafenib, RAF inhibitors Dasatinib, SRC inhibitors	1
DDR2	Mutations	Dasatinib	1
DNMT3A	Mutations	DNMT inhibitors	1
EGFR	Mutation; Amplification; Rearrangement	Erlotinib, Gefitinib, EGFR Inhibitors	1
EPHA3	Mutation; Amplification	Dasatinib Ephrin inhibitors	1
EPHA5	Mutation; Rearrangement	Dasatinib Ephrin inhibitors	1
ERBB2	Amplification; Mutations	Trastuzumab, Lapatinib, TDM1, Pertuzumab	1
ERBB3	Mutations	Pertuzumab	1
ERBB4	Mutation	Lapatinib	1
ESR1	Amplification; Mutations	Hormonal therapy	1
FBXW7	Biallelic Inactivation	MTOR inhibitors Tubulins	1
FLT3	Mutation	Sunitinib, FLT3 inhibitors	1
KDR	Mutations	KDR inhibitors	1
KIT	Mutation; Amplification	Imatinib, Sunitinib Novel KIT Inhibitors	1

KRAS	Mutation	Cetuximab MEK inhibitors	1
MAP2K2	Mutations	MEK inhibitors	1
MAP2K4	Mutations		1
MCL1	Amplification	Tubulins	1
MET	Amplification	Gefitinib, Erlotinib, EGFR inhibitors Crizotinib, MET inhibitors	1
MITF	Mutation	Vemurafenib, Dabrafenib, RAF inhibitors	1
MLL	Rearrangement	HDAC Inhibitors	1
MTOR	Mutation	Everolimus, Temozolimus, MTOR inhibitors	1
NF1	Biallelic Inactivation	PI3K/AKT/MTOR inhibitors RAF inhibitors MEK inhibitors	1
NF2	Biallelic Inactivation	PI3K/AKT/MTOR inhibitors	1
NRAS	Mutation	Vemurafenib, Dabrafenib, RAF inhibitors MEK inhibitors	1
NTRK3	Rearrangement	PI3K/AKT/MTOR inhibitors Dasatinib, src inhibitors IGF1-R inhibitors	1
PDGFRA	Mutation; Rearrangement	Imatininb	1
PDGFRB	Rearrangement	Imatininb	1
PIK3CA	Mutations	PI3K/AKT/MTOR inhibitors	1
PIK3R1	Mutations	PI3K/AKT/MTOR inhibitors	1
PTCH1	Mutations	Vismodegib, hedgehog inhibitors	1
PTEN	Biallelic Inactivation	PI3K/AKT/MTOR inhibitors PARP inhibitors	1
RAF1	Mutation; Amplification; Rearrangement	Sorafenib RAF inhibitors	1
RARA	Rearrangement	ATRA, Arsenic	1
RET	Mutation; Rearrangement	Sorafenib, vandetinib, RET Inhibitors	1
ROS1	Rearrangement	Crizotinib	1
SMARCA4	Biallelic Inactivation	HDAC	1
SMARCB1	Biallelic Inactivation	CDK inhibitors Vismodegib, Hedgehog inhibitors HDAC inhibitors	1
SMO	Mutations	Vismodegib, hedgehog inhibitors	1
STK11	Biallelic Inactivation	Everlolims, Temozolimus, MTOR inhibitors Dasatinib, src inhibitors FAK inhibitors Phenformin	1
TSC1	Biallelic Inactivation	Everolimus, Temozolimus, MTOR inhibitors	1

