

Additional File 14: Table S11 Links between the novel Cd-responsive genes in barley leaves from this study and Cd-responsive miRNAs and their putative targets from the literature.

Gene	Fold change (Cd vs control)		Changes of miRNA	Target	Reference
	Weisuobuzhi	Dong17			
Leucine-rich repeat transmembrane protein kinase	2.92	2.15	miR390 (-)	Leucine-rich repeat receptor-like protein kinase	Ding et al. (2011)
Apoplastic invertase	2.82	1.83	miR167 (-)	Invertase-like protein	Zhou et al. (2012)
Cytochrome P450	2.64	1.94	Osa-miR604 (-)	Cytochrome P450 family proteins	Huang et al. (2009)
Strictosidine synthase-related protein	2.31	2.04	Osa-miR606 (-)	Strictosidine synthas	Huang et al. (2009)
Glutathione transferase	2.23	2.65	miR156 (-)	Glutathione s-transferase 5	Xu et al. (2013)
AP2 domain transcriptional regulator	1.93	2.77	miR169 (-)	AP2 domain transcription factor	Xu et al. (2013)
Phytochelatin synthetase-like protein	1.15	-2.14	miR393 (+)	Phytochelatin synthetase 1	Xu et al. (2013)
DNA-binding protein 2	1.11	-3.2	MiR393 (+)	Similarity to DNA-binding protein	Zhou et al. (2012)
Serine/threonine kinases	1.06	2.07	miR156 (-)	Serine/threonine protein kinases Nek3	Zhou et al. (2012)
bZIP transcription factor	-1.02	2.38	miR166i/e/m/k/g (-)	HD Zip transcription factor	Ding et al. (2011)
Calcium binding EF-hand protein	-1.18	2.68	miR1432 (-)	EF-hand proteins	Ding et al. (2011)
Leucine zipper protein	-1.19	2.25	miR166 (-)	Homeodomain- leucine zipper protein	Xu et al. (2013)
Heat shock protein	-1.35	-2.74	miR396 (+)	Heat shock protein 90	Xu et al. (2013)

+/-, up-regulated/down-regulated in the corresponding reference

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Huang SQ, Peng J, Qiu CX, Yang ZM: **Heavy metal-regulated new microRNAs from rice**. *J Inorg Biochem* 2009, **103**:282-287.

Xu L, Wang Y, Zhai LL, Xu YY, Wang LJ, Zhu XW, Gong YQ, Yu RG, Limera C, Liu LW: **Genome-wide identification and characterization of cadmium-responsive microRNAs and their target genes in radish (*Raphanus sativus* L.) roots**. *J Exp Bot* 2013, **64**:4271-4287.

Zhou ZS, Song JB, Yang ZM: **Genome-wide identification of *Brassica napus* microRNAs and their targets in response to cadmium**. *J Exp Bot* 2012, **63**:4597-4613.