

Supplemental table 3: Comparison of the gene trap data to array-based expression analyses

The genes isolated from our gene trap screen expressed in petal and/or stamen-specific patterns (i.e. the gray-shaded genes in Table 3) were examined for correlation with results from microarray-based surveys of gene expression and screens for petal and/or stamen-enriched genes.

		GT Lines	Annotation	GUS staining pattern	Identification by microarray – based screens ^a	AtGenExpress Data ^b									
						Root	Seedling	Stage 12 flower				Stage 15 flower			
								Sepal	Petal	Stamen	Carpel	Sepal	Petal	Stamen	Carpel
Petal-specific	Expression	GT7921	At5g54880	Petal-specific stages 8-11*		4.64 (0.19)	5.18 (0.15)	4.50 (0.09)	4.21 (0.33)	3.71 (0.41)	4.55 (0.12)	4.00 (0.43)	4.38 (0.48)	4.79 (0.41)	4.81 (0.2)
		GT8132	At1g35560	Petal-specific stage 6 and on		4.61 (0.17)	6.14 (0.17)	3.76 (0.21)	4.40 (0.24)	3.92 (0.05)	3.82 (0.08)	4.38 (0.30)	5.09 (0.14)	4.78 (0.32)	3.95 (0.24)
	Lack of expression	GT8282	At3g11340	Not in petals, stages 11 and 12*		8.66 (0.03)	3.48 (0.32)	10.28 (0.14)	3.32 (0.22)	3.25 (0.25)	2.94 (0.05)	9.99 (0.20)	4.26 (0.36)	7.36 (0.12)	3.37 (0.38)
		GT8454	At3g10060	Not in expanded petal lamina, stage 13 and on*		4.42 (0.24)	10.18 (0.10)	9.78 (0.06)	7.71 (0.11)	5.62 (0.36)	6.99 (0.10)	8.39 (0.11)	8.12 (0.09)	7.86 (0.11)	7.83 (0.1)
		GT8883	At1g01170	Not in petals, stages 8-13*		7.70 (0.12)	10.35 (0.17)	10.63 (0.06)	10.17 (0.10)	8.24 (0.10)	10.50 (0.02)	8.88 (0.07)	9.22 (0.12)	9.15 (0.07)	10.76 (0.03)
		GT9409	At4g16890	Not in petals, stage 11 and on *		5.35 (0.30)	8.30 (0.11)	8.11 (0.13)	6.35 (0.15)	5.73 (0.56)	6.61 (0.10)	8.29 (0.37)	7.14 (0.05)	6.65 (0.22)	6.99 (0.18)
GT9447	At2g01100	Not in petals, stage 12 and on*		9.63 (0.09)	7.87 (0.25)	3.16 (0.17)	8.93 (0.07)	8.85 (0.07)	9.17 (0.08)	8.65 (0.06)	8.85 (0.03)	8.93 (0.06)	8.99 (0.03)		
Stamen-specific	Expression	GT7848	At2g34920	Mainly in stomium, stages 7-11*		5.08 (0.15)	5.03 (0.10)	4.09 (0.41)	4.20 (0.08)	7.91 (0.05)	4.03 (0.08)	3.43 (0.14)	3.01 (0.18)	3.26 (0.52)	4.36 (0.1)
		GT8335	At4g33355	Anther-specific, stages 8-12		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		GT8362	At4g00430	Mainly in stamen filaments, stages 8-10*		10.56 (0.04)	11.81 (0.03)	12.45 (0.04)	11.54 (0.01)	11.11 (0.07)	12.55 (0.02)	12.56 (0.03)	11.9 (0.15)	11.97 (0.05)	12.52 (0.05)
		GT8430	At3g06430	Anther-specific, stage 8 and on		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		GT8435	At5g66200	Anther-specific, stages 8-12*		7.45 (0.11)	7.49 (0.15)	7.62 (0.11)	7.02 (0.05)	6.53 (0.11)	7.00 (0.02)	8.00 (0.15)	7.54 (0.07)	7.46 (0.03)	6.95 (0.07)
		GT8555	At3g10550	Locule-specific, stages 8-12		7.18 (0.11)	6.43 (0.14)	6.94 (0.02)	6.86 (0.16)	8.4 (0.11)	7.58 (0.09)	7.59 (0.05)	8.31 (0.11)	8.31 (0.11)	6.84 (0.02)
		GT8612	At1g32250	Anther-specific, stage 10 and on*	1: 'stamen-specific'	2.34 (0.02)	2.53 (0.06)	2.77 (0.21)	2.82 (0.41)	9.03 (0.11)	2.36 (0.03)	2.46 (0.13)	2.45 (0.03)	2.57 (0.10)	2.39 (0.03)
		GT8838	At1g72360	Anther-specific, stages 8-11		8.53 (0.04)	3.41 (0.69)	4.81 (0.11)	3.71 (0.06)	4.43 (0.35)	3.38 (0.33)	5.69 (0.35)	6.06 (0.30)	4.18 (0.27)	3.49 (0.12)
		GT8854	At4g24740	Anther-specific, stage 8 and on		9.21 (0.07)	9.24 (0.12)	9.17 (0.06)	9.57 (0.04)	10.05 (0.02)	9.42 (0.14)	9.90 (0.18)	10.26 (0.09)	10.32 (0.06)	9.29 (0.04)
		GT9007	At3g11210	Anther-specific, stages 8-12		4.49 (0.22)	7.03 (0.04)	6.46 (0.07)	10.77 (0.04)	9.58 (0.07)	8.65 (0.06)	4.29 (0.62)	7.54 (0.1)	8.29 (0.14)	8.85 (0.1)

