

Table S1 Comparative anther staging in *Arabidopsis thaliana* and *Zea mays*.

Arabidopsis			Maize			
Anther stage	Cell types	Stamen length (μm)	Cell types +	Anther length (μm)		
<u>/floral stage</u>	<u>present</u>	<u>Hours</u>	<u>/anther</u>	<u>anther event</u>	<u>Hours</u>	
1 / 1-5	L1 L2 L3	96	<10/ no data	L1 L2 primordium	96	0-120
2 / 6	EPI/AR	30	<20/no data	EPI/L2-d/AR	56	70-220
				specification		
3 / 7	EPI/SPL/AR	24	<50/ no data	EPI/EN/SPL/AR	42	180-280
				Anticlinal mitotic proliferation	36	280-550
4 / 8	EPI/EN/ML/TA/AR	24	55-60/40	EPI/EN/ML/TA/AR	24	550-700
	Specification done			Specification done		
				Anticlinal somatic cell proliferation	48	700-1200
5 / 9	PMC mature	60	150/120	PMC mature	60	1000-1500
6 / 10	Prophase 1 meiosis	12	300/240	Prophase 1 meiosis	48	1500-2000
Total hours		246			410	

Staging information for *A. thaliana* is taken from Smyth *et al.* (1990) and Sanders *et al.* (1999). Maize data are from Kelliher and Walbot (2011, 2012).