

Table S3 – Category wise list of *cis*-elements extracted from 2 Kbp upstream region of *DcAOX2a* using PlantCare and PLACE.

Categories based on functions	Extracted <i>Cis</i> -element (Tools used)		Sequence	Specific functions of <i>cis</i> -elements
	NewPlace	PlantCARE		
Cellular Functions	AACACOREOSGLUB1	-	AACAAAC	Endosperm-specific gene expression
	ACGTOSGLUB1	-	GTACGTG	Endosperm-specific gene expression
	AGATCONSENSUS	-	TTWCCWWWNNGGWW	Flower-specific gene expression
	BOXINTPATPB	-	ATAGAA	Organelle specific (plastid) gene expression
	CAATBOX1	-	CAAT	Tissue specific gene expression
	CACTFTPPCA1	-	YACT	Mesophyll-specific gene expression
	CANBNNAPA	-	CNAACAC	Embryo and endosperm-specific transcription
	CARGATCONSENSUS	-	CCWWWWWG	Flowering regulation and vernalisation
	CCAATBOX1	-	CCAAT	Flowering regulation
	-	CCGTCC-box	CCGTCC	Growth and development responsive element
	CEREGLUBOX3PSLEGA	-	TGTAAGT	Tissue specific promoter
	CIACADIANLELHC	circadian	CAANNNNATC	Circadian control
	-	dOCT	CaCGGATC	Proliferation-coupled and S phase-specific, which confers tissue-specific expression, such as in newly developing meristems
	DOFCOREZM	-	AAAG	Sperm-specific expression during gametophyte development
	DRE1COREZMRAB17	-	ACCGAGA	Late embryogenesis; ABA and drought responsive
	-	GCN4_motif	TGAGTCA	Endosperm specific gene expression
	-	HD-Zip 2	CAATCATTG	Control of leaf morphology development
	L1BOXATPDF1	-	TAAATGYA	Shoot epidermal cell differentiation, plant trichome development, L1 layer-specific gene expression
	MYBCOREATCYCB1	-	AACGG	Cell cycle phase-independent activation; gene expression induction in actively dividing cells
	NODCON1GM	-	AAAGAT	Nodule specific
	NODCON2GM	-	CTCTT	Nodule specific
	NTBBF1ARROLB	-	ACTTTA	Tissue-specific expression and auxin induction
	POLLEN1LELAT52	-	AGAAA	Anther and pollen development
	PRECONSCRHSP70A	-	SCGAYNRNNNNNNNNNNNNNNNNHHD	Plastid response element
	RHERPATEXPA7	-	KCACGW	Root hair-specific cis-elements
	ROOTMOTIFTAPOX1	-	ATATT	Organ-specific
	SITEIIATCYTC	-	TGGGCY	Organ/Tissue-specific
	-	Skn-1_motif	GTCAT	Endosperm expression
	S1FBOXSORPS1L21	-	ATGGTA	Plastid-related
	TAAAGSTKST1	-	TAAAG	Guard cell-specific gene expression
	TATCCAOSAMY	-	TATCCA	Sugar and hormone regulation
	TGTCACACMCUCUMISIN	-	TGTCACA	Fruit-specific expression
	WUSATAg	-	TTAATGG	Regulation of stem cell population maintenance in shoots and floral meristems; regulation of genes expressed in the central cells of quiescent centers in the root apical meristem

