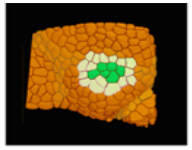
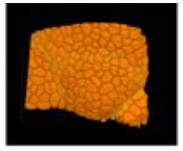
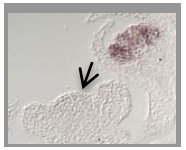
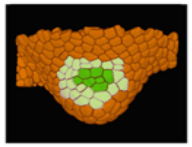
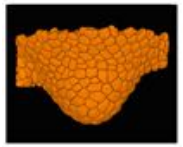
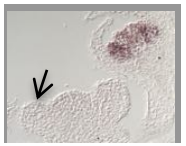
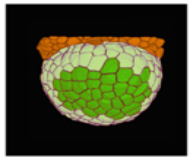
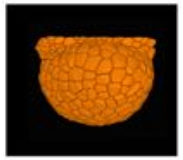
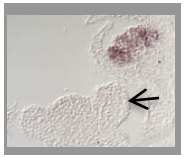
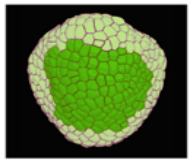
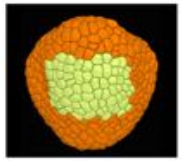
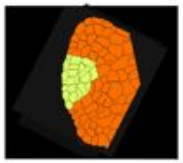
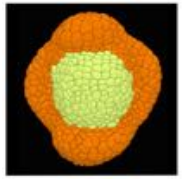
Note: images from other articles with copyright have been removed, but can be found in references cited throughout the document.

AGAMOUS

	Stages with approx. zones of future meristem (green) and sepals (yellow) marked	AGAMOUS top view	AGAMOUS section	Rozier et al	Wolmann et al	Urbanus et al	Unpublished results
Initium stage							
stage 1							
stage 2							
stage 3							
stage 4							
Remarks:	- AGAMOUS is expressed from stage 2 onwards, in a zone that extends to one or two cells from the sepal boundary (to leave space for the A function genes in the second whorl) For images see corresponding publications						

References

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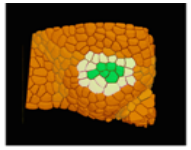
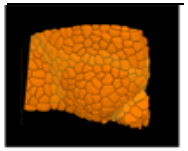
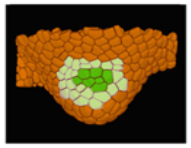
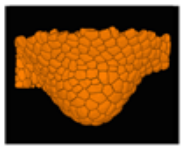
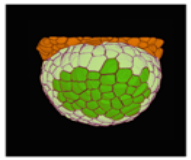
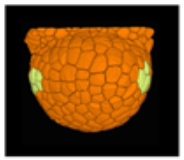
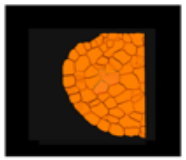
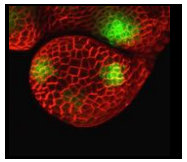
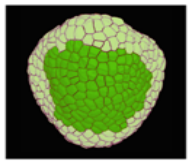
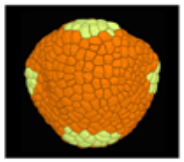
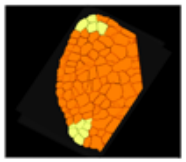
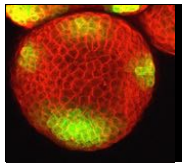
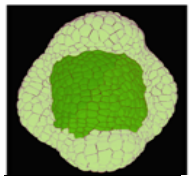
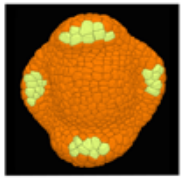
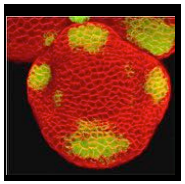
AHP6

	Stages of flower development with future meristem and sepals marked	topview	section	Rozier et al	Besnard et al.	Cellier and Traas unpublished	Das et al unpublished
Initium stage							
stage 1							
stage 2							
stage 3							
stage 4							
Remarks:	There is some ambiguity regarding the early stages.In situs in Besnard et al suggest that AHP6 is switched very early during organ formation. At what stage precisely is impossible to determine. This also seems to vary between individual meristems. pAHP6:GFP transcriptional fusion line as described in Besnard et al						

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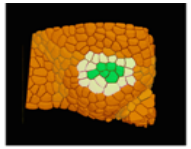
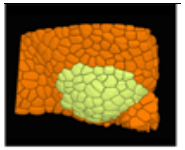
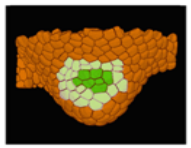
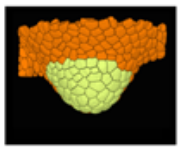
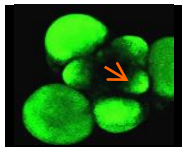
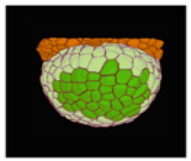
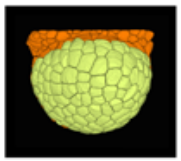
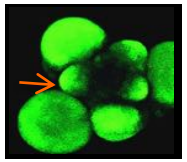
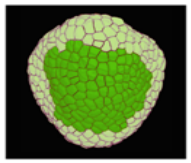
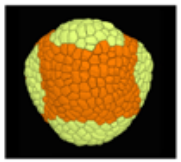
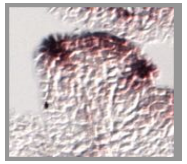
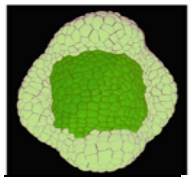
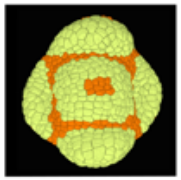
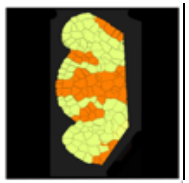
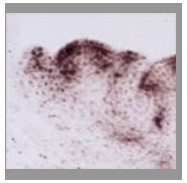
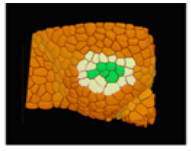
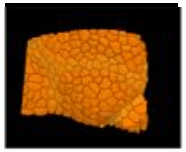
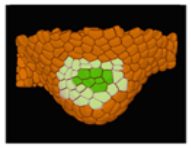
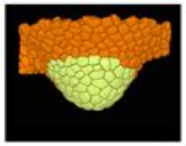
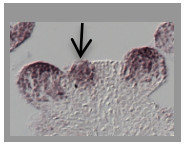
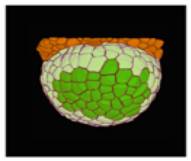
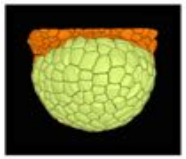
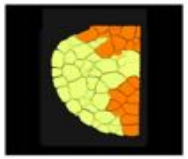
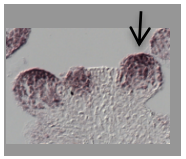
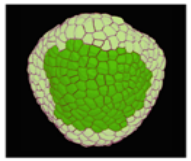
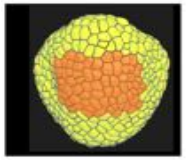
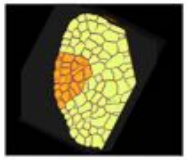
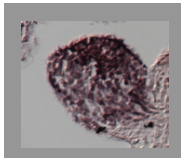
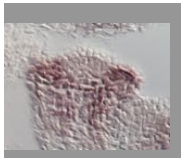
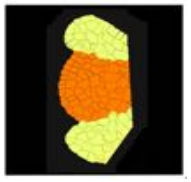
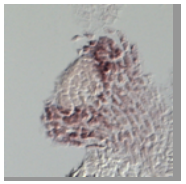
2. Rozier F, Mirabet V, Vernoux T, Das P. Analysis of 3D gene expression patterns in plants using whole-mount RNA in situ hybridization. Nat Protoc. 2014; 9(10): 2464-75.

