

Table S1. Primer used for cloning and RT-qPCR analysis.

Primer Name	Sequence	Analysis
<i>CiAct2</i> for	5'-CCAAATCCAGCTCATCAGTCG-3'	RT-qPCR
<i>CiAct2</i> rev	5'-TCTTTCGGCTCCGATGGRGAT-3'	RT-qPCR
<i>CiTub2</i> for	5'-GCACGGCATTGATGTGACC-3'	RT-qPCR
<i>CiTub2</i> rev	5'-GAACAACCTCCCGCCACT-3'	RT-qPCR
<i>AtXTH29</i> -3'clonefor	5'-TGGTATCGTCGTCGCTTTCT-3'	Cloning
<i>AtXTH29</i> -3'clonerev	5'-GTCCAGTATCTCTAAACCGG-3'	Cloning
<i>CiXTH29RT</i> for	5'-TGATAAAGTTGCCAGGAGCG-3'	RT-qPCR
<i>CiXTH29RT</i> rev	5'-AGGCTTTCCTTCTAGGTTCC-3'	RT-qPCR
<i>CsLEA4</i> for	5'-CGGCTTGGGTATGCTAATGT-3'	RT-qPCR
<i>CsLEA4</i> rev	5'-CGTCAAGGCAAGAAAAATTG-3'	RT-qPCR

Descriptions | Graphic Summary | Alignments | Taxonomy

Sequences producing significant alignments

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Description	Scientific Name	Max Score	Total Score	Query Cover	E value	Pos. Ident	Acc. Len	Accession
<input checked="" type="checkbox"/> Arabidopsis thaliana xyloplatan endotracheal cellulose hydrolyase 29 (XTH29) mRNA	Arabidopsis thal.	1258	1258	100%	0.0	89.71%	1383	NM_118017.3
<input checked="" type="checkbox"/> Arabidopsis thaliana chitinase 13 (CHI13) cDNA, Arabidopsis thaliana (At1g18960) mRNA contig	Arabidopsis thal.	1258	1258	100%	0.0	89.71%	1105	AY133103.1
<input checked="" type="checkbox"/> Arabidopsis thaliana xyloplatan endotracheal cellulose hydrolyase 29 (XTH29) mRNA	Arabidopsis thal.	1218	1218	98%	0.0	89.70%	1382	NM_001345113.1
<input checked="" type="checkbox"/> PREDICTED: Arabidopsis thaliana subtilisin-like serine protease 29 (XTH29) protein	Arabidopsis thal.	1075	1075	100%	0.0	84.91%	1457	XM_002087932.2
<input checked="" type="checkbox"/> PREDICTED: Arabidopsis thaliana subtilisin-like serine protease 29 (XTH29) protein	Arabidopsis thal.	1042	1042	96%	0.0	84.85%	1093	XM_001010874.1
<input checked="" type="checkbox"/> PREDICTED: Carex flacca subtilisin-like serine protease 29 (LOC170)	Carex flacca	828	828	100%	0.0	80.68%	1242	XM_006289214.1
<input checked="" type="checkbox"/> PREDICTED: Carex flacca subtilisin-like serine protease 29 (LOC304)	Carex flacca	826	826	100%	0.0	81.03%	1200	XM_010406371.2
<input checked="" type="checkbox"/> PREDICTED: Carex flacca subtilisin-like serine protease 29 (LOC304)	Carex flacca	815	815	100%	0.0	80.74%	1234	XM_010405129.1
<input checked="" type="checkbox"/> PREDICTED: Carex flacca subtilisin-like serine protease 29 (LOC304)	Carex flacca	811	811	99%	0.0	80.71%	1283	XM_010405485.1
<input checked="" type="checkbox"/> PREDICTED: Carex flacca subtilisin-like serine protease 29 (LOC170)	Carex flacca	804	804	98%	0.0	80.75%	961	XM_023739312.1
<input checked="" type="checkbox"/> PREDICTED: Carex flacca subtilisin-like serine protease 29 (LOC304)	Carex flacca	801	801	98%	0.0	80.60%	960	XM_010406279.1
<input checked="" type="checkbox"/> Arabidopsis thaliana genome assembly chromosome 4	Arabidopsis thal.	833	1221	96%	0.0	89.99%	18725877	LR02545.3
<input checked="" type="checkbox"/> Arabidopsis thaliana genome assembly chromosome 4	Arabidopsis thal.	833	1209	96%	0.0	89.59%	18104425	LR009773.1
<input checked="" type="checkbox"/> Arabidopsis thaliana genome assembly chromosome 4	Arabidopsis thal.	833	1209	96%	0.0	89.58%	18579350	LR000708.1
<input checked="" type="checkbox"/> Arabidopsis thaliana genome assembly chromosome 4	Arabidopsis thal.	833	1209	96%	0.0	89.56%	18019438	LR215935.1
<input checked="" type="checkbox"/> Arabidopsis thaliana genome assembly chromosome 4	Arabidopsis thal.	833	1221	96%	0.0	89.50%	22682341	CG258835.3
<input checked="" type="checkbox"/> Arabidopsis thaliana cv. Col-0 chromosome 4 assembly	Arabidopsis thal.	833	1209	96%	0.0	89.59%	70003804	CP0580747.1
<input checked="" type="checkbox"/> Arabidopsis thaliana cv. Col-0 chromosome 4 assembly	Arabidopsis thal.	833	1209	96%	0.0	89.56%	20418578	CP0380737.1
<input checked="" type="checkbox"/> Arabidopsis thaliana cv. Col-0 chromosome 4 assembly	Arabidopsis thal.	833	1209	96%	0.0	89.56%	30329551	CP0380731.1

