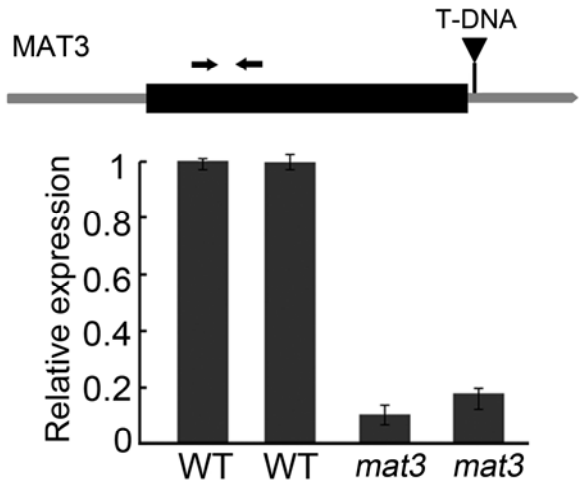
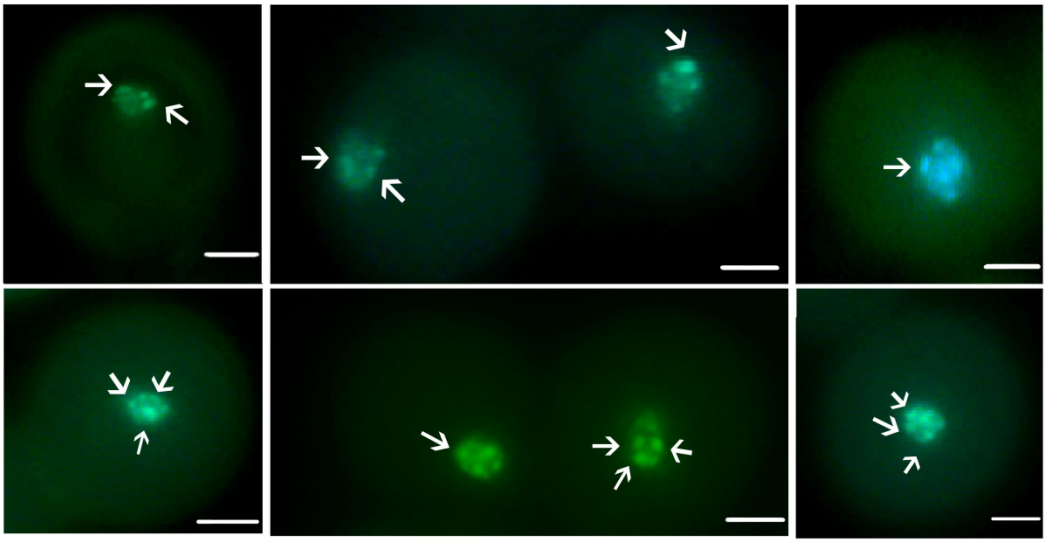
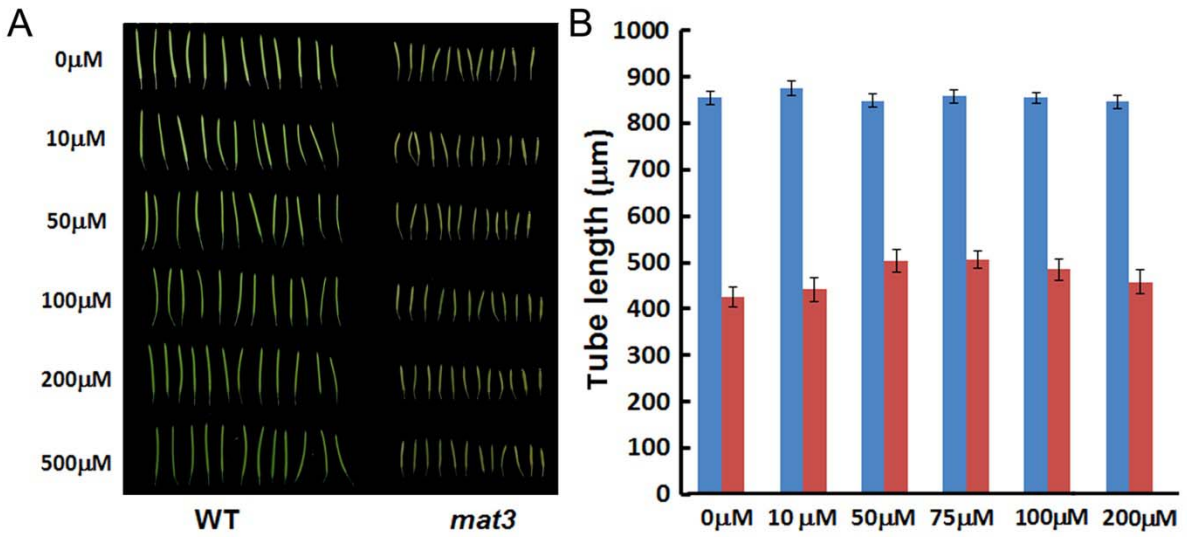
Supplemental Material



