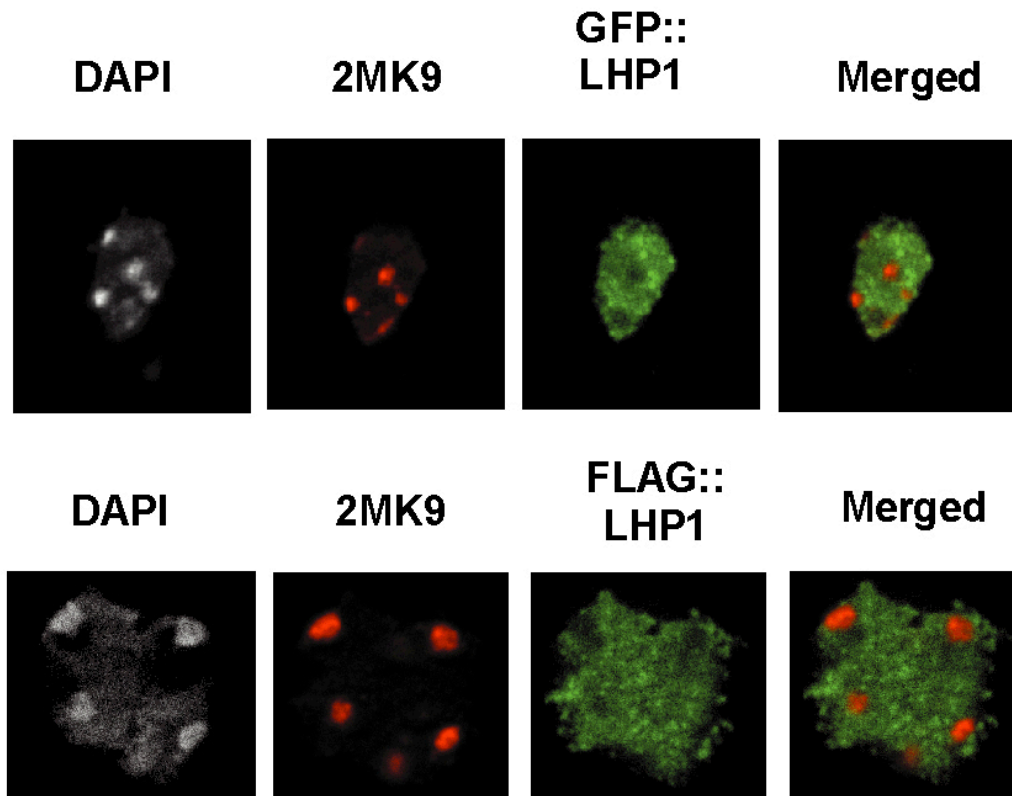


Supplementary Figure 1. LHP1 localization.

GFP-tagged LHP1 (upper panel) and FLAG-tagged LHP1 (lower panel) are localized in euchromatic regions. Chromocenters are visualized by either DAPI staining and immuno-staining using antibody against dimethylated histone H3K9.



lhp1-4 in Col plants were transformed with LHP1::GFP or LHP1::FLAG and homozygous T3 lines were used for analyses. Both the GFP-tagged and FLAG-tagged LHP1 constructs can rescue the *lhp1* mutant phenotype. Interphase nuclei were isolated from leaves of 3 week old plants and immunolabeling was performed as previously described¹. Histone H3 2MK9 was detected using polyclonal antisera from Upstate Biotechnology (#07-441, diluted 1/150) and FLAG was detected using monoclonal antibodies from Sigma (#F 3165, diluted 1/100). Rhodamine Red

conjugated antibodies from Jackson Immunoresearch (#111 295 144, goat anti-rabbit diluted 1/200) and FITC conjugated antibodies from Abcam (#ab7064, goat anti-mouse diluted 1/200) were used for secondary antibodies. GFP was observed directly. After staining, vectashield mounting medium with DAPI was added and nuclei were visualized using a Zeiss Axioimager Z1 motorized microscope with Apotome system equipped with ORCA-ER camera.

1. Jasencakova, Z. et al. Histone modifications in Arabidopsis- high methylation of H3 lysine 9 is dispensable for constitutive heterochromatin. *Plant J* **33**, 471-80 (2003).

Table S2. Cytosine Methylation of Arabidopsis *AtSN1*

<u>Genotype</u> ^a	<u>CpG</u> ^b	<u>CpNpG</u>	<u>CpHpH</u> ^c
Col-0	121/168 ^d (72.0%)	94/218 (43.1%)	287/1759 (16.3%)
<i>rdr2-1</i>	64/104 (61.5%)	35/142 (24.6%)	52/1168 (4.5%)
<i>dcl3-1</i>	76/89 (85.4%)	51/119 (42.9%)	70/915 (7.7%)
<i>La-er</i>	56/78 (71.8%)	45/100 (45.0%)	90/757 (11.9%)
<i>cmt3-7</i>	40/72 (55.6%)	2/88 (2.3%)	24/679 (3.5%)

^aEighteen to forty-seven clones were sequenced for each genotype.

^bCpGpG sites are counted as CpG sites, not as CpNpG.

^cH = A, T, or C.

^dNumber of methylated cytosines/total number of sites analyzed.