Stress Response	ABRELATERD1	-	ACGTG	Dehydration stress and dark-induced senescence
	ACGTATERD1	-	ACGT	Dehydration stress and dark-induced senescence
	AGCBOXNPGLB	-	AGCCGCC	Ethylene-Induced transcription of defense genes
	ANAERO1CONSENSUS	-	AAACAAA	Anaerobically induced
	ANAERO2CONSENSUS	-	AGCAGC	Anaerobically induced
	-	ARE	TGGTTT	Anaerobically induced
	ASF1MOTIFCAMV	TGACG-motif	TGACG	Biotic and abiotic (e.g. light) stress stimulated; xenobiotic-stress-activated of genes preferentially expressed in root tip meristems; auxin and MeJA responsive
	-	ATCT-motif	AATCTGATCG	Light-responsive
	BIHD1OS	-	TGTCA	Disease resistance responses
	BOXIIPCCHS	-	ACGTGGC	Light regulation and ABA responsive
	-	Box 1	TTTCAAA	Light responsive
	-	Box 4	ATTAAT	Light responsive
	CACGTGMOTIF	-	CACGTG	Defence-related, ABA induced and gene regulation during somatic embryogenesis
	-	CATT-motif	GCATTC	Light-responsive
	CGACGOSAMY3	-	CGACG	Sugar responsiveness coupled to environmental stress regulation
	CGCGBBOXAT	-	VCGCGB	Involved in ethylene, abscisic acid and light perception, known as Ca ²⁺ /calmodulin regulatory element
	-	chs-CMA1a	TTACTTAA	Light responsive
	CURECORECR	-	GTAC	Copper and oxygen-responsive
	EBOXBNNAPA	-	CANNTG	Defense-related gene
	ELRECOREPCRP1	Box-W1	TTGACC	Pathogen- and wound-induced signaling
	-	GA-motif	AARGAWGA	Light responsive
	GATABOX	-	GATA	Light responsive, and tissue specific expression
	-	G-Box	CACGWN	Light responsive
			TAAACGTG	
			CACGTGG	
	GCCCORE	-	GCCGCC	Pathogen responsive, ethylene and jasmonate-responsive
	-	GC-motif	CCCCCG	Anoxic specific inducibility
	GT1CONSENSUS	-	GRWAAW	Light responsive
	GT1CORE	GT1-motif	GGTTAA	Light responsive
	GT1MOTIFPSRBCS	-	KWGTGRWAAWRW	Light responsive
	GT1GMSCAM4	-	GAAAAA	Pathogen- and salt induced
	-	HSE	AAAAATTYS	Heat stress response
	IBOXCORE	-	GATAA	Light responsive
	INRNTPSADB	-	YTCANTYY	Light responsive
	IRO2OS	-	CACGTGG	Iron regulated
	MYBCORE	-	CNGTTR	Water stress (drought tolerance)
	MYB1AT	-	WAACCA	Dehydration responsive
	MYB2CONSENSUSAT	-	YAACKG	Dehydration responsive in abscisic acid signaling
	MYCCONSUSAT	-	CANNTG	Cold responsive (freezing tolerance)
	OSE1ROOTNODULE	-	AAAGAT	Mycorrhiza and nodulation-response

	PALBOXAPC PREATPRODH QARBNEXTA REALPHALGLHCB21 SEBFCONSSTPR10A SORLIP1AT SORLIP2AT SURECOREATSULTR11 - SREATMSD TATABOX5 TBOXATGAPB - - WBOXNTERF3 -10PEHVPSBD	- - - - - - - Sp1 - - - TC-rich repeats TCT-motif - - -	CCGTCC ACTCAT AACGTGT AACCAA YTGTCWC GCCAC GGGCC GAGAC CC(G/A)CCC TTATCC TTATTT ACTTTG ATTTTCTTCA TCTTAC TGACY TATTCT	Elicitor or light responsiveness Proline and hypoosmolarity responsive Wounding and tensile stress Light responsive (required for phytochrome regulation) Pathogenesis related Light responsive on root -specific genes Light responsive (phytochrome A-regulated) Sulfur responsive Light responsive Sugar repressive element (SRE) identified in genes coupled to abiotic stresses and plant hormone-responsive Light responsive Light responsive Defense and stress responsive Light responsive Wounding induced Light responsive
Hormonal Regulation	ABRERATCAL ACGTABREMOTIFA2OSE M ARFAT ARR1AT CPBCSPOR DPBFCOREDCDC3 - ERELEE4 GAREAT - GARE1OSREP1 MYBGAHV PROXBBNNAPA PYRIMIDINEBOXHVEPB1 PYRIMIDINEBOXOSRAM Y1A RYREPEATBNNAPA T/GBOXATPIN2 WBOXATNPR1 WRKY71OS	- ABRE - - - ERE - GARE-motif -	MACGYGB ACGTGKC CACTGT TACGTG TGTCTC NGATT TATTAG ACACNNG ATTTCAAA AWTTCAAA TAACAAR AAACAGA TAACAGA TAACAAA CAAACACC TTTTTTCC CCTTTT CATGCA AACGTG TTGAC TGAC	ABRE-related sequence as Ca ²⁺ -responsive Absciscic Acid (ABA) response and dehydration responsive (DRE) Auxin-responsive Cytokinin-regulated Cytokinin-regulated ABA-responsive and embryo-specification elements Ethylene-responsive Ethylene responsive GA-responsive GA-responsive GA-responsive GA-responsive ABA-responsive GA and abscisic acid responsive Induced in the aleurone layers in response to GA ABA-responsive Jasmonate-signaling SA-induced pathogenesis-defence GA signaling pathway; ABA signalling; plant defence signalling