		GT9013	At5g66270	Anther-specific, stages 8-12		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
		GT9099	At3g06433	Anther-specific, stages 8-12		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
		GT9207	At2g10950	Anther-specific, stages 8-12		8.56 (0.04)	7.92 (0.06)	8.62 (0.05)	9.33 (0.09)	8.81 (0.06)	8.91 (0.07)	9.23 (0.02)	9.41 (0.05)	8.91 (0.09)	8.70 (0.08)	
		GT9280	At3g15510	Anther-specific, stage 8 and on	1: 'stamen-specific'	5.42 (0.27)	4.80 (0.20)	7.78 (0.12)	4.36 (0.09)	10.88 (0.07)	3.62 (0.05)	7.91 (0.20)	6.64 (0.47)	7.17 (0.24)	3.59 (0.07)	
		GT9316	At3g12630	Anther-specific, stage 8 and on		11.30 (0.05)	10.00 (0.08)	10.68 (0.10)	10.51 (0.02)	11.38 (0.15)	10.62 (0.04)	11.16 (0.15)	11.53 (0.04)	11.93 (0.03)	10.57 (0.01)	
		GT9389	At4g03560	Anther-specific, stages 8-14*		10.25 (0.06)	9.96 (0.16)	9.49 (0.06)	9.58 (0.02)	9.49 (0.10)	9.25 (0.06)	9.32 (0.13)	9.22 (0.09)	8.98 (0.08)	9.40 (0.02)	
		GT9606	At3g14230	Mainly in anthers, stage 6 and on*		9.43 (0.08)	8.84 (0.20)	9.07 (0.06)	9.13 (0.02)	10.40 (0.07)	9.37 (0.12)	8.89 (0.05)	9.17 (0.08)	9.43 (0.08)	9.79 (0.04)	
Petal-and-stamen-specific	Expression	GT6545	At5g10320	Petal and stamen-specific, stages 9-12		4.64 (0.33)	4.90 (0.16)	4.42 (0.02)	5.89 (0.38)	3.15 (0.16)	5.78 (0.20)	3.50 (0.20)	3.96 (0.31)	3.27 (0.25)	5.40 (0.08)	
		GT8007	At3g10700	Petal and stamen-specific, stages 8-11*		6.38 (0.17)	6.76 (0.20)	6.05 (0.01)	6.78 (0.23)	7.14 (0.06)	6.59 (0.22)	5.06 (0.29)	5.39 (0.21)	5.33 (0.34)	6.44 (0.09)	
		GT8103	At5g08180	Petal and stamen-specific, stages 11-12*		10.28 (0.05)	9.18 (0.06)	8.37 (0.14)	8.72 (0.04)	7.86 (0.15)	10.02 (0.10)	7.34 (0.11)	7.17 (0.07)	6.53 (0.14)	9.91 (0.08)	
		GT8400	At1g63140	Petals and stamen-specific, stage 11 and on		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		GT8472	At3g12370	Petal and stamen-specific, stages 9-11*		8.46 (0.07)	7.86 (0.08)	7.97 (0.07)	8.32 (0.12)	7.63 (0.06)	8.50 (0.13)	7.63 (0.01)	7.34 (0.05)	7.06 (0.05)	8.47 (0.08)	
		GT8517	At2g43680	Mainly in petals and stamens, stage 11*		9.46 (0.02)	7.92 (0.03)	8.23 (0.05)	8.33 (0.07)	7.12 (0.02)	9.11 (0.07)	9.06 (0.09)	8.83 (0.03)	8.59 (0.09)	9.15 (0.06)	
		GT8990	At5g04200	Petal and stamen-specific, stages 12-13*		6.11 (0.13)	4.23 (0.27)	6.86 (0.09)	5.97 (0.22)	6.56 (0.02)	2.49 (0.33)	8.47 (0.07)	12.14 (0.17)	10.19 (0.04)	7.14 (0.16)	
	Lack of Expression	GT8066	At1g54270	Not in petals or stamens, stage 10 and on		10.55 (0.04)	11.07 (0.04)	10.79 (0.09)	10.69 (0.11)	11.40 (0.14)	11.11 (0.03)	11.45 (0.03)	10.69 (0.07)	11.03 (0.06)	11.04 (0.05)	
		GT8096	At2g01110	Not in petals or stamens, stage 10 and on*		5.55 (0.19)	9.81 (0.07)	9.79 (0.10)	7.69 (0.03)	6.74 (0.08)	7.26 (0.10)	9.43 (0.10)	8.63 (0.20)	7.79 (0.17)	7.84 (0.12)	

