

	WoLF PSORT	ESLPred	YLoc	PSORT II	LocTree3	Plant-mPLoc	CELLO	BaCelLo
CaSUN1	Plasma membrane, E.R.	Cytoplasm	Cytoplasm	E.R.	E.R. membrane	Nucleus	Nuclear membrane	Chloroplast
CaSUN2	Plasma membrane, E.R., Nuclear	Cytoplasm	Cytoplasm	E.R.	E.R. membrane	Nucleus	Nuclear membrane	Chloroplast
CaSUN3	Chloroplast, Mitochondria	Cytoplasm	Nucleus	Mitochondria, Nuclear membrane	Nuclear membrane	Chloroplast	Mitochondri a membrane	Nucleus

Supplementary Table S1: Prediction of sub cellular localization of chickpea SUN proteins

Supplementary Table S2: cis-acting regulatory elements in the promoters of chickpea SUN genes

cis elements	<i>CaSUN1</i>	<i>CaSUN2</i>	<i>CaSUN3</i>
AE-BOX	✓	✓	
ARE	✓	✓	✓
AT-RICH SE	✓		
AT1-MOTIF	✓		✓
ATGCAAAT	✓		✓
BOX 4	✓	✓	✓
BOX I	✓	✓	✓
BOX III	✓	✓	
CAAT-BOX	✓	✓	✓
CATT-MOTI	✓		
CGTCA-MO	✓		
ERE	✓		✓
G-BOX	✓	✓	
GARE-MOTI	✓		
HSE	✓	✓	✓
MBS	✓	✓	✓
SKN-1_MOTI	✓	✓	✓
TA-RICH RE	✓		
TATA-BOX	✓	✓	✓
TCA-ELEME	✓		
TCT-MOTIF	✓		
TGACG-MO	✓		
UNNAMED_	✓	✓	✓
UNNAMED_	✓	✓	
5UTR PY-RI		✓	
AAGAA-MO		✓	✓
ACE		✓	
CCAAT-BO		✓	
P-BOX		✓	
TC-RICH RE		✓	
UNNAMED_		✓	✓
UNNAMED_		✓	✓
CIRCADIAN		✓	✓
ATCT-MOTI			✓
E2FA			✓
GA-MOTIF			✓
GAG-MOTIF			✓
GT1-MOTIF			✓
GAP-BOX			✓
LAMP-ELEM			✓
PC-CMA2A			✓

TATC-BOX
TGA-ELEME

✓
✓

Supplementary Table S3: Target sequences for miRNAs in chickpea *SUN* genes

miRNA_Acc.	Target_Acc.	Expectation	UPE	miRNA_start	miRNA_end	Target_start
csi-miR3949	CaSUN2	3	15.973	1	21	625
gma-miR567	CaSUN2	3	15.069	1	20	613
gma-miR567	CaSUN2	3	15.069	1	20	613
osa-miR2873	CaSUN1	3	15.544	1	20	1311
bdi-miR7741	CaSUN1	3	22.504	1	20	33
gra-miR8743	CaSUN1	3	16.535	1	23	728

Target_end	miRNA_aligned_fragment	Target_aligned_fragment
645	UGAUGUUGAGGCAAAAUGU	UACAAUUAUGCUUCAGCAUCA
632	UAAUUGUGUUGUACAUAUC	GGUGGUGUAGAAUACAAUUA
632	UAAUUGUGUUGUACAUAUC	GGUGGUGUAGAAUACAAUUA
1330	CAAUGAAGUUGAGUUUGGA	UCUAGACUAAAUUUAUUUG
52	UUUAAUUGUGGAAGCUCUU	AAGAGCUUCUCAAUAAAA
750	UUUGGAAAGUUAUAAAUGG	UUGUCAUUAUAGAACUUCCGAA

Inhibition	Multiplicity
Cleavage	1
Translation	1
Translation	1
Translation	1
Translation	1
Cleavage	1