

Supplementary Table 2. Predicted Functional Partners (Homo sapiens)**Data from STING dataset**

Partners	Interaction Score
SKP1, S-phase Kinase-associated Protein 1	0.999
CDK2, Cyclin-dependent Kinase 2	0.999
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CDK1, Cyclin-dependent Kinase 1	0.999
CCNA2, Cyclin A2	0.999
CCNB1, Cyclin B1	0.998
CUL1, Cullin-1	0.997
CDKN1B, Cyclin-dependent Kinase Inhibitor 1B	0.993
CKS2, Cyclin-dependent Kinases Regulatory Subunit 2	0.993
RBX1, RING-box Protein 1	0.988

Supplementary Table 2. List of interactions for P61024|CKS1B|Homo sapiens

Interactor	Category	Interaction Score	Confidence
CDK2 Cyclin-dependent kinase 2	Small-scale	0.987	High
CDK1 Cyclin-dependent kinase 1	Small-scale	0.984	High
CDK3 Cyclin-dependent kinase 3	Small-scale	0.965	High
PMYT1 Membrane-associated tyrosine- and threonine-specific cdc2-inhibitory kinase	High-throughput	0.871	High
CKS2 Cyclin-dependent kinases regulatory subunit 2	High-throughput	0.811	High
SKP2 S-phase kinase-associated protein 2	Small-scale	0.765	High
CCNA2 Cyclin-A2	Small-scale	0.749	High
SKP1 S-phase kinase-associated protein 1	Small-scale	0.749	High
CDKN1B Cyclin-dependent kinase inhibitor 1B	Small-scale	0.731	High
CILK1 Serine/threonine-protein kinase ICK	High-throughput	0.726	High

Supplementary Table 2. Protein-Protein Docking Interactions between CKS1B-WT and CKS1B-K4lac with p27

Source	Residue	Atom(CKS1B)	Residue	Atom(p27)	Distance(Å)	Interaction Type
CKS1B-WT	SER2	OG	VAL36	O	3.14	Hydrogen bond

CKS1B-WT	GLN5	NE2	GLU39	OE1	2.56	Hydrogen bond
CKS1B-WT	ARG44	NH1	ALA115	O	2.83	Hydrogen bond
CKS1B-WT	GLN49	NE2	PRO114	O	2.60	Hydrogen bond
CKS1B-WT	HIS3	ND1	GLU39	OE1	3.90	Salt bridge
CKS1B-WT	ASP13	OD1	HIS67	NE2	3.51	Salt bridge
CKS1B-WT	CLU15	OE2	LYS81	NZ	3.92	Salt bridge
CKS1B-K4lac	LYS11	HZ2	CYS49	SG	2.34	Hydrogen bond
CKS1B-K4lac	THR35	OG1	VAL101	O	2.53	Hydrogen bond
CKS1B-K4lac	THR35	OG1	ALA103	H	2.08	Hydrogen bond
CKS1B-K4lac	ARG71	NH1	GLU53	OE1	3.16	Salt bridge

Supplementary Table 3. Primers Used for RT-qPCR

Primer Name	Sequence (5'-3')
β-actin Forward	CTACCTCATGAAGATCCTCACCGA
β-actin Reverse	TTCTCCTTAATGTCACGCACGATT
p300 forward	TGACCAAGGGAGACAGCAAA
p300 reverse	GAGGCGGATCACAAAGAAGAC
p300 promoter -1115→-989 forward	CGGATCCCGTGATTGGGAC
p300 promoter -1115→-989 reverse	CGGCCGGAAATGAGCCAA

Supplementary Table 4. Antibodies Used in this research

Antibody	Catalog	Company	City
Anti-L-Lactyl Lysine Rabbit mAb	PTM-1401RM	Jingjie PTM BioLab	Hangzhou, China
CKS1B-K4lac rabbit mAb	custom lactylation site antibody	Jingjie PTM BioLab	Hangzhou, China
BMP9 Antibody	PA5-11931	Thermo Fisher SCIENTIFIC	Massachusetts, USA
CDK1 Recombinant Rabbit Monoclonal Antibody	ET1607-51	Huabio	Hangzhou, China
CDK2 Recombinant Rabbit Monoclonal Antibody	ET1602-6	Huabio	Hangzhou, China
CDK3 Rabbit Polyclonal Antibody	ER60251	Huabio	Hangzhou, China
CKS1 Polyclonal Antibody	36-6800	Thermo Fisher SCIENTIFIC	Massachusetts, USA
p27 kip1 polyclonal antibody	25614-1-AP	proteintech	Illinois, USA
phospho-CDK1(T161)+CDK2/3(T160)	Ab201008	Abcam	Cambridge, UK
phospho-p27(S10)	bs-20074R	Bioss	Beijing, China
phospho-p27(T187)	bs-5229R	Bioss	Beijing, China
phospho-p27(T198)	bs-5279R	Bioss	Beijing, China
ubiquitin Polyclonal antibody	10201-2-AP	proteintech	Illinois, USA
Ubiquitin(P4D1) Mouse mAb	#3936	Cell Signaling	Massachusetts,

Anti-KAT3B / p300 antibody	Ab275378	TECHNOLOGY	USA
[EPR23495-268] - ChIP Grade		Abcam	Cambridge, UK
Phospho-SMAD1/5 (Ser463/465) (41D10)	#9516	Cell Signaling	Massachusetts, USA
Rabbit mAb		TECHNOLOGY	USA
Rabbit IgG Protein	HA1002	Huabio	Hangzhou, China
β -actin monoclonal antibody	66009-1-Ig	proteintech	Illinois, USA
Mouse Anti-rabbit IgG (Conformation Specific) (L27A9) mAb (HRP Conjugate)	#5127	Cell Signaling	Massachusetts, USA
		TECHNOLOGY	USA