TSC2	Biallelic Inactivation	Everolimus, Temsirolimus, MTOR inhibitors	1
CTLA4		Ipilimumab	1
PDCD1		lambrolizumab	1
ATM	Biallelic Inactivation	PARP Inhibitors	2
ATR	Biallelic Inactivation	PARP Inhibitors	2
AURKA	Amplification	AURKA Inhibitors, alisertib	2
BCL2	Rearrangement	BCL2 inhibitors	2
BRCA1	Biallelic Inactivation	PARP Inhibitor	2
BRCA2	Biallelic Inactivation	PARP Inhibitor	2
CCND1	Amplification; Rearrangement	Hormone therapy CDK4/6 inhibitors	2
CCND2	Amplification; Rearrangement	CDK4/6 inhibitors	2
CCND3	Amplification; Rearrangement	CDK4/6 inhibitors	2
CDK4	Amplification; Mutation	CDK4/6 inhibitors	2
CDK6	Amplification; Rearrangement	CDK4/6 inhibitors	2
CDKN2A	Biallelic Inactivation	CDK4/6 inhibitors	2
CDKN2B	Biallelic Inactivation	CDK4/6 inhibitors	2
ERG	Rearrangement	PARP Inhibitor	2
GNAS	Mutation	JAK inhibitors	2
JAK2	Mutation	ruxolitinib, JAK inhibitors	2
JAK3	Mutation	tofacitinib, JAK inhibitors	2
MAP2K1	Mutation	Vemurafenib, MEK inhibitors	2
MPL	Mutation	Ruxolitinib, JAK2 inhibitors	2
SYK	Mutation	SYK inhibitors	2
TMPRSS2	Rearrangement	PARP Inhibitors	2
TP53	Biallelic Inactivation	Wee1 inhibitors Chk1 inhibitors kevetrin APR-246 nutlins gene therapy	2
AKT1	Mutation	AKT/MTOR inhibitors	3
AKT2	Mutation; Amplification	AKT/MTOR inhibitors	3
AKT3	Rearrangement; Mutation	AKT/MTOR inhibitors	3
APC	Biallelic Inactivation	WNT inhibitors	3
CTNNB1	Mutations	WNT inhibitors	3
EZH2	Mutations	EZH2 inhibitors	3
FGFR1	Amplification	FGFR Inhibitors	3
FGFR2	Mutations; Rearrangement	FGFR Inhibitors	3
FGFR3	Mutations; Rearrangement	FGFR Inhibitors	3
GNA11	Mutation	MAPK pathway inhibitors	3
GNAQ	Mutation	MAPK pathway inhibitors	3
HRAS	Mutation	MAPK pathway inhibitors	3
IDH1	Mutation	IDH inhibitorss	3
IDH2	Mutation	IDH inhibitorss	3

IGF1R	Amplification	IFG1-R Inhibitor	3
MDM2	Amplification	Nutlin, MDM2 inhibitors	3
MDM4	Amplification	MDM4 inhibitors	3
NOTCH1	Mutation; Rearrangement	Notch Inhibitors	3
NOTCH2	Mutation	Notch Inhibitors	3
WT1	Biallelic Inactivation		3
XPO1	Mutation	SINE agents	3
ASXL1	Mutations		4
CCNE1	Amplification	CKD2 inhibitor	4
CDH1	Mutation		4
CDKN1A	Biallelic Inactivation	CDK inhibitors	4
CDKN1B	Biallelic Inactivation	CDK inhibitors	4
CEBPA	Biallelic Inactivation	Transplant	4
CREBBP	Biallelic Inactivation		4
ETV1	Rearrangement		4
ETV4	Rearrangement		4
ETV5	Rearrangement		4
ETV6	Rearrangement		4
EWSR1	Rearrangement		4
MEN1	Biallelic Inactivation		4
MLH1	Biallelic Inactivation		4
MSH2	Biallelic Inactivation		4
MSH6	Biallelic Inactivation		4
MYC	Amplification; Rearrangement		4
NFKBIA	Deletions		4
NKX2-1	Amplification		4
NPM1	Mutations; Rearrangement	Transplant	4
RB1	Biallelic Inactivation	CDK inhibitors	4
RUNX1	Rearrangement		4
SMAD2	Biallelic Inactivation		4
SMAD4	Biallelic Inactivation		4
TET2	Mutations		4
VHL	Biallelic Inactivation		4

1=FDA Approved Drugs
2=Late-stage Clinical Trial
3=Early-stage Clinical Trial
4=Other established diagnostic and prognostic



Supplementary Figure 1 The Kaplan-Meier plot of lncRNA-expression subtypes in another independent KIRC cohort