

**Title:**

**Local melatonin application induces cold tolerance in distant organs of *Citrullus lanatus* L. via long distance transport**

**Authors:**

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**Table S1.** Primers used for qRT-PCR assays. F indicates forward and R indicates reverse.

Gene	Primer pairs (5'-3')
<i>β-actin</i> (Cla007792)	F: CCATGTATGTTGCCATCCAG
	R: GGATAGCATGGGGTAGAGCA
<i>CDPK18</i> (Cla014285)	F: GCCATGAGAATGTGGTTCAG
	R: CAGCTGCATCTTTCTCGGTA
<i>MAPK16</i> (Cla009366)	F: AGGCCACAAGTGGATAGGAC
	R: GCAACACAGAGCCAACAAC
<i>RBOH</i> (Cla011409)	F: CTTGCCAAGGATGGGTATCT
	R: TTCGACTCAAAGCATCGAAC
<i>RBOH-like</i> (Cla017196)	F: AAATCACCCCTCGATATTCGC
	R: TGCTCGGAAAGAGGAAGATT
<i>ERF</i> (Cla002237)	F: GGTTTCCAAGGAGAAATCCA
	R: TGCCATTGTTGTTGTTGTTG
<i>BZIP</i> (Cla023484)	F: AACAAATGGAGGACGAAGGTC
	R: TCGCATCCAACATACTTGGT
<i>Myb-like</i> (Cla017337)	F: GGAAGAACCGACAACGAAAT
	R: ATTCCAGCCTCATAGCGTCT
<i>BHLH</i> (Cla010890)	F: CATCTGTTCTTCTGGAGGCA
	R: GACATAGGCCTCTGCTCCTC
<i>WRKY4</i> (Cla017213)	F: CCTCCAACCCAAGATTTGAC
	R: TTCGTTAAGGAAGAGGCCAT
<i>HSF</i> (Cla000713)	F: CCCTTCCTCACCAAGACCTA
	R: ATGAAGGTAGAGCCCGATTG

**Table S2.** Reads abundance of various classifications of mRNAs in control plants (CK) and plants treated with melatonin (MT), Cold, and melatonin+cold (MT-C).

Sample Name	Raw Reads Num	Clean Reads Num	rRNA	Unique Mapped Reads	Multiple Mapped reads	Kown Gene Num	New Gene Num	All Gene Num
CK-1	40326590	39919518	5534	36775488	490772	16484	492	16976
CK-2	38043848	37592838	4218	34451398	403064	16341	494	16385
MT-1	37704638	37288558	3796	34117719	471554	16377	490	16876
MT-2	36489514	36068804	3808	33058872	517732	16321	492	16813
Cold-1	36122786	35809268	7762	32579557	651900	16216	476	16692
Cold-2	35953956	35601736	4852	32616553	379044	16068	486	16554
MT-C-1	32845006	32532788	3890	29881207	383710	16146	479	16625
MT-C -2	33262622	30835220	6650	28069430	429846	16234	479	16713

**Figure S1.** The correlation of gene expression between two biological repeats in melatonin and, or cold treatments.

