

**Table S1.** Plastid and nuclear-encoded factors involved in the splicing of chloroplast introns.

Type	Name	A.thaliana	O.Sativa	Affected introns	References
Maturases	matK			<i>trnK</i> intron, <i>atpF</i> intron, <i>trnA</i> intron, <i>trnI</i> intron, <i>trnV</i> intron, <i>rpl2</i> intron, <i>rps12</i> intron 2	Zoschke et al., 2010
PPR proteins	AtOTP51	At2g15820	Os02g47360	<i>ycf3</i> intron 2	de Longevialle et al., 2008; Khrouchtchova et al., 2012
	ZmTHA8	AT3G27750	Os04g39970	<i>ycf3</i> intron 2; <i>trnA</i> intron	Khrouchtchova et al., 2012; Ke et al., 2013
	PpPPR_66	At2g35130	Os02g07360	<i>ndhA</i> intron	Ito et al., 2018
	AtEMB2654	At2g41720	Os07g11280	<i>rps12</i> intron 1	Aryamanesh et al., 2017; Lee et al., 2019
	ZmPPR4	At5g04810	Os04g58780	<i>rps12</i> intron 1	Schmitz-Linneweber et al., 2006; Lee et al., 2019
	PpPTSF1			tRNA <sup>leu</sup> intron	Goto et al., 2016
	AtPBF2	At3g42630	Os08g40870	<i>ycf3</i> intron 1	Wang et al., 2020a
	AtSOT5	At1g30610	Os01g48380	<i>rpl2</i> intron, <i>trnK</i> intron	Huang et al., 2018
	OsPPR6		Os05g49920	<i>ycf3</i> introns	Tang et al., 2017
	OsSLC1	At5g42310	Os06g0710800	<i>rps16</i> intron	Lv et al., 2020
	AtEMB1270	AT3G18110	Os06g09880	<i>ycf3</i> intron 1, <i>clpP</i> intron 2*, <i>ndhA</i> intron	Zhang et al., 2021
	AtPDM3	AT5G39980	Os01g61630	<i>ndhB</i> intron, <i>trnA</i> intron, <i>clpP</i> intron1*	Zhang et al., 2017
	AtPDM4	At5g27270	Os06g02120	<i>ycf3</i> intron 1 and <i>clpP</i> intron 2*	Chen et al., 2020; Wang et al., 2020b
AtACM1	AT3G18110	Os06g09880	<i>ndhA</i> intron, <i>ndhB</i> intron, <i>clpP</i> intron 2*, and <i>ycf3</i> intron 1	Wang et al., 2021a	

**Table 1.** Continued

Type	Name	A.thaliana	O.Sativa	Affected introns	References
	AtECD2	AT5G50280	Os05g22870	<i>ndhA</i> intron, <i>rps12</i> intron 2, <i>ycf3</i> intron 1, and <i>clpP</i> intron 2*	Wang et al., 2021b
	OsWSL4	At1g09900	Os02g35750	<i>rps12</i> intron 2, <i>ndhA</i> intron, <i>atpF</i> intron, <i>rpl2</i> intron	Wang et al., 2017
	OsWSL5	At5g04810	Os04g0684500	<i>rpl2</i> intron, <i>rps12</i> intron 2	Liu et al., 2018
	ZmEMB-7L	At2g41720	Os07g11280	<i>rps12</i> intron 1, <i>rpl2</i> intron, <i>atpF</i> intron, <i>ndhA</i> intron	Yuan et al., 2019
	AtOTP70	At4g25270	Os03g63560	<i>rpoC1</i> intron*	Chateigner-Boutin et al., 2011
	OsWSL	At3G53700	Os01g37870	<i>rpl2</i> intron	Tan et al., 2014
	OsSLA4	AT5G03800	Os07g0172600	<i>petB</i> intron, <i>ndhA</i> intron, <i>atpF</i> intron, <i>rpl2</i> intron, <i>rpl16</i> intron, <i>trnG</i> intron, <i>rps12</i> intron 2	Wang et al., 2018
	OsPGL12		Os12g10184	<i>ndhA</i> intron	Chen et al., 2019
	AtPDM1	At4g18520	Os03g44210	<i>ndhA</i> intron, <i>trnK</i> intron	Zhang et al., 2015
	AtAEF1	AT3G22150	Os04g51350	<i>atpF</i> intron	Yap et al., 2015
	AtHCF152	At3G09650	Os12g0102600	<i>petB</i> intron	Meierhoff et al., 2003
	ZmPPR5	At4g39620	Os02g51480	<i>trnG</i> intron	Williams-Carrier et al., 2008
CRM proteins	ZmCRS1	At5g16180	Os08g27150	<i>atpF</i> intron	Till et al., 2001; Ostersetzer et al., 2005
		At4g29750	Os09g19850	<i>ndhA</i> intron, <i>petD</i> intron, <i>ndhB</i> intron, <i>ycf3</i> intron 1, <i>trnL</i> intron	Liu et al., 2016
		At3g18390	Os05g47850	unknown	