AINTEGUMENTA

	Stages of flower development with future meristem and sepals marked	AINTEGUMENTA topview	AINTEGUMENTA section	Elliott et al 1996	Yamaguchi et al 2012	Krizek 2009	unpublished (in situ hybridization and GFP, for ref on GFP line see Grandjean et al	References
Initium stage								1. Elliott RC, Betzner AS, Huttner E, Oakes MP, Tucker WQ, Gerentes D, et al. AINTEGUMENTA, an APETALA2-like gene of Arabidopsis with pleiotropic roles in ovule development and floral organ growth. Plant Cell. 1996; 8(2): 155-68.
stage 1								2. Grandjean O, Vernoux T, Laufs P, Belcram K, Mizukami Y, Traas J. In vivo analysis of cell division, cell growth, and differentiation at the shoot apical meristem in Arabidopsis. Plant Cell. 2004; 16(1): 74-87.
stage 2								3. Krizek B. AINTEGUMENTA and AINTEGUMENTA-LIKE6 act redundantly to regulate Arabidopsis floral growth and patterning. Plant Physiol. 2009; 150(4): 1916-29.
stage 3								4. Long J, Barton MK. Initiation of axillary and floral meristems in Arabidopsis. Dev Biol. 2000; 218(2): 341-53.
stage 4								5. Yamaguchi N, Wu MF, Winter CM, Berns MC, Nole-Wilson S, Yamaguchi A, et al. A molecular framework for auxin-mediated initiation of flower primordia. Dev Cell. 2013; 24(3): 271-82.
Remarks:	No clear image found of stage 2, but ANT seems to be expressed in the bract							

APETALA1

	Stages of flower development with future meristem and sepals marked	APETALA 1top view	APETALA1 section	Yu et al (supp figure)	urbanus et al	unpublished	unpublished
Initium stage							
stage 1							
stage 2							
stage 3							
stage 4							
Remarks:	AP1 is weakly expressed during the very early stages (urbanus et al), when the sepals start to grow out (stage 3) expression becomes rapidly weaker in the centre. Expression in the sepals is slightly stronger adaxially. Note also expression in the future petal region in late stage 3. Contrasting results when it comes to maintenance of expression of throughout stage 3, which likely the stage where AP1 is inactivated.						

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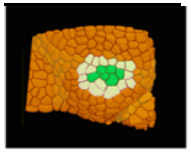
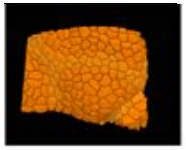
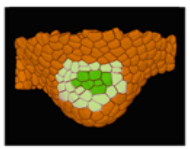
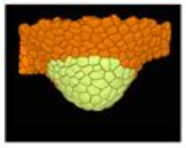
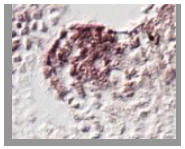
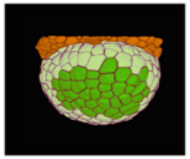
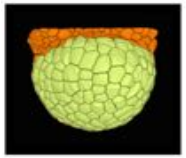
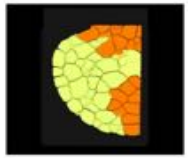
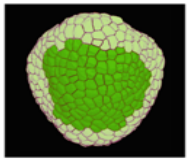
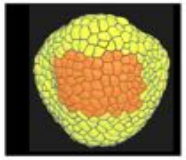
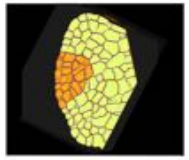
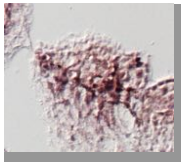
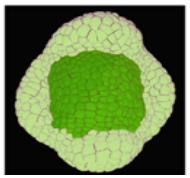
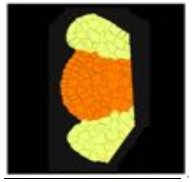
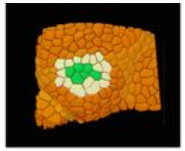
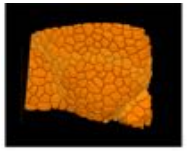
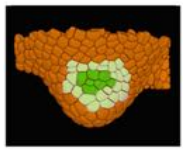
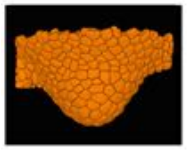
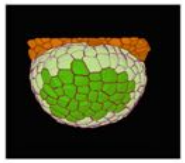
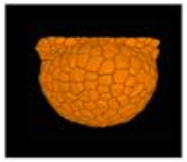
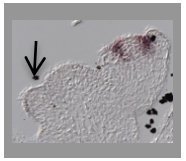
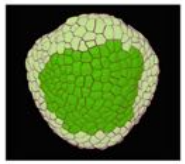
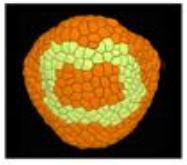
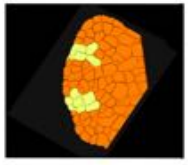
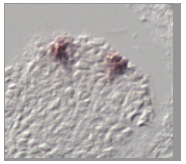
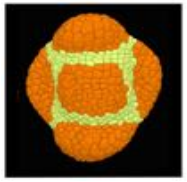
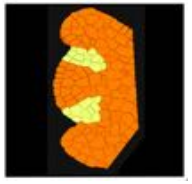
APETALA2

