

Table S1. Mass spectrometric analysis of JMJ14-3×Flag affinity purification. The percentage of JMJ14 (% JMJ14) column indicates the approximate stoichiometry of each co-purifying protein as a function of the normalized spectral abundance factor (NSAF). NAC transcription proteins are underlined.

Protein	AGI code	Spectra	Unique Peptides	% Coverage	NSAF_{e5}	% JMJ14
JMJ14	AT4G20400	717	42	33.1	7200.925	100
<u>NAC052</u>	<u>AT3G10490</u>	<u>44</u>	<u>9</u>	<u>26.2</u>	<u>878.896</u>	12.21
H2A	AT4G13570	9	2	7.6	610.989	8.48
	AT1G52740					
	AT2G38810					
	AT3G54560					
<u>NAC050</u>	<u>AT3G10480</u>	<u>28</u>	<u>7</u>	<u>19.7</u>	<u>564.303</u>	<u>7.84</u>
RPN12	AT1G64520	5	3	12	168.702	2.34
Putative calcium-binding protein	AT1G18210	3	2	17.6	158.977	2.21
YbaB family COG0718	AT2G24020	3	2	17	148.495	2.06
RPN3	AT1G75990	8	4	11.7	147.987	2.05
RPL21	AT1G35680	3	2	6.4	122.846	1.71
Putative DNA binding protein	AT1G49950	4	2	10.7	120.116	1.67
THF1	AT2G20890	4	3	11	120.116	1.67
ADP-ribosylation factor	AT2G47170	2	2	12.6	99.051	1.38
	AT1G23490					
	AT1G70490					
	AT3G62290					
	AT1G10630					
	AT5G14670					
AT1G70490						
Putative NAD ⁺ isocitrate dehydrogenase	At5g03290	4	2	6.7	96.35	1.34
3-oxoacyl-(acyl-carrier protein) reductase	AT1G24360	3	2	9.7	84.721	1.18
RPB36a	AT2G15430	3	2	10.3	84.721	1.18

ATP synthase gamma chain	AT2G33040	3	3	10.8	83.157	1.15
PRLI-interacting factor L	AT1G80480	4	2	5.9	81.159	1.13
Putative NAD ⁺ isocitrate dehydrogenase	AT3G09810	3	2	6.7	72.262	1
RPN9	AT4G19006	3	2	5.7	70.016	0.97
thylakoid lumenal protein-related	AT1G12250	2	2	12.1	64.348	0.89
NTF2 family protein	AT5G43960	3	2	7.7	64.271	0.89
Putative cyclohydrolase	AT3G12290	2	2	10	60.259	0.84
RPN1B	AT4G28470	5	5	5.9	57.971	0.81
DNAJ heat shock family protein	AT3G62600	2	2	9.8	52.073	0.72
ATIMPALPHA3	AT4G02150	3	3	7.7	50.897	0.71
dihydrolipoamide dehydrogenase 2	AT4G16155	3	2	4.1	47.665	0.66
CER2	AT4G24510	2	2	6.2	42.797	0.59
putative lactase	AT2G28470	4	2	4.5	42.294	0.58
clathrin adaptor complexes medium subunit family protein	AT1G60780	2	2	7.9	42.097	0.58
ERF1-1	AT5G47880	2	2	5.5	41.324	0.57
EMB3003	AT1G34430	2	2	7.3	38.747	0.54
F-box family protein	AT5G22610	2	2	1.9	38.172	0.53
ASN3	AT5G10240	2	2	4.7	31.199	0.43
ASN2	AT5G65010	2	2	4.7	31.145	0.43
glycosyl transferase family 20 protein	AT1G06410	2	2	3.1	21.172	0.29

Table S2. The primer list.

