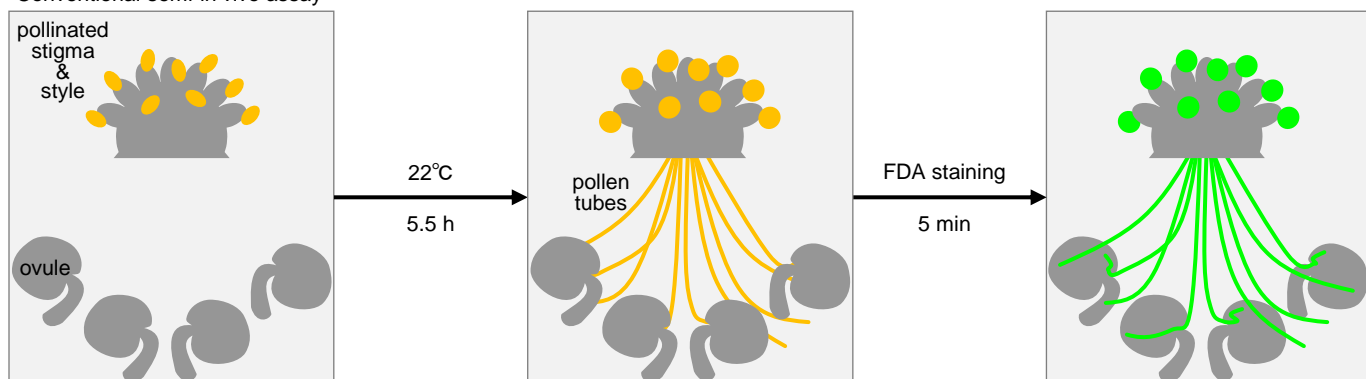
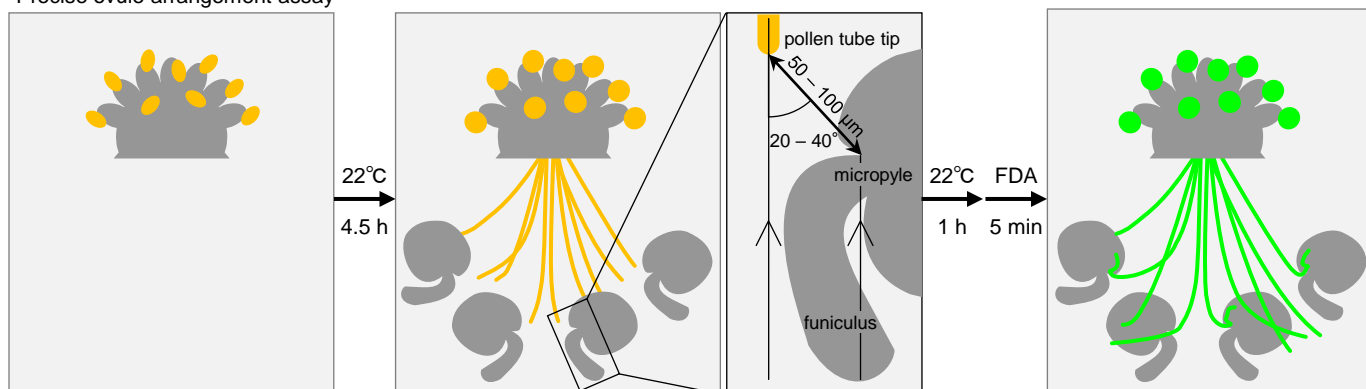