	Stages of flower development with future meristem and sepals marked	APETALA2 top view	APETALA2 section	Wollmann et al 2010	Jofoku et al 1994		unpublished data	References
Initium stage								1. Jofuku KD, den Boer BG, Van Montagu M, Okamuro JK. Control of Arabidopsis flower and seed development by the homeotic gene APETALA2. Plant Cell. 1994; 6(9): 1211-25. 2. Wollmann H, Mica E, Todesco M, Long JA, Weigel D. On reconciling the interactions between APETALA2, miR172 and AGAMOUS with the ABC model of flower development. Development. 2010; 137(21): 3633-42.
stage 1								
stage 2								
stage 3								
stage 4								
Remarks:	Very few articles show the precise expression patterns of AP2. The patterns published by Jofuku et al seem in contradiction with those published by Wollmann et al. when it comes to late stage 3. We note, however, that Jofuku et al do not publish consistent patterns (one figure showing labelling in the inflorescence meristem, the other not). In addition, our results confirm a pattern which is very close or identical to the one published by Wollmann et al. Together, the data indicate a pattern very close to that of AP1.							

APETALA3

	Stages of flower development with future meristem and sepals marked	top view	section	Yu et al 2004	Goto et al 1994	Prunet et al 2017	unpublished
Initium stage							
stage 1							
stage 2							
stage 3							
stage 4							

Remarks: Note that on some images of the late stage 3, the domain of AP3 seems to cover a broader domain than recorded in the Atlas. This might be due to the fact that the sections were not median . We have therefore chosen to base the interpretation on the 3D pattern visualized by the GFP line, covering a domain of about 4 cells wide at the boundary between sepal and meristem.

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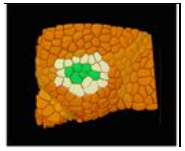
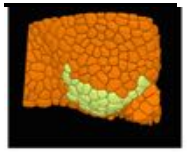
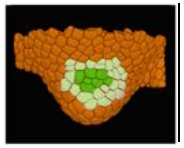
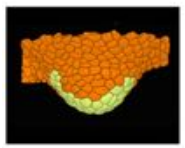
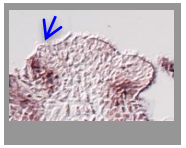
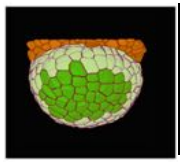
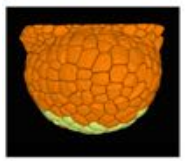
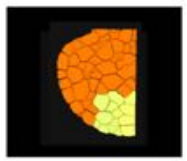
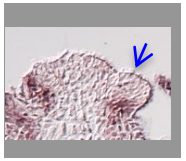
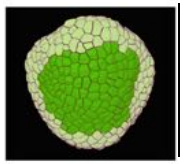
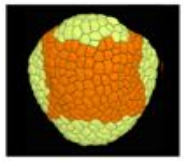
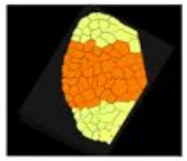
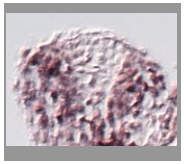
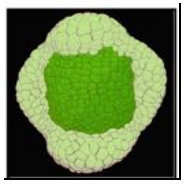
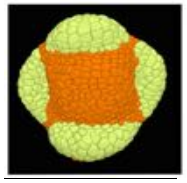
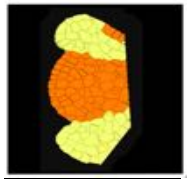
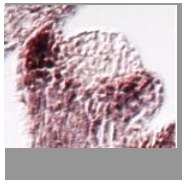
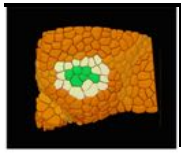
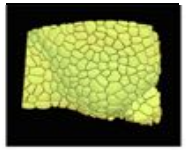
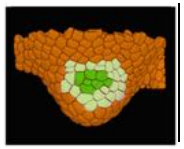
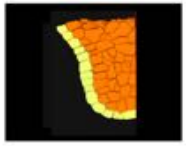
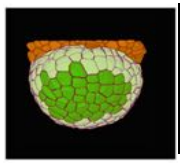
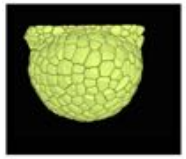
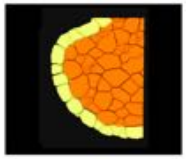
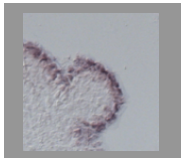
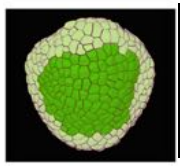
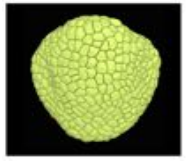
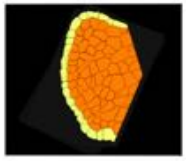
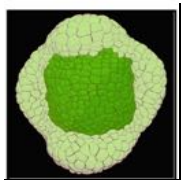
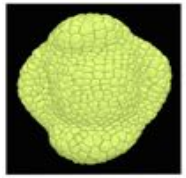
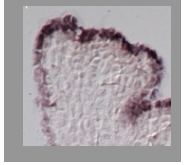
ASYMMETRIC LEAVES 1

	Stages of flower development with future meristem and sepals marked	top view	section	Byrne et al			unpublished	References
Initium stage								1. Byrne ME, Barley R, Curtis M, Arroyo JM, Dunham M, Hudson A, et al. Asymmetric leaves1 mediates leaf patterning and stem cell function in Arabidopsis. Nature. 2000; 408(6815): 967-71.
stage 1								
stage 2								
stage 3								
stage 4								

