

Supplementary Table 1. Histone methyltransferase sequences used to perform the phylogenetic analysis. For each sequence the name used in this work, the species and the accession number from NCBI (<https://www.ncbi.nlm.nih.gov/>) are provided.

Class	Sequence name	Species	Locus
ATXR3	AtATXR3	<i>Arabidopsis thaliana</i>	NP_193253
	BrATXR3	<i>Brassica rapa</i>	XP_009144717
	EgATXR3	<i>Eucalyptus grandis</i>	XP_010051270
	GmATXR3	<i>Glycine_max</i>	XP_006592400
	JrATXR3	<i>Juglans regia</i>	XP_018846411
	PaATXR3	<i>Prunus avium</i>	XP_021811206
	PpATXR3	<i>Prunus persica</i>	XP_020416287
	PtATXR3	<i>Populus_trichocarpa</i>	XP_006372997
	QsATXR3	<i>Quercus suber</i>	QS126154.0 (sequence in study)
	VvATXR3	<i>Vitis vinifera</i>	XP_010657340
ATX3	AtATX3	<i>Arabidopsis thaliana</i>	NP_001078326
	BrATX3	<i>Brassica rapa</i>	XP_009104342
	CsATX3	<i>Cucumis_sativus</i>	XP_011656748
	EgATX3	<i>Eucalyptus grandis</i>	XP_018728259
	GmATX3	<i>Glycine_max</i>	XP_006583237
	JrATX3	<i>Juglans regia</i>	XP_018846721
	PaATX3	<i>Prunus avium</i>	XP_021815266
	PpATX3	<i>Prunus persica</i>	XP_020411934
	PtATX3	<i>Populus_trichocarpa</i>	PNT50159.1
	QsATX3	<i>Quercus suber</i>	XP_023876913 (sequence in study)
SUVH4	AtSUVH4	<i>Arabidopsis thaliana</i>	NP_196900.1
	BrSUVH4	<i>Brassica rapa</i>	XP_009131370
	CsSUVH4	<i>Cucumis_sativus</i>	XP_011651591
	EgSUVH4	<i>Eucalyptus grandis</i>	XP_010068638
	GmSUVH4	<i>Glycine_max</i>	XP_006604199
	JrSUVH4	<i>Juglans regia</i>	XP_018834874
	PaSUVH4	<i>Prunus avium</i>	XP_021823630
	PpSUVH4	<i>Prunus persica</i>	XP_020417219
	PtSUVH4	<i>Populus_trichocarpa</i>	XP_021823630
	QsSUVH4	<i>Quercus suber</i>	XP_023924619 (sequence in study)
	VvSUVH4	<i>Vitis vinifera</i>	XP_010660678