Primers for plasmids construction		
Plasmid	Primer code	Primer sequence
P _{JMJ14} ::JMJ14-HA (XF2080)	CX5033	<u>CACCTTGACATGGTATAAACATTGG</u>
	CX3599	AGGACTTATCTCCATCTTATCA
P _{JMJ14} ::JMJ14 Δ FYR-HA (XF2082)	CX5033	<u>CACCTTGACATGGTATAAACATTGG</u>
	CX7385	TCCACACCAAGTTTACATCC
P _{35S} ::NAC050-CFP-HA (XF1685)	CX8188	<u>CACCATGGGTCGCGAATCTCTGGCTG</u>
	CX8189	ACTAGCTTGTCCTACTGGCGTTC
P _{35S} ::NAC052-CFP-HA (XF1687)	CX8191	<u>CACCATGGGTCGCGAATCTGTGGCTG</u>
	CX8194	TTGTCCATTAGCATTGTTCTTCTTG
P _{35S} ::JMJ14 Δ FYR-YFP-HA (XF2087)	CX3598	<u>CACCATGGATCAGCTTGCATCTCTAG</u>
	CX7385	TCCACACCAAGTTTACATCC
P _{JMJ14} ::JMJ14-GFP-GUS-UTR (XF2084)	CX9280	<u>AAGGTACCTTGACATGGTATAAACATTGG</u>
	CX9281	<u>AAGTCGACAGGACTTATCTCCATCTTATCA</u>
	CX9282	<u>AACCATGGGGAGGAGCAAGCAGATAAACAC</u>
	CX9283	<u>AACCATGGGCAAGCACTGTCTCGAATTTGG</u>
P _{NAC050} ::NAC050-GFP-GUS-UTR (XF2085)	CX9272	<u>AAGAATTCGCAGGTCGAGAGCGAGAGAT</u>
	CX9273	<u>AAGGATCCACTAGCTTGTCCACTGGCGTTC</u>
	CX9274	<u>AACCATGGACCACCGCAACATCTCTCCA</u>
	CX9275	<u>AACCATGGCAGGTTCCGTATAATAGGACG</u>
P _{NAC052} ::NAC052-GFP-GUS-UTR (XF2086)	CX9276	<u>AAGAATTCAGAAGATGAGCGTCCTCCTTCT</u>
	CX9277	<u>AAGGATCCTTGTCCATTAGCATTGTTCTTCTTG</u>
	CX9278	<u>AACCATGGAGGCTCTAAAAACATCTCTCCAGG</u>
	CX9279	<u>AACCATGGCTGTGACTGTTTTCGGGTGAC</u>
P _{NAC050} ::NAC050-HA-UTR (XF2088)	CX9272	<u>AAGAATTCGCAGGTCGAGAGCGAGAGAT</u>
	CX9273	<u>AAGGATCCACTAGCTTGTCCACTGGCGTTC</u>
	HX2078	<u>AACTGCAGTGAACCACCGCAACATCTCTCCA</u>
	HX2079	<u>AAAAGCTTCTGCAGCAGGTTCCGTATAATAGGACG</u>
P _{NAC052} ::NAC052-HA-UTR (XF2089)	CX9276	<u>AAGAATTCAGAAGATGAGCGTCCTCCTTCT</u>
	CX9277	<u>AAGGATCCTTGTCCATTAGCATTGTTCTTCTTG</u>
	HX2080	<u>AACTGCAGTGAAGGCTCTAAAAACATCTCTCCAGG</u>
	HX2081	<u>AAAAGCTTCTGCAGCTGTGACTGTTTTCGGGTGAC</u>
JMJ14-pGBKT7 (XF1971)	CX5024	<u>AACCCGGGATGGATCAGCTTGCATCTCTAGC</u>
	CX5025	<u>AACTGCAGTTAAGGACTTATCTCCATCTTA</u>
NAC050-pGADT7 (XF1974)	CX8980	<u>AAGAATTCATGGGTCGCGAATCTCTGGCTG</u>
	CX8981	<u>AAGGATCCTTAAGTACTAGCTTGTCCACTGGCG</u>
NAC052-pGADT7 (XF1976)	CX8984	<u>AAGAATTCATGGGTCGCGAATCTGTGGCTG</u>
	CX8985	<u>AAGGATCCTTATTGTCCATTAGCATTGTTCTTC</u>