Remarks: AS1 is first expressed in the cryptic bract, than in the sepal primordia. Weaker on abaxial side from late stage 3 onwards

ATML1

	Stages of flower development with future meristem and sepals marked	top view	section	Lu et al	Sessions et al	Unpublished
Initium stage						
stage 1						
stage 2						
stage 3						
stage 4						
Remarks:						

References

1. Lu P, Porat R, Nadeau JA, O'Neill SD. Identification of a meristem L1 layer-specific gene in Arabidopsis that is expressed during embryonic pattern formation and defines a new class of homeobox genes. Plant Cell. 1996; 8(12): 2155-68.
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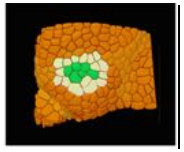
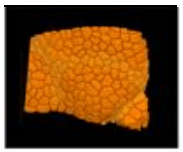
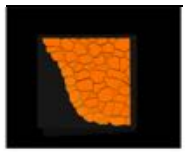
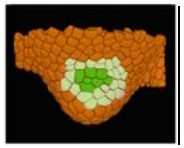
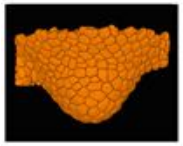
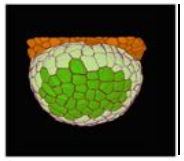
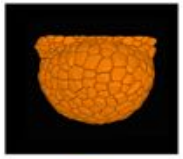
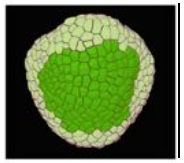
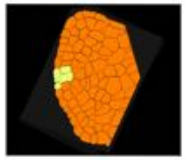
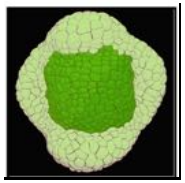
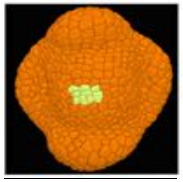
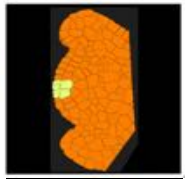
CLAVATA3

	Stages of flower development with future meristem and sepals marked	top view	section	Maier et al 2011 (Creative Commons Attribution licence (CC-BY)	Zhang et al 2011 (with permission from Oxford University Press)	Lenhard and Laux 2003	Rozier et al 2014 (with permission from Springer Nature)
Initium stage							
stage 1							
stage 2							
stage 3							
stage 4							

Remarks: There is some ambiguity as to when CLV3 is activated during stage 2. The absence of label in the image coming from Maier et al might be due to the plane of section. On the other hand the positive labeling at stage 2 described Zhang et al could also be due to the plane of section, and in fact represent and older stage. The whole mount described by Rozier et al suggest at most a weak expression at this stage. NOTE: ORIGINAL IMAGES UNDER COPYRIGHT, CAN BE FOUND IN CITED REFERENCES

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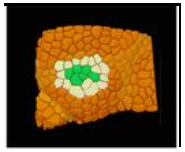
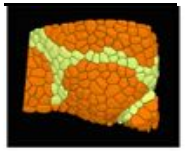
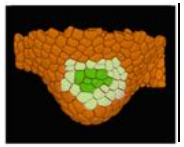
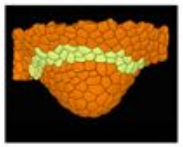
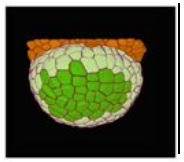
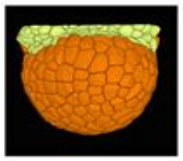
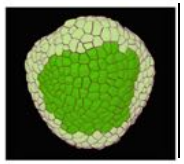
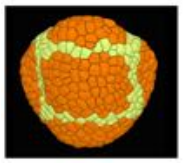
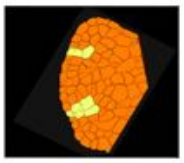
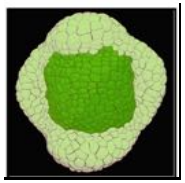
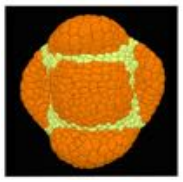
CUC 1, 2 3

	Stages of flower development with future meristem and sepals marked	top view	section	Vachez et al unpublished (CUC1)	Vachez et al unpublished (CUC1)	Yamaguchi et al 2014 (CUC2) (with permission, Creative Commons Attribution license)	Hibara et al 2006 (Copyright American Society of Plant Biologists) (CUC3)
Initium stage							
stage 1							
stage 2							
stage 3							
stage 4							

Remarks: Very few studies provide expression data. The avalaible data indicate, that CUCs have a similar or identical expression pattern. In the very young priordium, they could potentially be expressed on the abaxial side of the flower bud (Hibara et al), but we could not confirm this. Lateron, the two studies and our own results indicate that the CUC genes are expressed at the periphery of the floral meristem, at the boundary. They are not detected in the adaxial boundary region of the sepals. NOTE: ORIGINAL IMAGES UNDER COPYRIGHT, CAN BE FOUND IN CITED REFERENCES

