

Supplementary Table S3. List of Nampungchal genes along with K_a / K_s ratio based on the sorghum reference genome (BTx623)

Gene symbol	K_a/K_s ratio	Description
LOC8071262	14	putative serine/threo9-protein kinase-like protein CCR3
LOC8068715	14	F-box protein At1g67340
LOC8055185	14	sulfofructose kinase
LOC8085294	12	nuclear pore complex protein NUP214
LOC8080155	12	translation initiation factor IF-2
LOC8074809	12	E3 ubiquitin-protein ligase RMA1H1
LOC8074063	12	putative disease resistance RPP13-like protein 3
LOC8067748	12	G-type lectin S-receptor-like serine/threo9-protein kinase LECRK4
LOC8082080	10	PF13637 - Ankyrin repeats
LOC8074071	10	UDP-glycosyltransferase 73D1
LOC8069729	10	wall-associated receptor kinase 2
LOC8068195	10	CBL-interacting protein kinase 17
LOC8062110	10	probable E3 ubiquitin-protein ligase RNF144A-B
LOC8058550	10	signal recognition particle 54 kDa protein, chloroplastic
LOC8085277	8	cytochrome P450 94A1
LOC8082315	8	phylloplanin
LOC8079104	8	receptor kinase-like protein Xa21
LOC8079056	8	PTHR20961//PTHR20961:SF28 - GLYCOSYLTRANSFERASE
LOC8078852	8	ATP-dependent Clp protease ATP-binding subunit CLPT1, chloroplastic
LOC8078001	8	WD repeat-containing protein 44
LOC8074808	8	putative nuclear RNA export factor SDE5
LOC8071692	8	multiple organellar RNA editing factor 1, mitochondrial
LOC8069648	8	MOB kinase activator-like 1A
LOC8067747	8	crocetin glucosyltransferase 2
LOC8062663	8	probable E3 ubiquitin-protein ligase RHY1A
LOC8061909	8	phospholipase D zeta 1
LOC8061535	8	probable acyl-activating enzyme 5, peroxisomal
LOC8059421	8	esterase PIR7B
LOC8055864	8	tonoplast dicarboxylate transporter
LOC110437403	8	collagen alpha-1(I) chain-like
LOC110433044	8	reactive Intermediate Deaminase A, chloroplastic
LOC110429543	8	ureide permease 1-like
LOC8070475	7	double-stranded RNA-binding protein 6
LOC8068388	7	argi9 decarboxylase 1
LOC8058534	7	2-carboxy-D-arabinitol-1-phosphatase
LOC8085484	6	pheophorbide a oxygenase, chloroplastic
LOC8085287	6	PF02365 - No apical meristem (NAM) protein (NAM)
LOC8083044	6	putative disease resistance protein RGA3
LOC8082672	6	S-noroclaurine synthase
LOC8082158	6	probable RNA helicase SDE3
LOC8081385	6	protein ETHYLENE-INSENSITIVE 2

LOC8080554	6	Krueppel-like factor 12
LOC8079685	6	squamosa promoter-binding-like protein 6
LOC8079588	6	UDP-glycosyltransferase 89B1
LOC8078906	6	peptidyl-prolyl cis-trans isomerase CYP40
LOC8077236	6	RING-H2 finger protein ATL80
LOC8077066	6	glutamic acid-rich protein
LOC8076992	6	WRKY transcription factor WRKY24
LOC8076518	6	DDB1- and CUL4-associated factor homolog 1
LOC8074745	6	cyclin-P1-1
LOC8074619	6	protein ROOT PRIMORDIUM DEFECTIVE 1
LOC8073263	6	lysine histidine transporter 2
LOC8072647	6	E3 ubiquitin-protein ligase ATL41
LOC8070152	6	serine/threo9-protein kinase PBL13
LOC8069398	6	probable LRR receptor-like serine/threo9-protein kinase At3g47570
LOC8068908	6	MLO-like protein 15
LOC8068884	6	two-component response regulator ORR2
LOC8068735	6	putative disease resistance protein RGA3
LOC8068151	6	ethylene-responsive transcription factor RAP2-7
LOC8065957	6	BTB/POZ and MATH domain-containing protein 1
LOC8065088	6	pentatricopeptide repeat-containing protein At3g53700, chloroplastic
LOC8063734	6	E3 ubiquitin-protein ligase ATL6
LOC8063318	6	myb-related protein Hv1
LOC8061011	6	extradiol ring-cleavage dioxygenase
LOC8060631	6	probable serine/threo9-protein kinase At1g54610
LOC8060587	6	GDP-fucose transporter 1
LOC8060473	6	pentatricopeptide repeat-containing protein At4g38150
LOC8059671	6	pentatricopeptide repeat-containing protein At5g04810, chloroplastic
LOC8058795	6	L-type lectin-domain containing receptor kinase IV.2
LOC8058688	6	probable amino acid permease 7
LOC8057520	6	cyclin-T1-1
LOC8056049	6	protein ROS1
LOC8054971	6	GRIP and coiled-coil domain-containing protein 2
LOC8054698	6	conserved oligomeric Golgi complex subunit 1
LOC8054224	6	BTB/POZ domain-containing protein At5g67385
LOC110434929	6	polyadenylate-binding protein-interacting protein 8-like
LOC110434013	6	protein trichome birefringence-like 38
LOC110433405	6	probable E3 ubiquitin-protein ligase RHC1A
LOC110432817	6	ethylene-responsive transcription factor 1-like
LOC110431408	6	formin-like protein 5
LOC110430688	6	probable E3 ubiquitin-protein ligase XBOS36
LOC8155274	5	SEC1 family transport protein SLY1
LOC8086232	5	phytochrome C
LOC8077118	5	calmodulin-binding transcription activator 3
LOC8076103	5	BEACH domain-containing protein B
LOC8071112	5	nuclear transcription factor Y subunit C-4
LOC8069662	5	thyroid adenoma-associated protein homolog