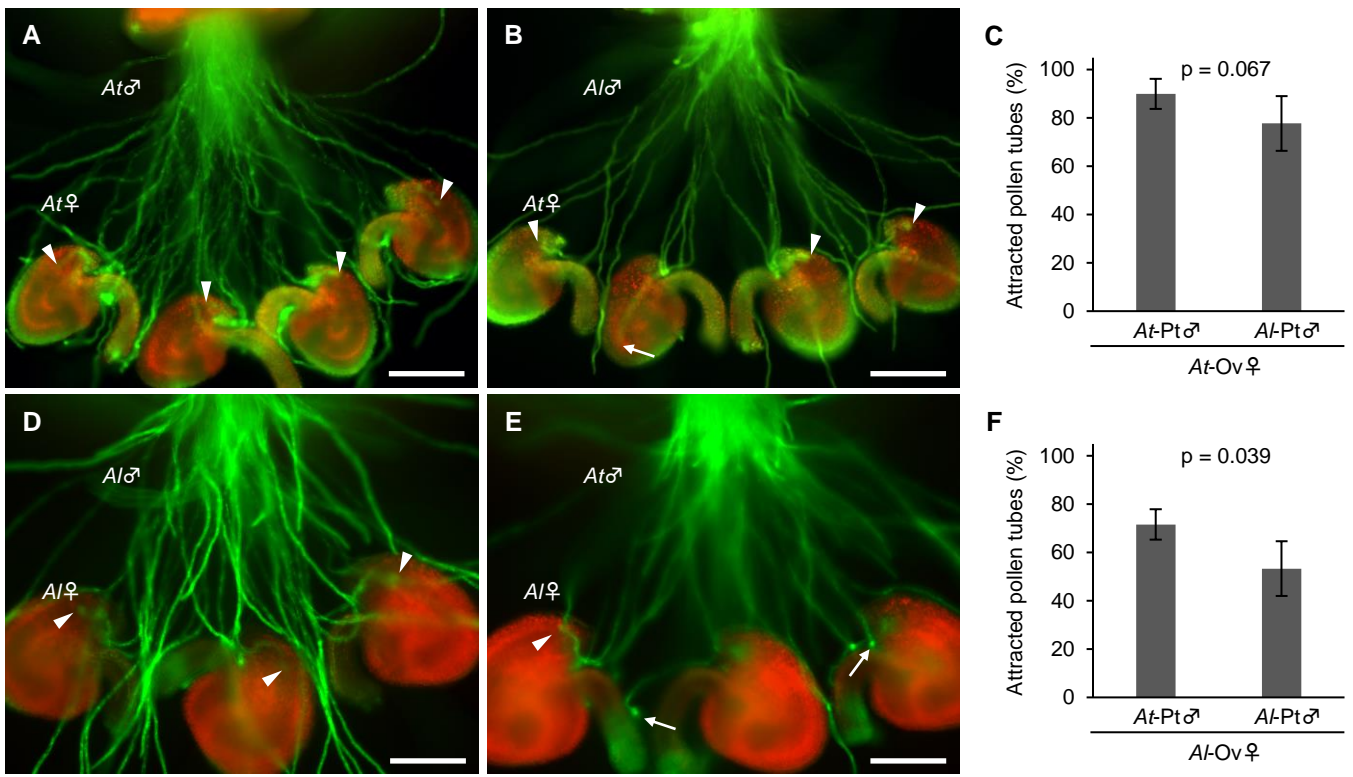
### Conventional semi-in vivo assay



### Precise ovule arrangement assay

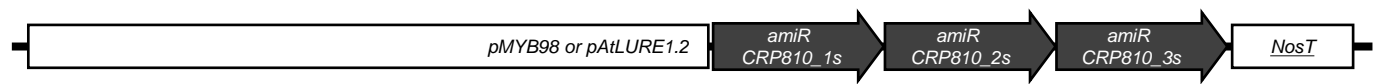


**Supplementary Figure S1.** Schematic diagram of conventional semi-in vivo assay and precise ovule arrangement assay.



**Supplementary Figure S2.** Conventional semi-*in vivo* assay for *Arabidopsis* species.

**A–C** Conventional semi-*in vivo* assay with *A. thaliana* (*At*) and *A. lyrata* (*Al*) pollen tubes for *A. thaliana* ovules. Rates of attracted pollen tubes (Pt) of *A. thaliana* (**A**) and *A. lyrata* (**B**) by *A. thaliana* ovules (Ov) are shown in (**C**). **D–F** Conventional semi-*in vivo* assay with *A. thaliana* and *A. lyrata* pollen tubes for *A. thaliana* ovules. Rates of attracted pollen tubes of *A. thaliana* (**D**) and *A. lyrata* (**E**) by *A. lyrata* ovules are shown in (**F**). Arrowheads indicate the tips of attracted pollen tubes. Arrows indicate the tips of unattracted pollen tubes. Each assay was replicated five times with 11–16 ovules. P-values were calculated by Fisher's exact test. Data are mean  $\pm$  SD. Scale bars, 200  $\mu$ m.



amiRNA-CRP810\_1s 3' CCCAUUCAUAUAAGCAUGUAU 5'

CRP810\_1.1 (302-322) 5' ACATAGGTATATTCCGACATG 3'

CRP810\_1.2 (299-319) 5' GGGTAAGTATATTCCGTACATG 3'

CRP810\_1.3 (302-322) 5' GGGTAAGTATATTCCGTACATG 3'

CRP810\_1.4 (299-319) 5' GGGTAAGTATATTCCGTACATG 3'

CRP810\_1.5 (299-319) 5' GGGTAAGTATATTCCGTACATG 3'

CRP810\_1.6 (301-321) 5' GGGTAAGTATATTCCGTACATG 3'

amiRNA-CRP810 2s 3' UUCGCUUGCUUGUAUAACCUU 5'

CRP810\_2.1 (200-220) 5' CAGCATACGAACATATTGGAC 3'

CRP810\_2.2 (238-258) 5' CAGCACACGAACATATTGGAC 3'

CRP810\_2.3 (219-239) 5' CAGCGCACGAACATATTGGAC 3'

amiRNA-CRP810 3s 3' AUCCGCAUUAUCUAAAAACAU 5'

CRP810 3.1 (278-298) 5' AAGGCGTAATGAGTTTTTGT 3'

CRP810\_3.2 (291-311) 5' AAGGCGTAATGAGTTTTTGT 3'

**Supplementary Figure S3.** Vector construction, targeted DNA sequences, and artificial microRNA (amiRNA) precursor sequences to knock down genes *CRP810\_1s*, *CRP810\_2s*, and *CRP810\_3s*.

Primers Name	Sequences(5'-3')
<i>prk6-1</i> Left primer	ATCCTGACTTCCACAACATCG
<i>prk6-1</i> Right primer	ACCCTTTCCTTCTCAACCTTC
<i>myb98-1</i> Left primer	TGTTTACCCCAAATTCAACAACACC
<i>myb98-1</i> Right primer	TCCACTGCTTGGAATGATGATG
<i>crp810_4-1</i> Left primer	TAGGTACCTTACAATCCCACACCAATAG
<i>crp810_4-1</i> Right primer	TAAGGATCCATGAGGACAATTGTTTTGTTTC
<i>ms1</i> Left primer	ACCGGTTTAAAGGCCAGGTAC
<i>ms1</i> Right primer	CTGCCTCTCCGTACACTTCAC
LBb1.3 (Light Border primer )	ATTTTGCCGATTTTCGGAAC

**Supplementary Table S1.** Primers used in this study for genotyping.