References

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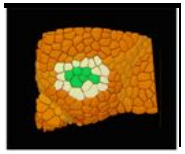
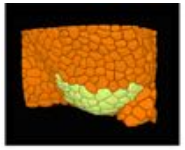
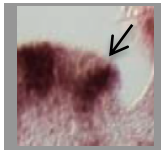
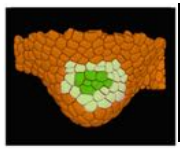
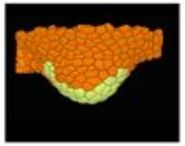
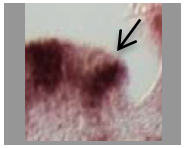
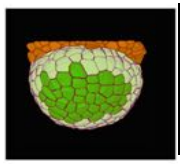
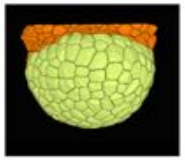
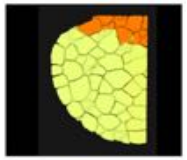
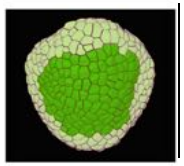
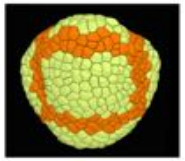
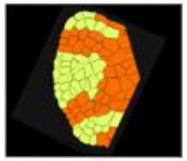
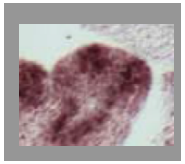
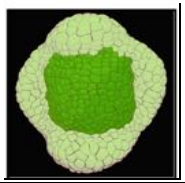
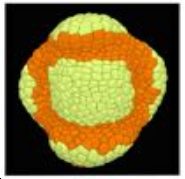
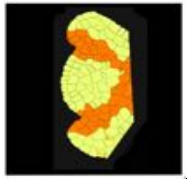
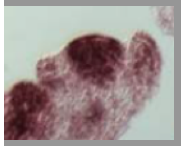
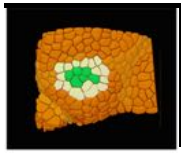
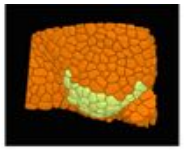
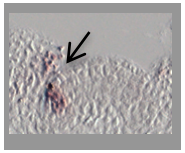
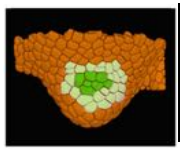
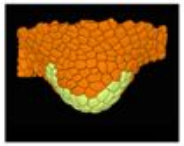
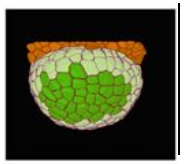
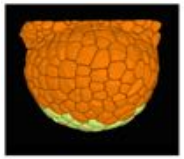
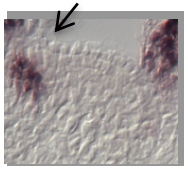
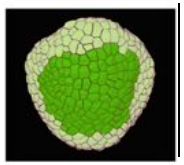
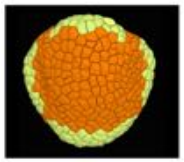
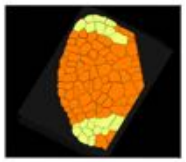
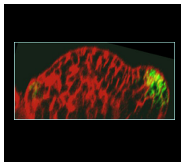
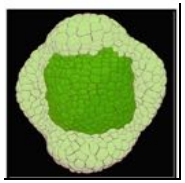
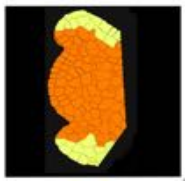
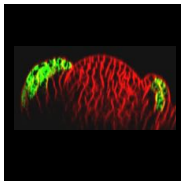
ETTIN/ARF3

	Stages of flower development with future meristem and sepals marked	topview	section	Pekker et al 2005	Liu et al	Rozier et al unpublished		References
Initium stage								1. Chung Y, Zhu Y, Wu MF, Simonini S, Kuhn A, Armenta-Medina A, Jin R, Østergaard L, Gillmor CS, Wagner D. Auxin Response Factors promote organogenesis by chromatin-mediated repression of the pluripotency gene SHOOTMERISTEMLESS. Nat Commun. 2019 Feb 21; 10(1): 886. doi: 10.1038/s41467-019-08861-3. PMID: 30792395; PMCID: PMC6385194.
stage 1								2. Iwasaki M, Takahashi H, Iwakawa H, Nakagawa A, Ishikawa T, Tanaka H, et al. Dual regulation of ETTIN (ARF3) gene expression by AS1-AS2, which maintains the DNA methylation level, is involved in stabilization of leaf adaxial-abaxial partitioning in Arabidopsis. Development. 2013; 140(9): 1958-69.
stage 2								3. Liu X, Dinh TT, Li D, Shi B, Li Y, Cao X, et al. AUXIN RESPONSE FACTOR 3 integrates the functions of AGAMOUS and APETALA2 in floral meristem determinacy. Plant J. 2014; 80(4): 629-41.
stage 3								4. Pekker I, Alvarez JP, Eshed Y. Auxin response factors mediate Arabidopsis organ asymmetry via modulation of KANADI activity. Plant Cell. 2005; 17(11): 2899-910.
stage 4								4. Sessions A, Nemhauser JL, McColl A, Roe JL, Feldmann KA, Zambryski PC. ETTIN patterns the Arabidopsis floral meristem and reproductive organs. Development. 1997; 124(22): 4481-91.
Remarks:	There seemed to be a contradiction between the patterns published by Pekker et al (2005) and Liu et al (2014). This might be due to the plane of section. We therefore performed in situ hybridizations and examined serial sections. This confirmed the observations of Pekker et al that ETT/ARF3 is strongly expressed in the crypric bract (cb in the images form Pekker et al, arrow in Rozier et al.). Our data also confirmed the results by Liu et al, that ETT is strongly expressed in the floral meristem during stage 2 and 3. Most results confirm the expression of ETT_ARF3 in the sepal primordia (sp in images from Pekker et al.). Chung et al publish an image where this is not the case (S6), but this might be due to the plane of section. NOTE: ORIGINAL IMAGES UNDER COPYRIGHT. CAN BE FOUND IN CITED REFERENCES							

FILAMENTOUS FLOWER

	Stages of flower development with future meristem and sepals marked	topview	section	Eshed et al 2001	Dinneny et al 2004	Zhao et al unpublished (d,e)	Vachez et al unpublished
Initium stage							
stage 1							
stage 2						c	
stage 3						d	
stage 4						e	
Remarks:	Labelling of the cryptic bract also illustrated by Dinneny et al.						