LOC8061607	5	probable alpha-glucosidase Os06g0675700
LOC8059991	5	phytochrome a
LOC8062369	4.666666667	NDR1/HIN1-like protein 10
LOC110433366	4.666666667	heavy metal-associated isoprenylated plant protein 35-like
LOC8070444	4.571428571	rust resistance kinase Lr10
LOC8086401	4	F-box/FBD/LRR-repeat protein At1g13570
LOC8086315	4	leucine-rich repeat extensin-like protein 5
LOC8086103	4	putative disease resistance protein RGA3
LOC8085720	4	protein DOWNY MILDEW RESISTANCE 6
LOC8085397	4	WRKY transcription factor WRKY24
LOC8085295	4	protein OBERON 4
LOC8085179	4	ferrochelatase-1, chloroplastic
LOC8085027	4	pentatricopeptide repeat-containing protein At2g26790, mitochondrial

Supplementary Table S4. List of Sodamchal genes along with K_a / K_s ratio ratio based on the sorghum reference genome (BTx623)

Gene Symbol	K_a / K_s ratio	Description
LOC8080554	16	Krueppel-like factor 12
LOC8079990	16	F-box/LRR-repeat protein At3g59190
LOC8071511	14	metacaspase-2
LOC8063070	14	malonyl-CoA:anthocyanidin 5-O-glucoside-6"-O-malonyltransferase
LOC8055185	12	sulfofructose kinase
LOC8083021	12	protein LURP-one-related 8
LOC8055328	10	probable E3 ubiquitin-protein ligase RHB1A
LOC8082315	10	phylloplanin
LOC8055612	10	DAR GTPase 2, mitochondrial
LOC110429543	8	ureide permease 1-like
LOC8069662	8	thyroid adenoma-associated protein homolog
LOC8075529	8	threonylcarbamoyladenosine tRNA methyltransferase
LOC8065266	8	serine/threo9-protein kinase prpf4B
LOC8070203	8	scarecrow-like protein 9
LOC8074808	8	putative nuclear RNA export factor SDE5
LOC8071980	8	protein Rf1, mitochondrial
LOC8069648	8	MOB kinase activator-like 1A
LOC8076739	8	ESX-1 secretion-associated protein EspK
LOC8084078	8	cysteine-rich receptor-like protein kinase 6
LOC8084080	8	cysteine-rich receptor-like protein kinase 10
LOC8074629	8	centromere-associated protein E
LOC8078852	8	ATP-dependent Clp protease ATP-binding subunit CLPT1, chloroplastic
LOC8082436	8	aspartyl protease family protein At5g10770
LOC8060710	8	ADP-glucose phosphorylase
LOC8081385	7	protein ETHYLENE-INSENSITIVE 2
LOC8081161	7	indole-3-acetaldehyde oxidase