*Different expression patterns in other stages.

^aMicroarray-based screen for petal and/or stamen-specific genes examined in this analysis:

- Wellmer et al. (2004): Isolated genes particularly enriched in each type of floral organs by screening for genes whose expression levels were changed more than 2 folds in multiple floral homeotic mutant backgrounds. The whole genome array used in this study contained 26,090 oligonucleotide species.
- Zik and Irish (2003): Isolated petal or stamen-enriched and/or -repressed genes by screening for genes whose expression levels were changed more than 1.8 folds in combinations of mutant/transgenic backgrounds with fewer or excess petals and/or stamens. The array used in this study contained 6,120 unique EST clones.
- Amagai et al. (2003): Isolated anther-enriched genes by screening for genes whose expression was significantly enriched in anthers compared to leaves. The cDNA microarray used in this study contained 2,880 clones.

^bAtGenExpress data reported in Schmid et al. (2005):

Affymetrix ATH1 arrays containing 22,746 probe sets were hybridized to mRNAs from various tissues. The averages and standard deviations (in parentheses) among the triplicates of the normalized expression estimates for each tissue types were shown. The experiments reported here are:

- Roots – ATGE_9: Roots of 17 day-old wildtype (Col) plants
- Seedlings – ATGE_7: green parts of 7 day-old wildtype (Col) seedlings

- Stage 12 flowers:
 - Sepals – ATGE_34: sepals in stage 12 flowers of 21+ day-old wildtype (Col) plants
 - Petals – ATGE_35: petals in stage 12 flowers of 21+ day-old wildtype (Col) plants
 - Stamens – ATGE_36: stamens in stage 12 flowers of 21+ day-old wildtype (Col) plants
 - Carpels – ATGE_37: carpels in stage 12 flowers of 21+ day-old wildtype (Col) plants
- Stage 15 flowers:
 - Sepals – ATGE_41: sepals in stage 15 flowers of 21+ day-old wildtype (Col) plants
 - Petals – ATGE_42: petals in stage 15 flowers of 21+ day-old wildtype (Col) plants
 - Stamens – ATGE_43: stamens in stage 15 flowers of 21+ day-old wildtype (Col) plants
 - Carpels – ATGE_45: carpels in stage 15 flowers of 21+ day-old wildtype (Col) plants