References

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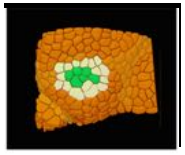
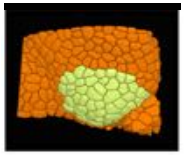
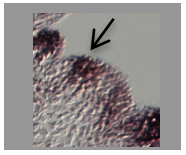
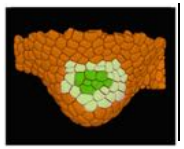
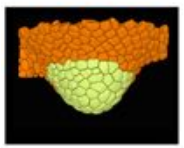
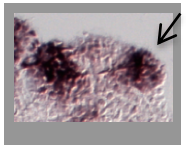
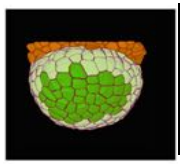
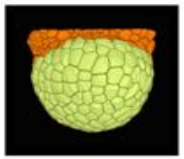
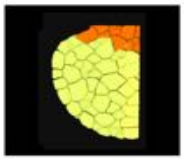
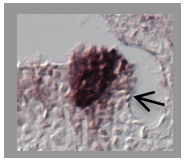
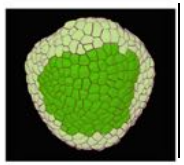
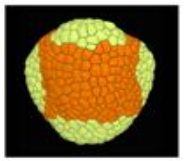
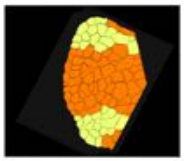
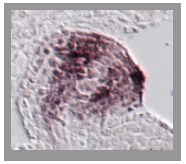
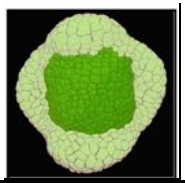
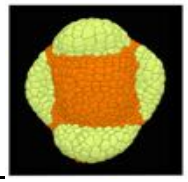
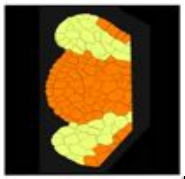
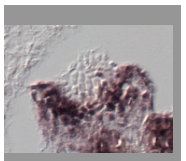
LEAFY

	Stages of flower development with future meristem and sepals marked	topview	section	Blazquez et al. 1997	Vernoux et al 2000	Karim et al 2009	Vachez et al unpublished	References
Initium stage								1. Blazquez MA, Soowal LN, Lee I, Weigel D. LEAFY expression and flower initiation in Arabidopsis. Development. 1997; 124(19): 3835-44.
stage 1								2. Karim MR, Hirota A, Kwiatkowska D, Tasaka M, Aida M. A role for Arabidopsis PUCHI in floral meristem identity and bract suppression. Plant Cell. 2009; 21(5): 1360-72.
stage 2								3. Vernoux T, Kronenberger J, Grandjean O, Laufs P, Traas J. PIN-FORMED 1 regulates cell fate at the periphery of the shoot apical meristem. Development. 2000; 127(23): 5157-65.
stage 3								4. Weigel D, Alvarez J, Smyth DR, Yanofsky MF, Meyerowitz EM. LEAFY controls floral meristem identity in Arabidopsis. Cell. 1992; 69(5): 843-59
stage 4								5. Chandler, J. W. and W. Werr (2017). "DORNROSCHEN, DORNROSCHEN-LIKE, and PUCHI redundantly control floral meristem identity and organ initiation in Arabidopsis." J Exp Bot 68(13): 3457-3472..
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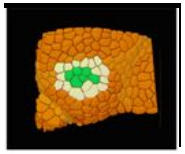
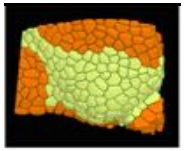
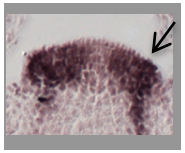
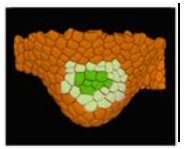
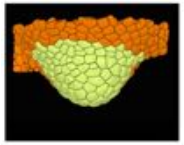
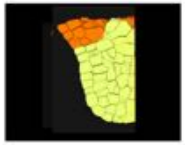
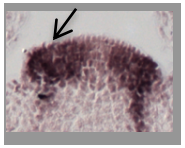
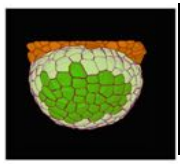
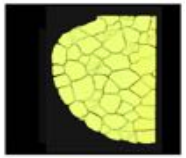
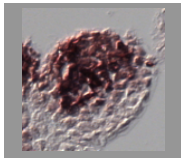
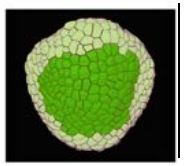
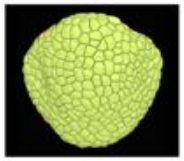
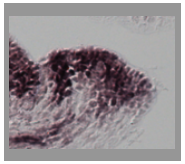
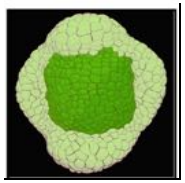
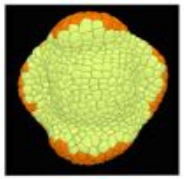
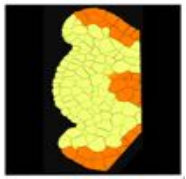
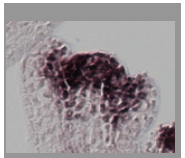
								6. Yamaguchi N, Wu MF, Winter CM, Berns MC, Nole-Wilson S, Yamaguchi A, et al. A molecular framework for auxin-mediated initiation of flower primordia. Dev Cell. 2013; 24(3): 271-82.
Remarks:	LEAFY is expressed from the earliest stages onwards. It is not clear if the gene is expressed in the cryptic bract (Karim et al and Yamaguchi et al suggest not, our own results and thoe of Blazquez et al do). Thi slight be linked to the plane of section. In most early stage 3 meristems low expression is observed in the central part . We observed, however in a few of these meristems that LFY was still high throughout the flower. We conclude that LFY becomes rapidly downregulated in the floral meristem proper during early stage 3. Note that this seems in contradiction with certain GFP lines (e.g. Chandler and Werr 2017, fig 7.							

MONOPTEROS_ARF5

	Stages of flower development with future meristem and sepals marked	topview	section	Yamaguchi et al 2012	Hardtke and Berleth, 1998	Chung et al 2019	Vachez et al unpublished
Initium stage							
stage 1							
stage 2							
stage 3							
stage 4							
Remarks:	Results from Hardtke and Berleth suggest that MP is not expressed at the meristem surface. Results from Yamaguchi et al as well our own data indicate that MP is expressed at the surface, albeit at somewhat lower levels. We also note a clear expression at the adaxial side of the sepal primordia from stage 3 onwards. There remains some incertainty regarding the level of expression in organ boundaries, where expression is lower in some samples.						

