

**Table S2** Category wise list of *cis*-elements extracted from 2 Kbp upstream region of *DcAOX1* 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		
<b>Cellular Functions</b>	BOXIINTPATPB	-	ATAGAA	Organelle specific (plastid) gene expression
	CAATBOX1	-	CAAT	Tissue specific gene expression
	CACTFTPPCA1	-	TACT/CACT	Mesophyll-specific gene expression
	CEREGLUBOX2PSLEGA	-	TGAAAACCT	Tissue specific legumin gene
	CCAATBOX1	-	CCAAT	Flowering regulation
	CCA1ATLHCB1	-	AAAAATCT	Phytochrome regulation
	CIACADIANLELHC	circadian	CAANNNNATC	Circadian control
	DOFCOREZM	-	AAAG	Sperm-specific expression during gametophyte development
	E2FAT	-	TTTCCCGCC	Cell cycle-regulated expression
	E2FANTRNR	-	TTTCCCGC	Cell cycle progression (G1/S transition)
	E2F1OSPCNA	-	GCGGGAAA	Transcriptional activation in dividing cells and tissues
	-	GCN4_motif	TGAGTCA	Endosperm specific gene expression
	-	HD-Zip 2	CAATCATTG	Control of leaf morphology development
	POLLEN1LELAT52	-	AGAAA	Anther and pollen development
	UP2ATMSD	-	AAACCCTA	Initiation of axillary bud outgrowth
	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
<b>Stress Response</b>	XYLAT	-	ACAAAGAA	Secondary xylem development
	ABRERATCAL	-	CACGCGT	Calcium responsiveness
	ANAERO1CONSENSUS	-	AAACAAA	Anaerobically induced
	BIHD1OS	-	TGTCA	Disease resistance responses
	BOXCPSAS1	-	CTCCAC	Light responsiveness
	-	Box 1	TTTCAAA	Light responsiveness
			TGATAATGT	
			AAGATAAGA	
	-	Box 4	ATTAAT	Light responsive
	-	CATT-motif	GCATTC	Light responsive
	CBFHV	-	ATCGAC	Cold responsive (freezing tolerance )
	CCAATBOX1	-	CCAAT	Heat shot enhanced expression (HSE)
	CGCGBOXAT	-	ACGCGT	Calmodulin-binding/CGCG box
	CURECORECR		GTAC	Copper- and oxygen-responsive

	EBOXBNNAPA EECCRCAH1	-	CANNTG GATTTTC GAATTTC GAATTGC GAGTTGC TTGACC GATA GGTTAA CTTTATCA TAACTG CGGTCA CAACTG CANNTG	Regulates defense-related gene CO2-responsive transcriptional activation
	ELRECOREPCRPI GATABOX - - -	Box-W1  GT1-motif LAMP-element MBS		Pathogen- and wound-induced signaling Light regulated, and tissue specific expression Light responsive Light responsive Drought responsiveness
	MYCCONSUSAT	-		Cold responsive (freezing tolerance)
	SORLIP1AT -	- Sp1 TCT-motif TCCC-motif	GCCAC CCGCCC TCTTAC TCTCCCT TATTCT	Light responsive on root -specific genes Light responsive Light responsive Light responsive Light responsive
	-10PEHVPSBD	-		
<b>Hormonal Regulation</b>	ABRERATCAL	-	MACGYGB	ABRE-related sequence as Ca <sup>2+</sup> -responsive
	ARFAT	-	TGTCTC	Auxin-responsive
	ARR1AT	-	TGATT	Cytokinin-regulated
	ATHB6COREAT	-	CAATTATTA	Absciscic acid (ABA) regulated
	CAREOSREP1	-	CAACTC	Gibberellin (GA)-responsive
	-	CGTCA-motif	CGTCA	Methyl jasmonate (MeJa) responsive
	CPBCSPOR		TATTAG	Cytokinin-responsive
	DPBFCOREDCDC3	-	ACACATG	ABA-responsive and embryo-specification elements
	ERELEE4	ERE	ATTTCAAA AATTCAAA	Ethylene responsive
	GARE1OSREP1	-	TAACAGA	GA-responsive
	-	TCA-element	CCATCTTTT CAGAAAAGGA	Salicylic acid responsive