

Supplementary material:

Table 1: Results of DNA-binding motif prediction softwares on Osmotin protein

Software	Predicts	Submission	Results (Osmotin)	Results (GT 1)
2-zip server	Leucine zipper domain	Amino acid sequence	negative	negative
DBD transcription factor prediction database	Transcription factor	Amino acid sequence	negative	negative
GYM 2.0	HTH motif	Amino acid sequence	HTH motif found but with insignificant score	HTH motif found
predictdnath	HTH	PDB file	No DNA binding HTH motif was found	Helix of HTH motif found

Table 2: The domain architecture of Osmotin/thaumatin-like protein superfamily

Genome (Complete)	No.of Proteins in the superfamily	No. of Partner Domains	Domain Combination
Arabidopsis lyrata	30	2	1,2,3
Arabidopsis thaliana	30	2	1,2,3
Carica papaya	18	0	1
Medicago truncatula	18	0	1
Glycine max	57	1	1,4
Cucumis sativus	29	0	1
Populus trichocarpa	58	0	1
Vitis vinifera	29	0	1
Oryza sativa ssp. Japonica	44	1	1,2
Zea_mays subsp. mays	61	3	1,5,6
Sorghum bicolor	45	1	1,2

1. Osmotin
2. Protein kinase-like (PK-like)
3. Bifunctional inhibitor/lipid-transfer protein/seed storage 2S albumin
4. Mitochondrial carrier
5. Class II aaRS ABD-related
6. ARM repeat

Table 3: Sequence alignment scores of members of *A. thaliana* Osmotin/ thaumatin like protein superfamily

SeqA	Name	Len(aa)	SeqB	Name	Len(aa)	Score
1	osmotin	246	2	AT1G18250.2	244	39
1	osmotin	246	3	AT1G19320.1	247	35
1	osmotin	246	4	AT1G20030.2	316	39
1	osmotin	246	5	AT1G70250.1	799	30
1	osmotin	246	6	AT1G73620.1	264	40
1	osmotin	246	7	AT1G75030.1	246	40
1	osmotin	246	8	AT1G75040.1	239	42
1	osmotin	246	9	AT1G75050.1	246	41
1	osmotin	246	10	AT1G75800.1	330	41
1	osmotin	246	11	AT1G77700.1	356	39
1	osmotin	246	12	AT2G17033.2	505	5
1	osmotin	246	13	AT2G17860.1	253	40
1	osmotin	246	14	AT2G24810.1	193	24
1	osmotin	246	15	AT2G28790.1	249	30
1	osmotin	246	16	AT4G11650.1	244	71
1	osmotin	246	17	AT4G18250.1	853	28
1	osmotin	246	18	AT4G24180.1	260	38
1	osmotin	246	19	AT4G36000.1	208	28
1	osmotin	246	20	AT4G36010.1	301	41
1	osmotin	246	21	AT4G38660.1	345	38
1	osmotin	246	22	AT4G38670.1	281	36
1	osmotin	246	23	AT5G02140.1	294	35
1	osmotin	246	24	AT5G24620.1	420	41
1	osmotin	246	25	AT5G38280.1	665	36