LOC8085397	6	WRKY transcription factor WRKY24
LOC8082900	6	ultraviolet-B receptor UVR8
LOC8061473	6	U-box domain-containing protein 4
LOC8054934	6	scopoletin glucosyltransferase
LOC8060446	6	RING-H2 finger protein ATL74
LOC8071847	6	receptor-like kinase TMK4
LOC110429787	6	putative RING-H2 finger protein ATL71
LOC8072749	6	putative receptor-like protein kinase At3g47110
LOC8074063	6	putative disease resistance RPP13-like protein 3
LOC8083044	6	putative disease resistance protein RGA3
LOC8086103	6	putative disease resistance protein RGA3
LOC8065254	6	protein NRT1/ PTR FAMILY 2.9
LOC8074463	6	protein NETWORKED 2B
LOC8086274	6	protein ENHANCED DISEASE RESISTANCE 2
LOC8060280	6	protein ECERIFERUM 3
LOC8076620	6	probable histone acetyltransferase HAC-like 3
LOC8058688	6	probable amino acid permease 7
LOC8085294	6	nuclear pore complex protein NUP214
LOC8067210	6	mitochondrial import inner membrane translocase subunit TIM22-2
LOC8058795	6	L-type lectin-domain containing receptor kinase IV.2
LOC8063970	6	lecithin-cholesterol acyltransferase-like 4
LOC110436749	6	junctophilin-4-like
LOC110431408	6	formin-like protein 5
LOC8079895	6	F-box protein At3g26010
LOC8064576	6	eukaryotic translation initiation factor 5B
LOC8060250	6	dicer-like protein 4
LOC8057520	6	cyclin-T1-1
LOC8074745	6	cyclin-P1-1
LOC8054224	6	BTB/POZ domain-containing protein At5g67385
LOC8083384	6	BEACH domain-containing protein C2
LOC8075550	5.333333333	ribonuclease E/G-like protein, chloroplastic
LOC8074071	5	UDP-glycosyltransferase 73D1
LOC8083547	5	tuliposide A-converting enzyme 1, chloroplastic
LOC8067888	5	protein transport protein SEC16A homolog
LOC8056351	5	probable arabinosyltransferase ARAD1
LOC8074141	5	glycine-rich RNA-binding protein 4, mitochondrial
LOC8062369	4.666666667	NDR1/HIN1-like protein 10
LOC8072256	4.333333333	protein CHROMATIN REMODELING 5
LOC8059626	4	zinc finger A20 and AN1 domain-containing stress-associated protein 5
LOC8058420	4	WRKY transcription factor WRKY28
LOC8071087	4	WEB family protein At5g16730, chloroplastic
LOC8056024	4	UDP-glycosyltransferase 82A1
LOC8082845	4	UDP-glycosyltransferase 73C7
LOC110436522	4	ubiquitin recognition factor in ER-associated degradation protein 1-like
LOC8058405	4	U3 small nucleolar RNA-associated protein 21 homolog
LOC110435576	4	two-component response regulator ORR9-like

LOC110432047	4	tubby-like F-box protein 6
LOC8067674	4	tryptophan synthase beta chain 2
LOC8068110	4	transcription termination factor MTERF15, mitochondrial
LOC8061153	4	thioredoxin H2-2
LOC110432820	4	suppressor of RPS4-RLD 1
LOC8069812	4	SUPPRESSOR OF ABI3-5
LOC8082113	4	sucrose transport protein SUT1
LOC8082166	4	single myb histone 1
LOC8062455	4	signal recognition particle subunit SRP72
LOC8055196	4	serine--glyoxylate aminotransferase
LOC8078653	4	serine/threo9-protein phosphatase 6 regulatory subunit 3
LOC8077396	4	serine/threo9-protein kinase rio2
LOC110434650	4	serine/argi9-rich splicing factor 4-like
LOC110437323	4	serine/argi9 repetitive matrix protein 1-like
LOC8071741	4	serine protease SPPA, chloroplastic
LOC8055540	4	serine carboxypeptidase-like 17
LOC8073129	4	serine carboxypeptidase II-3
LOC8155274	4	SEC1 family transport protein SLY1
LOC110433790	4	SCAR-like protein 2
LOC8059047	4	sarcoplasmic reticulum histidine-rich calcium-binding protein
LOC8059669	4	S-adenosylmethio9 decarboxylase proenzyme
LOC8083016	4	root phototropism protein 2
LOC8082208	4	RGF repeats nuclear RNA binding protein A
LOC8065239	4	receptor-like protein kinase HAIKU2
LOC110434108	4	receptor kinase-like protein Xa21
LOC8061026	4	receptor kinase-like protein Xa21
LOC8072297	4	putative peptidyl-tRNA hydrolase PTRHD1
LOC8076755	4	putative disease resistance protein RGA3