JMj14ΔJmjN-pGBKT7 (XF1977)	CX8988	AACCAAAGGCCTGCAAGCTTCT
	CX8989	GAGAATTCTAAATTTCCCACCCGG
JMj14ΔJmjC-pGBKT7 (XF1978)	CX8990	TGCTTCACTTATAGGATACCCCGG
	CX8991	CGGCGAAAGAGTTCATTGTCCAC
JMj14ΔZnF-pGBKT7 (XF1979)	CX8992	CCGTTCTCTCTTATTGTTCGAAATC
	CX8993	CTAGAAGGGGATCTTGATGCCA
JMj14ΔFYR-pGBKT7 (XF1980)	CX8994	CTCAACAGAGAGACTTAACCTATT
	CX8995	GATGATACAGAGAAAGGAGGGG
JmjN-pGBKT7 (XF1981)	HX2032	AACCCGGGAGGCCTTTGGTTGATGACGC
	HX2033	AACTGCAGCTTCAGAGGGCAAGGGGGCC
JmjC-pGBKT7 (XF1982)	HX2034	AACCCGGGATAAGTGAAGCAGATCAATACTC
	HX2035	AACTGCAGCTTTCGCCGCTGCTTGCTATAG
ZnF-pGBKT7 (XF1983)	HX2036	AACCCGGGAAGAGAGAACGGGAGTGCTTC
	HX2037	AACTGCAGCCCTTCTAGAGCTCTGACCAG
FYR-pGBKT7 (XF1986)	HX2038	AACCCGGGGAGCTTTTGAGTTCTGGATCTC
	HX2041	AACTGCAGATCCTTTTCTCCTTCCTTTATTG
FYRN-pGBKT7 (XF1984)	HX2038	AACCCGGGGAGCTTTTGAGTTCTGGATCTC
	HX2039	AACTGCAGAAGCCCTGCATCCAGAACCTC
FYRC-pGBKT7 (XF1985)	HX2040	AACCCGGGGTCCATTGTTTCAGGGTCTC
	HX2041	AACTGCAGATCCTTTTCTCCTTCCTTTATTG
NAC050-pMAL-C2-MBP (XF1996)/NAC050-pMAL-C2-GST (XF1995)	HX2046	<u>TACTTCCAATCCAATGCGATGGGTCGCGAATCTCTGGC</u>
	CX9579	<u>TTATCCACTTCCAATGCGCTAACTAGCTTGCCACTGGCGT</u>
NAC052-pMAL-C2-MBP (XF1999)/NAC052-pMAL-C2-GST (XF1998)	HX2047	<u>TACTTCCAATCCAATGCGATGGGTCGCGAATCTGTGGC</u>
	CX9581	<u>TTATCCACTTCCAATGCGCTATTGTCCATTAGCATTGTTCT</u>
FYR-pMAL-C2-GST (XF-2010)	HX0406	<u>TACTTCCAATCCAATGCGGACCAAAATGCTGCAACCAA</u>
	CX5012	<u>TTATCCACTTCCAATGCGCTAAGGACTTATCTCCATCTTATC</u>
Primers for ChIP-qPCR		
Gene	Primer code	Primer sequence
<i>At1g21290 5'</i>	HX4477	CGGTATTGGTGTGCATGTTG
	HX4478	TGGCGGAAACTATCATCAGC
<i>At1g21290 3'</i>	HX4479	ACGGAGGAATCTTCTGTGC
	HX4480	GAGAAACGAGCTACAGAGGC
<i>At1g72460 5'</i>	HX4932	CAAGCCAACGATGGATCGGA
	HX4933	AGGTCTTTTAACGGAGCGACA
<i>At1g72460 3'</i>	HX4934	CCCGTCTCAATACGCTGGTT
	HX4935	CCACCATCGGATGAAGCAGA

<i>At2g32510 5'</i>	HX4976	ACGACACCGTTTGACTCTCTC
	HX4977	AGGTTACCGCTCAGAGTTC
<i>At2g32510 3'</i>	HX4978	TGTTTCCTTCACACCTCGCTC
	HX4979	TACTCGGAGAGGATCGGACG
<i>At5g45810 5'</i>	HX4598	CGCACGAAACGCTCAATCTG
	HX4599	GATCTCGCGTTTGATGTGTGC
<i>At5g45810 3'</i>	HX4600	CACCAGCTTTGGTTGTTGTTGA
	HX4601	GTTGGCCATTTTCGGAAGACA
<i>Ta3</i>	HX4621	CAGACACTTCACTTTCTTGTTAACC
	HX4622	CAAGAAAGGTATGGCTGTATTTC
<i>Actin</i>	CX5783	CGTTTCGCTTTCCTTAGTGTAGCT
	HX4620	CTCACCTTGAAGAAGAAGAAGATGATAC
Primers for RT-qPCR and RT-PCR		
Gene	Primer code	Primer sequence
<i>FT</i> (RT-qPCR)	CX5485	AAAACAAGTAAAACAGAAACAATC
	CX5486	GCCATAAGTAACCTTTAGAGTG
<i>NAC052</i> (RT-qPCR)	CX8565	TCGATATCCAGTGGAGCTGTC
	CX8566	GAAACCGAGAAAAACGGAAC
<i>At1g21290</i> (RT-qPCR)	HX4477	CGGTATTGGTGTGCATGTTG
	HX4478	TGGCGGAAACTATCATCAGC
<i>UBC</i> (RT-qPCR)	CX8290	TCAAATGGACCGCTCTTATC
	CX8291	CACAGACTGAAGCGTCCAAG
<i>NAC050</i> (RT-PCR)	CX8188	CACCATGGGTCGCGAATCTCTGGCTG
	CX8189	ACTAGCTTGTCCTACTGGCGTTC
<i>NAC052</i> (RT-PCR)	CX8191	CACCATGGGTCGCGAATCTGTGGCTG
	CX8194	TTGTCCATTAGCATTGTTCTTCTTG
<i>Actin</i> (RT-PCR)	CX0415	CTCAGCACCTTCCAACAGATGTGGA
	CX0416	CCAAAAAATGAACCAAGGACCAAA