A)

Descriptions | Graphic Summary | Alignments | Taxonomy

Sequences producing significant alignments

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GenPept | Graphics | Distance tree of results | Multiple alignment | MSA Viewer

Description	Scientific Name	Max Score	Total Score	Query Cover	E value	Pos. Ident	Acc. Len	Accession
<input checked="" type="checkbox"/> unannotated protein product (Arabidopsis thaliana)	Arabidopsis thal.	479	479	100%	3e-170	88.13%	279	CAZ533197.1
<input checked="" type="checkbox"/> unannotated protein product (Arabidopsis thaliana)	Arabidopsis thal.	481	481	100%	1e-169	89.13%	343	CAZ036973.1
<input checked="" type="checkbox"/> xyloplatan endotracheal cellulose 29 (Arabidopsis thaliana)	Arabidopsis thal.	480	480	100%	3e-169	88.13%	357	NP_193338.1
<input checked="" type="checkbox"/> Ghexochin hydrolase family 16 (Arabidopsis suaezal)	Arabidopsis sue.	480	480	100%	4e-169	88.13%	357	KAG1023217.1
<input checked="" type="checkbox"/> xyloplatan endotracheal cellulose C-terminal (Arabidopsis suaezal)	Arabidopsis sue.	471	471	100%	2e-166	88.52%	357	KAG1048886.1
<input checked="" type="checkbox"/> xyloplatan endotracheal cellulose 29 (Arabidopsis thaliana)	Arabidopsis thal.	468	468	99%	3e-165	84.92%	283	NP_001229723.1
<input checked="" type="checkbox"/> Ghexochin hydrolase family 16 (Arabidopsis suaezal)	Arabidopsis sue.	467	467	99%	4e-165	84.92%	283	KAG1023218.1
<input checked="" type="checkbox"/> Ghexochin hydrolase family 16 (Arabidopsis suaezal)	Arabidopsis sue.	465	465	98%	9e-165	88.10%	255	KAG1023219.1
<input checked="" type="checkbox"/> xyloplatan endotracheal cellulose C-terminal (Arabidopsis suaezal)	Arabidopsis sue.	458	458	98%	4e-161	88.41%	255	KAG1048887.1
<input checked="" type="checkbox"/> PREDICTED: subtilisin-like serine protease 29 (Carex flacca)	Carex flacca	445	445	100%	4e-155	82.21%	381	XP_010488431.1
<input checked="" type="checkbox"/> xyloplatan endotracheal cellulose C-terminal (Arabidopsis thaliana & Arabidopsis atrovirens)	Arabidopsis thal.	481	481	100%	1e-154	88.70%	1800	KAG10162846.1
<input checked="" type="checkbox"/> PREDICTED: subtilisin-like serine protease 29 (Carex flacca)	Carex flacca	442	442	100%	3e-154	81.34%	381	XP_010488473.1
<input checked="" type="checkbox"/> PREDICTED: subtilisin-like serine protease 29 (Carex flacca)	Carex flacca	441	441	98%	1e-153	81.74%	380	XP_010488562.1
<input checked="" type="checkbox"/> unannotated protein product (Arabidopsis thaliana)	Arabidopsis thal.	439	439	100%	5e-153	86.65%	338	CAI8276102.1
<input checked="" type="checkbox"/> subtilisin-like serine protease 29 (Carex flacca)	Carex flacca	438	438	100%	2e-152	81.81%	381	XP_005285078.1
<input checked="" type="checkbox"/> subtilisin-like serine protease 29 (Carex flacca)	Arabidopsis thal.	438	438	100%	2e-152	86.65%	357	XP_002867388.1
<input checked="" type="checkbox"/> unannotated protein product (Microthlasia arctica)	Microthlasia arc.	438	438	100%	2e-152	88.51%	364	CAZ2528817.1
<input checked="" type="checkbox"/> heveabushin protein 2 (GEM_00529469) (Hevea brasiliensis)	Hevea brasiliensis	432	432	100%	3e-151	88.70%	284	KAG2544458.1

B)

Figure S1. Comparison of *CiXTH29* nucleotide (A) and amino acid (B) sequence with all the other sequences present in BLAST database.