Figures S1 Expression of *MAT3* in mature pollen in WT and *mat3*. The arrows indicate the position of the primers.All measurements represent the average of three biological replicates with error bars representing the SE.



Figures S2 Subcellular localization of MAT3.Representative images of mature pollen from MAT3-GFP transgenic plants. Arrows indicate GFP signals detected in sub-compartments in the vegetative nucleus. Bars = 5 μm



Figures S3 Exogenous SAM did not correct the *mat3* pollen tube growth defect. **A**, Siliques after inflorescence culture with SAM for 7 days. **B**, *In vitro* pollen tube lengths 8 h after adding SAM to pollen germination medium. Data are mean ± SE of triplicate experiments. 50–100 pollen grains for each experiment.

Table S1 Primers used in this study.

Primer name	Sequence 5' to 3'
mat3-lp	TGAGGCCTGATGGTAAGACAC
mat3-rp	TAAAGGGACATCGACAAGT
mat3-CDS-f	CACCATGGAAACGTTCCTATTTACCT
mat3-CDS-r	GGCCTTTGGCTTGAGCGGCT
mat3-pro-f	CACCTGACGGTTCAAACAATCTTA
mat3-rt-1	ATGGAAACGTTCCTATTTACCT
mat3-rt-2	GGCCTTTGGCTTGAGCGGCT
mat3-rt-3	TGAACCGCTG GCCTGTGTTC
LBb1.3	ATTTTGCCGATTTCGGAAC
EF1A-qF1	GAGTACCCACCTTTGGGACG
EF1A-qR1	TTGGGTCCTTCTTGTCCACG
q-mat3-f	TTCAGGCTTCTTGGTCAAAT
q-mat3-r	CTCTGCTGATGTTGGTCTTG
UBQF	GGTGCTAAGAAGAGGAAGAAT
UBQR	CTCCTTCTTTCGGTAAACGT

Table S2. tRNA modification genes expressed Arabidopsis pollen

Modified Nucleosides	AGI	RPKM

D	At3g49640	1.29
ψ	At1g34150	6.19
	At2g30320	5.95
	At5g35400	2.93
	At1g76050	2.09
ncm^5U	At2g15910	84.04
	At3g58500	67.63
	At4g26100	51.18
	At2g42500	41.59
	At1g03930	32.82
	At5g57015	26.35
	At1g30470	15.35
	At1g59830	5.95
	At1g50370	5.84
	At1g69960	5.37
	At1g07990	4.08
	At1g10430	3.59
	At3g45190	1.76
	At5g55260	1.45
	At4g26720	1.38
	At5g63860	1.27
	At3g26100	1.10
	At3g19980	1.03
m^1A	At2g45730	1.76
m^5C	At5g66180	1.15
m^7G	At1g03110	4.38
m^5U	At2g28450	2.53