**Table 1.** Continued

Type	Name	A.thaliana	O.Sativa	Affected introns	References
	OsAL2	At4g29750	Os09g19850	<i>ndhA</i> intron, <i>petD</i> intron, <i>ndhB</i> intron, <i>ycf3</i> intron 1, <i>trnL</i> intron	Liu et al., 2016
	ZmCAF1	At2g20020	Os01g31110	<i>petD</i> intron, <i>trnG</i> intron, <i>rps16</i> intron, <i>rpl16</i> intron, <i>ndhA</i> intron, <i>ycf3</i> intron 1, <i>rpoC1</i> intron*, <i>ClpP</i> intron1*	Asakura and Barkan, 2006; Ostheimer et al., 2003
	ZmCAF2	At1g23400	Os01g21990	<i>petB</i> intron, <i>ndhB</i> intron, <i>ndhA</i> intron, <i>rps12</i> intron 1, <i>ycf3</i> intron 1	Ostheimer et al., 2003
	AtCFM2	At3g01370	Os04g39060	<i>trnL</i> intron, <i>ndhA</i> intron, <i>ycf3</i> intron 1, <i>clpP</i> intron 2*	Asakura and Barkan, 2007
	OsCAF1	AT2G20020	Os01g0495900	<i>atpF</i> intron, <i>rpl2</i> intron, <i>rps12</i> intron, <i>ndhB</i> intron, <i>ndhA</i> intron, <i>ycf3</i> intron	Zhang et al., 2019
	OsCAF2	At1g23400	Os01g21990	<i>rpl2</i> intron, <i>rps12</i> intron, <i>atpF</i> intron, <i>ndhA</i> intron, <i>ndhB</i> intron, <i>ycf3</i> intron	Shen et al., 2020
	OsCFM2	AT3G01370	Os04g0464800	<i>trnL</i> intron, <i>rps12</i> intron, <i>rpl2</i> intron, <i>ndhA</i> intron, <i>atpF</i> intron, <i>ycf3</i> intron 1	Zhang et al., 2020
	AtCFM3a	At3g23070	Os11g37990	<i>rps16</i> intron, <i>rpl16</i> intron, <i>ndhB</i> intron, <i>petB</i> intron, <i>petD</i> intron, <i>trnG</i> intron	Asakura et al., 2008
	AtCFM3b	At4g14510			Asakura et al., 2008
	OsCFM3	At3g23070; At4g14510	Os11g37990	<i>rps16</i> intron, <i>rpl16</i> intron, <i>petD</i> intron, <i>ndhB</i> intron	Asakura et al., 2008
	ZmCFM1	At3G18390	Os05g47850	<i>trnA</i> intron, <i>trnI</i> intron, <i>trnV</i> intron	Feiz et al., 2021

**Table 1.** Continued

Type	Name	A.thaliana	O.Sativa	Affected introns	References
peptidyl-tRNA hydrolase	ZmCRS2	At5G38290		<i>rps12</i> intron1, <i>ndhB</i> intron, <i>petB</i> intron, <i>ndhA</i> intron, <i>ycf3</i> intron1, <i>rpl16</i> intron, <i>rps16</i> intron, <i>petD</i> intron, <i>trnG</i> intron, <i>clpP</i> intron1* and <i>rpoC1</i> intron*	Jenkins et al., 1997; Jenkins et al., 2001
ribonuclease III proteins	ZmRNC1	At4g37510	Os01g59510	<i>rps12</i> intron 2, <i>atpF</i> intron, <i>trnK</i> intron, <i>trnV</i> intron, <i>trnI</i> intron, <i>trnA</i> intron, <i>petB</i> intron, <i>petD</i> intron, <i>ndhB</i> intron, <i>trnG</i> intron	Watkins et al., 2007
DUF860 or PORR	ZmWTF1	At4g01037	Os05g49610	<i>rps12</i> intron 2, <i>atpF</i> intron, <i>trnK</i> intron, <i>trnV</i> intron, <i>trnI</i> intron, <i>trnA</i> intron, <i>petB</i> intron, <i>petD</i> intron, <i>ndhB</i> intron, <i>trnG</i> intron	Kroeger et al., 2009
Whirly protein APO	ZmWHY1 AtAPO1	At1g14410; At2g02740 At1g64810	Os06g05350 Os04g52520	<i>atpF</i> intron <i>ycf3</i> intron 2, <i>petD</i> intron, and <i>clpP</i> intron 1*	Prikryl et al., 2008 Watkins et al., 2011
DEAD box RNA helicase	AtRH3	At5g26742	Os03g61220	<i>trnA</i> intron, <i>trnI</i> intron, <i>rpl2</i> intron, <i>rps12</i> intron, <i>trnL</i> intron, <i>trnK</i> intron, <i>atpF</i> intron	Asakura et al., 2012; Gu et al., 2014
mTERF protein	Zm-mTERF4 At-mTERF2	At4g02990 At2g21710	Os05g33500 Os07g04230	<i>trnI</i> intron, <i>trnA</i> intron, <i>rpl2</i> intron <i>ycf3</i> intron 1 and <i>rps12</i> intron 1	Hammani and Barkan, 2014 Lee et al., 2021

Asterisk (\*) represents introns that are found in *Arabidopsis thaliana* but not in maize and rice. Orthologous genes in *Oryza sativa* or in *Arabidopsis thaliana* have been determined using Phytozome 13 (Phytozome BLAST Search ([doe.gov](http://doe.gov))) or NCBI (National Center for Biotechnology Information ([nih.gov](http://nih.gov))).