Descriptions | Graphic Summary | Alignments | Taxonomy

Sequences producing significant alignments

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Description	Scientific Name	Max Score	Total Score	Query Cover	E Value	Per. Ident.	Acc. Len	Accession
<input type="checkbox"/> Arabidopsis thaliana genome assembly, chromosome 1	Arabidopsis thal.	113	113	92%	3e-21	95.40%	35272351	L10102542.1
<input type="checkbox"/> Arabidopsis thaliana genome assembly, chromosome 1	Arabidopsis thal.	113	113	92%	3e-21	95.40%	35401407	L10102745.2
<input type="checkbox"/> Arabidopsis thaliana genome assembly, chromosome 1	Arabidopsis thal.	113	113	92%	3e-21	95.40%	35544433	L10102779.1
<input type="checkbox"/> Arabidopsis thaliana genome assembly, chromosome 1	Arabidopsis thal.	113	113	92%	3e-21	95.40%	29179729	L10101552.1
<input type="checkbox"/> Arabidopsis thaliana genome assembly, chromosome 1	Arabidopsis thal.	113	113	92%	3e-21	95.40%	29653075	L10101743.1
<input type="checkbox"/> Arabidopsis thaliana genome assembly, chromosome 1	Arabidopsis thal.	113	113	92%	3e-21	95.40%	35243396	L10102750.1
<input type="checkbox"/> Arabidopsis thaliana genome assembly, chromosome 1	Arabidopsis thal.	113	113	92%	3e-21	95.40%	35049930	L10102552.1
<input type="checkbox"/> Arabidopsis thaliana Late embryogenesis abundant protein, group 1 protein (AtLEA-1), mRNA	Arabidopsis thal.	113	113	92%	3e-21	95.40%	859	NM_102991.4
<input type="checkbox"/> Arabidopsis thaliana genome assembly, chromosome 1	Arabidopsis thal.	113	113	92%	3e-21	95.40%	33709400	CG291819.1
<input type="checkbox"/> Arabidopsis thaliana genome assembly, chromosome 1	Arabidopsis thal.	113	113	92%	3e-21	95.40%	33257596	CG291825.1
<input type="checkbox"/> Arabidopsis thaliana genome assembly, chromosome 1	Arabidopsis thal.	113	113	92%	3e-21	95.40%	33394888	CG291890.1
<input type="checkbox"/> Arabidopsis thaliana genome assembly, chromosome 1	Arabidopsis thal.	113	113	92%	3e-21	95.40%	32860767	CG291791.1
<input type="checkbox"/> Arabidopsis thaliana genome assembly, chromosome 1	Arabidopsis thal.	113	113	92%	3e-21	95.40%	33352777	CG291781.1
<input type="checkbox"/> Arabidopsis thaliana genome assembly, chromosome 1	Arabidopsis thal.	113	113	92%	3e-21	95.40%	33064871	CG291798.1
<input type="checkbox"/> Arabidopsis thaliana genome assembly, chromosome 1	Arabidopsis thal.	113	113	92%	3e-21	95.40%	33530734	CG291760.1
<input type="checkbox"/> Arabidopsis thaliana genome assembly, chromosome 1	Arabidopsis thal.	113	113	92%	3e-21	95.40%	34277122	CG291755.1
<input type="checkbox"/> Arabidopsis thaliana genome assembly, chromosome 1	Arabidopsis thal.	113	113	92%	3e-21	95.40%	33155062	CG291730.1
<input type="checkbox"/> Arabidopsis thaliana genome assembly, chromosome 1	Arabidopsis thal.	113	113	92%	3e-21	95.40%	33341246	CG291741.1

A)

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Arabidopsis thaliana Late embryogenesis abundant protein, group 1 protein (AtLEA-1), mRNA

Sequence ID: [NM_102991.4](#) Length: 859 Number of Matches: 1

Range 1: 159 to 223 GenBank Graphics

Score	Expect	Identities	Gaps	Strand
113 bits(125)	3e-21	64/65(98%)	0/65(0%)	Plus/Plus

```

Query  6  GAGTAGAAGAGATAGCGCAACCAACGGAGAAAGCCGAGGAAAGCGAGAGCGAATATGGAT 65
      |||
Sbjct 159 GAGGGAAGAGATAGCGCAACCAACGGAGAAAGCCGAGGAAAGCGAGAGCGAATATGGAT 218

Query 66  ATTCA  70
      |||
Sbjct 219  ATGCA  223
  
```

Related Information
[Gene-associated gene details](#)
[Genome Data Viewer - aligned genomic context](#)

B)

Figure S2. Comparison of *CiLEA4* nucleotide sequence with all the other sequences present in BLAST database (A). Alignment of *CiLEA4* PCR product (query) with *AtLEA4* (Sbjct) (B).

