

**Table S5.** Eight Pseudogenes Identified from the CENH3 ChIP-Seq Peaks

Pseudogene	Chr start (bp)	Chr end (bp)	Length (bp)	Deterioration	Expression <sup>a</sup>	Coverage of parent protein (%)	Parent gene	No. coding exon
<i>Cen4.t09593.1</i> ψ	1222768	1222974	207	Truncated CDS	NA	49	<i>LOC_Os01g37280.1</i>	1
<i>Cen4.t09695.1</i> ψ	1324491	1324943	453	Premature stop codon	No	50	<i>LOC_Os04g32240.1</i>	3
<i>Cen7.t12104.1</i> ψ	12103758	12105033	1276	Premature stop codon	No	46	<i>LOC_Os12g37519.1</i>	3
<i>Cen7.t12280.1</i> ψ	12281185	12282756	1572	Frame shift	NA	49	<i>LOC_Os12g44100.1</i>	2
<i>Cen7.t12284.1</i> ψ	12283786	12285419	1634	Not found	No	91	<i>LOC_Os01g28970.2</i>	2
<i>Cen8.t13108.1</i> ψ	13108381	13108698	318	Premature stop codon	No	66	<i>LOC_Os05g10754.1</i>	1
<i>Cen8.t13153.1</i> ψ	13152862	13153173	312	Truncated CDS	NA	83	<i>LOC_Os09g06570.1</i>	1
<i>Cen8.t13376.1</i> ψ	13375898	13376350	453	Truncated CDS	No	88	<i>LOC_Os01g28970.1</i>	1

<sup>a</sup>Five pseudogenes were tested for expression, none of them were found to be transcribed in leaves, roots, etiolated leaves/shoots and calli.

NA: expression not tested.