References

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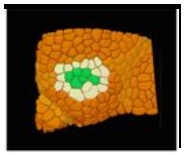
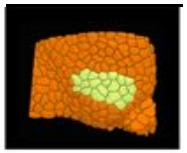
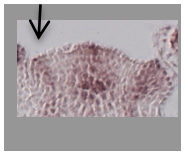
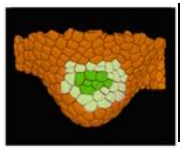
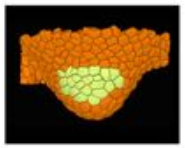
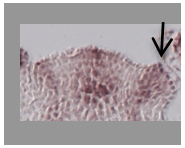
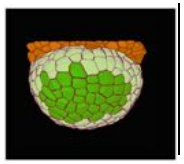
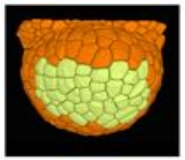
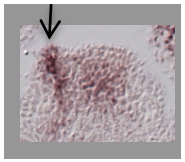
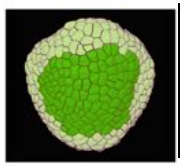
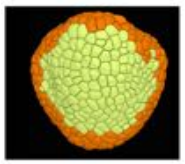
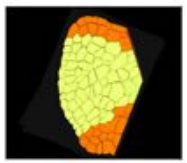
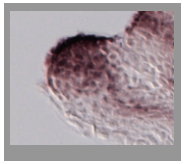
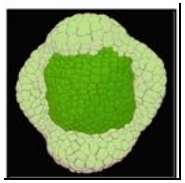
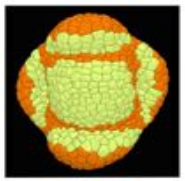
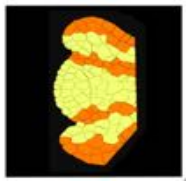
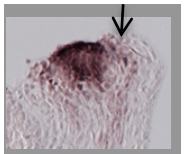
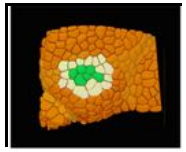
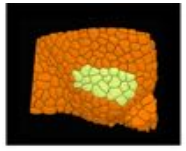
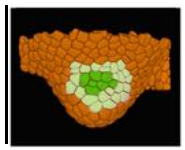
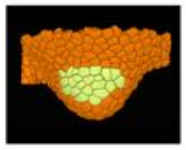
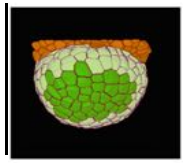
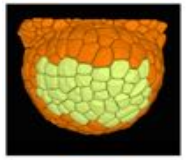
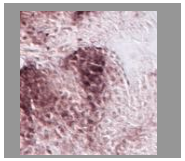
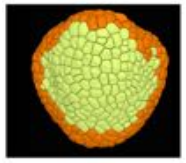
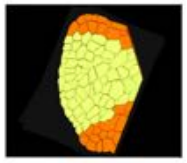
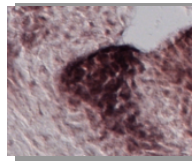
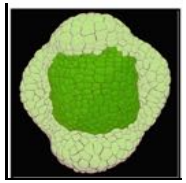
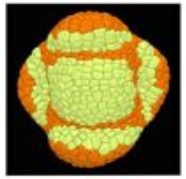
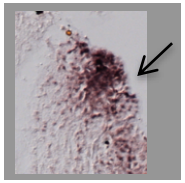
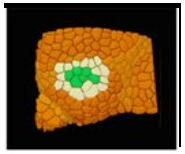
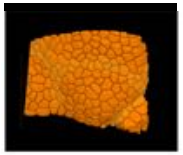
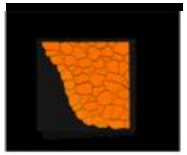
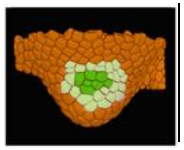
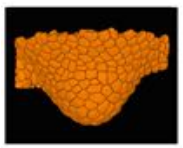
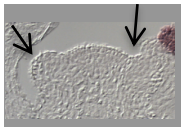
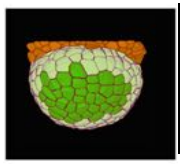
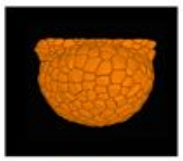
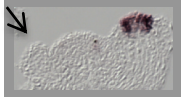
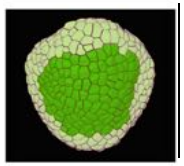
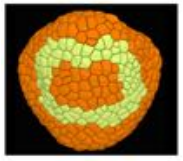
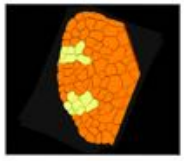
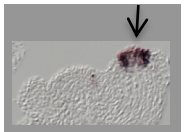
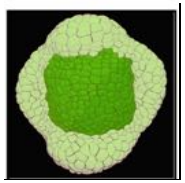
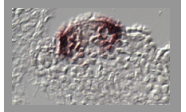
PHABULOSA

	Stages of flower development with future meristem and sepals marked	topview	section	Nole-Wilson and Krizek 2006		Vachez et al unpublished		References
Initium stage								1. Emery JF, Floyd SK, Alvarez J, Eshed Y, Hawker NP, Izhaki A, et al. Radial patterning of Arabidopsis shoots by class III HD-ZIP and KANADI genes. Curr Biol. 2003; 13(20): 1768-74. 2. McConnell JR, Emery J, Eshed Y, Bao N, Bowman J, Barton MK. Role of PHABULOSA and PHAVOLUTA in determining radial patterning in shoots. Nature. 2001; 411(6838): 709-13. 3. Nole-Wilson S, Krizek BA. AINTEGUMENTA contributes to organ polarity and regulates growth of lateral organs in combination with YABBY genes. Plant Physiol. 2006; 141(3): 977-87.
stage 1								
stage 2								
stage 3								
stage 4								
Remarks:	According to Emery et al (2003) very similar to PHV and REV. Note that the adaxial expression in sepals and young flower primordia is weaker. PHB is systematically strong in floral meristems.							