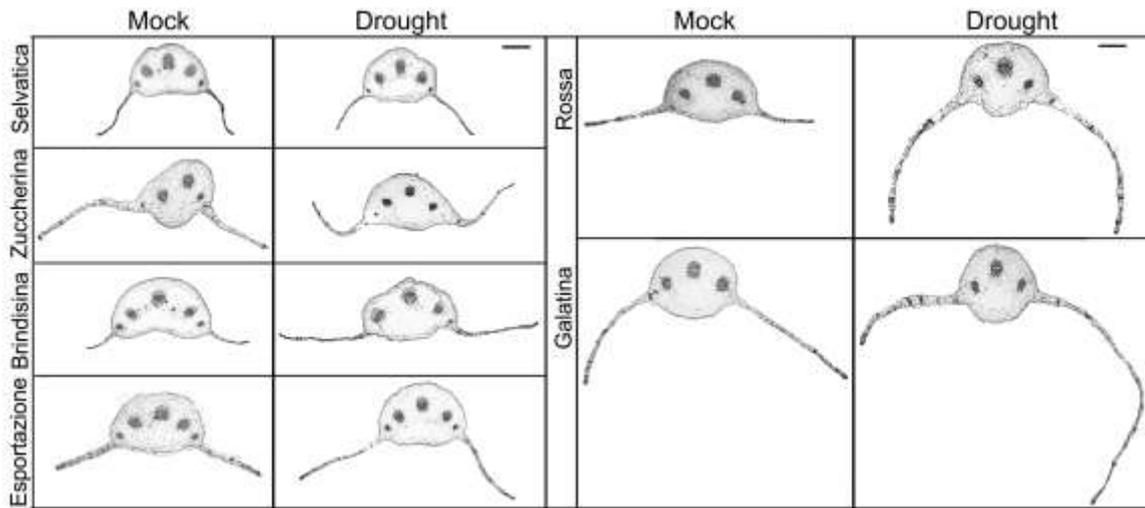


Figure S3. Bright field images of leaf lamina thin transverse section of 6-week-old chicory varieties in mock and drought stress conditions.

Scale bar = 1 mm.



Figure S4. 2.0% agarose gel showing *CiXTH29* amplicon sizes for the different variety. Lane L: 200bp DNA ladder, *CiXTH29* PCR amplicon (~ 100 bp) obtained from Selvatica (lane 1), Zuccherina di Trieste (lane 2), Brindisina (lane 3), Esportazione (lane 4), Rossa Italiana (lane 5) and Galatina (lane 6) variety cDNA.

Descriptions | Graphic Summary | Alignments | Taxonomy

Sequences producing significant alignments

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Description	Scientific Name	Max Score	Total Score	Query Cover	E Value	Hit Ident	Acc Len	Accession
<input checked="" type="checkbox"/> Arabidopsis thaliana embryonic Arabidopsis thaliana cv. Selvatica 20 OCT 2019, rDNA	<i>Arabidopsis thal.</i>	182	182	100%	4e-44	100.00%	1363	NC_118817.3
<input checked="" type="checkbox"/> Arabidopsis thaliana clone C103260 relative to Arabidopsis thaliana (RMA10592), rDNA, co	<i>Arabidopsis thal.</i>	182	182	100%	4e-44	100.00%	1105	AY120703.5
<input checked="" type="checkbox"/> Arabidopsis thaliana genome assembly, chromosome 4	<i>Arabidopsis thal.</i>	110	185	100%	2e-22	100.00%	18725877	LR002543.1
<input checked="" type="checkbox"/> Arabidopsis thaliana embryonic Arabidopsis thaliana cv. Selvatica 20 OCT 2019, rDNA	<i>Arabidopsis thal.</i>	110	110	80%	2e-22	100.00%	1202	ML_001341311.1
<input checked="" type="checkbox"/> Arabidopsis thaliana chromosome 4	<i>Arabidopsis thal.</i>	110	185	100%	2e-22	100.00%	21638885	CP116763.1
<input checked="" type="checkbox"/> Arabidopsis thaliana genome assembly, chromosome 4	<i>Arabidopsis thal.</i>	110	185	100%	2e-22	100.00%	27502341	CM000805.1
<input checked="" type="checkbox"/> Arabidopsis thaliana chromosome 4	<i>Arabidopsis thal.</i>	110	185	100%	2e-22	100.00%	22104501	CP087129.2
<input checked="" type="checkbox"/> Arabidopsis thaliana (clone CS_salk_001) chromosome 4	<i>Arabidopsis thal.</i>	110	185	100%	2e-22	100.00%	21570073	CP098607.1
<input checked="" type="checkbox"/> Arabidopsis thaliana chromosome 4	<i>Arabidopsis thal.</i>	110	185	100%	2e-22	100.00%	15580056	CP050297.1
<input checked="" type="checkbox"/> Arabidopsis thaliana DNA chromosome 4, contig fragment No. 48	<i>Arabidopsis thal.</i>	110	185	100%	2e-22	100.00%	188075	AL351549.2
<input checked="" type="checkbox"/> Arabidopsis thaliana DNA chromosome 4, BAC clone F13C5 (E-SSA-sswd)	<i>Arabidopsis thal.</i>	110	185	100%	2e-22	100.00%	119111	AF021711.2
<input checked="" type="checkbox"/> Arabidopsis thaliana genome assembly, chromosome 4	<i>Arabidopsis thal.</i>	104	172	100%	9e-21	98.31%	18785480	LR007748.2
<input checked="" type="checkbox"/> Arabidopsis thaliana genome assembly, chromosome 4	<i>Arabidopsis thal.</i>	104	172	100%	9e-21	98.31%	19104405	LR007773.1
<input checked="" type="checkbox"/> Arabidopsis thaliana genome assembly, chromosome 4	<i>Arabidopsis thal.</i>	104	172	100%	9e-21	98.31%	19578309	LR007788.1
<input checked="" type="checkbox"/> Arabidopsis thaliana genome assembly, chromosome 4	<i>Arabidopsis thal.</i>	104	172	100%	9e-21	98.31%	18371560	LR007793.1
<input checked="" type="checkbox"/> Arabidopsis thaliana genome assembly, chromosome 4	<i>Arabidopsis thal.</i>	104	172	100%	9e-21	98.31%	18706767	LR007798.1
<input checked="" type="checkbox"/> Arabidopsis thaliana genome assembly, chromosome 4	<i>Arabidopsis thal.</i>	104	172	100%	9e-21	98.31%	18802281	LR007753.1
<input checked="" type="checkbox"/> Arabidopsis thaliana genome assembly, chromosome 4	<i>Arabidopsis thal.</i>	104	172	100%	9e-21	98.31%	19019438	LR215055.1

Figure S5. Comparison of *CiXTH29* amplicon nucleotide sequence with *AtXTH29* nucleotide sequence.

		mRNA amount	
		<i>CiXTH29</i>	
		Mock	Drought
		$2^{-\Delta Cq} \pm SD$	$2^{-\Delta Cq} \pm SD$
	Selvatica	0,00340 ± 0,00040	0,0023 ± 0,00020
	Zuccherina	0,00270 ± 0,000040	0,0038 ± 0,00070
	Brindisina	0,00051 ± 0,00009	0,00426 ± 0,00037
	Esportazione	0,00098 ± 0,00060	0,00532 ± 0,00033
	Rossa	0,00111 ± 0,00021	0,005322 ± 0,00067
	Galatina	0,00147 ± 0,00038	0,00716 ± 0,00067

Figure S6. Amplification output values of *CiXTH29* mRNAs in mock condition and after drought stress. The values are expressed as $2^{-\Delta Cq} \pm SD$ and are considered as proportional to the amount of mRNA target according to [56].

		mRNA amount	
		<i>CiLEA4</i>	
		Mock	Drought
		$2^{-\Delta Cq} \pm SD$	$2^{-\Delta Cq} \pm SD$
	Selvatica	0,00390 ± 0,00113	0,00450 ± 0,00063
	Zuccherina	0,00171 ± 0,00038	0,00137 ± 0,00029
	Brindisina	0,00083 ± 0,00030	0,00475 ± 0,00123
	Esportazione	0,00075 ± 0,00012	0,00337 ± 0,00027
	Rossa	0,00047 ± 0,00005	0,00199 ± 0,00014
	Galatina	0,00096 ± 0,00015	0,00228 ± 0,00017

Figure S7. Amplification output values of *CiLEA4* mRNAs in mock condition and after drought stress. The values are expressed as $2^{-\Delta Cq} \pm SD$ and are considered as proportional to the amount of mRNA target according to [56].