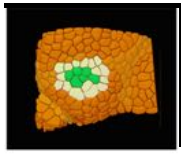
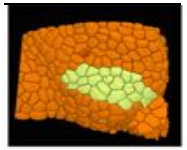
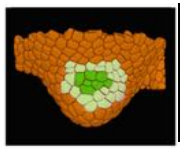
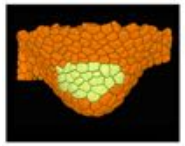
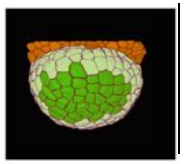
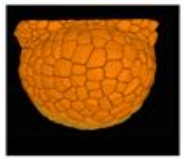
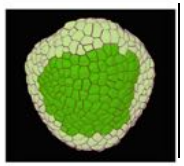
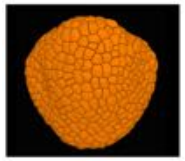
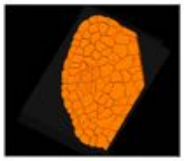
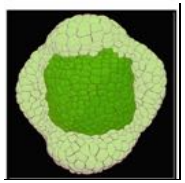
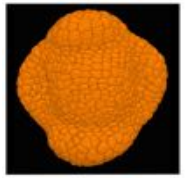
PHAVOLUTA

	Stages of flower development with future meristem and sepals marked	topview	section	Emery et al 2003		Vachez et al unpublished		References
Initium stage								1. Emery JF, Floyd SK, Alvarez J, Eshed Y, Hawker NP, Izhaki A, et al. Radial patterning of Arabidopsis shoots by class III HD-ZIP and KANADI genes. Curr Biol. 2003; 13(20): 1768-74. 2. McConnell JR, Emery J, Eshed Y, Bao N, Bowman J, Barton MK. Role of PHABULOSA and PHAVOLUTA in determining radial patterning in shoots. Nature. 2001; 411(6838): 709-13. 3. Nole-Wilson S, Krizek BA. AINTEGUMENTA contributes to organ polarity and regulates growth of lateral organs in combination with YABBY genes. Plant Physiol. 2006; 141(3): 977-87. 4. Otsuga D, DeGuzman B, Prigge MJ, Drews GN, Clark SE. REVOLUTA regulates meristem initiation at lateral positions. Plant J. 2001; 25(2): 223-36.
stage 1								
stage 2								
stage 3								
stage 4								
Remarks:	There are little data related to PHV expression. According to Emery et al: the class III HDSummary ZIP genes REVOLUTA (REV), PHABULOSA (PHB), and PHAVOLUTA (PHV) exhibit similar mRNA expression in apical and floral meristems Note that small area without PHV expression in the boundary between sepal primordia and floral meristem (as PHB (Nole-Wilson and Krizek (2006), REV Otsuga et a 2001l).							

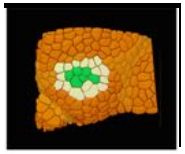
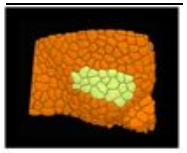
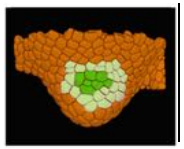
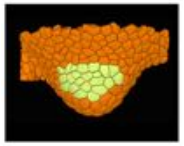
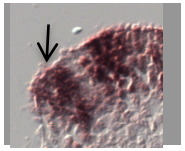
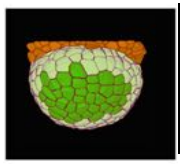
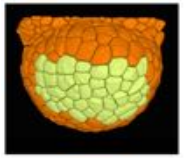
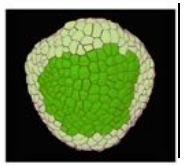
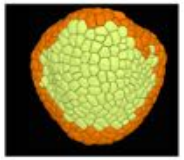
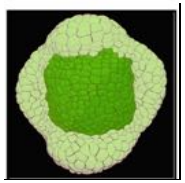
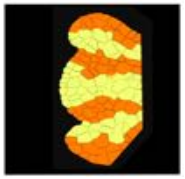
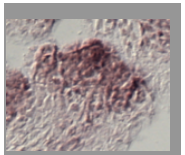
PISTILLATA

	Stages of flower development with future meristem and sepals marked	topview	section	Goto and Meyerowtiz 1994	Prunet and Meyerowitz unpublished		Vachez et al unpublished	References
Initium stage								1. Goto K, Meyerowitz EM. Function and regulation of the Arabidopsis floral homeotic gene PISTILLATA. Genes Dev. 1994; 8(13): 1548-60.
stage 1								
stage 2								
stage 3								
stage 4								
Remarks:	Very little references with reliable expression patterns found.							

PUCHI

	Stages of flower development with future meristem and sepals marked	topview	section	Karim et al 2009 (with permission, copyright The American Society of Plant Biologists)	Karim et al 2009 (with permission, copyright The American Society of Plant Biologists)			References
Initium stage								1. Karim MR, Hirota A, Kwiatkowska D, Tasaka M, Aida M. A role for Arabidopsis PUCHI in floral meristem identity and bract suppression. Plant Cell. 2009; 21(5): 1360-72.
stage 1								
stage 2								
stage 3								
stage 4								
Remarks:	NOTE: ORIGINAL IMAGES UNDER COPYRIGHT, CAN BE FOUND IN CITED REFERENCE							

REVOLUTA

	Stages of flower development with future meristem and sepals marked	topview	section	Heisler et al 2005	Otsuga et al 2001 (with permission from Wiley and Sons)	Emery et al 2003	Vachez et al unpublished
Initium stage							
stage 1							
stage 2							
stage 3							
stage 4							
Remarks:	All results agree on the patterns until late stage 3. The image of Otsuga suggests expression at a narrow zone at the floral meristem and the abaxial side o						

References

1. Emery JF, Floyd SK, Alvarez J, Eshed Y, Hawker NP, Izhaki A, et al. Radial patterning of Arabidopsis shoots by class III HD-ZIP and KANADI genes. Curr Biol. 2003; 13(20): 1768-74.
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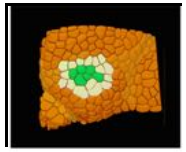
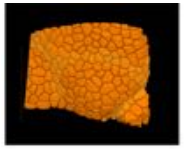
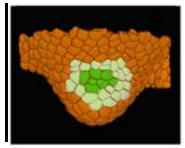
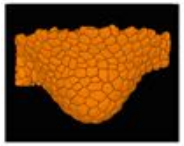
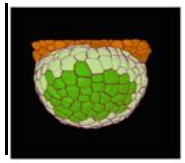
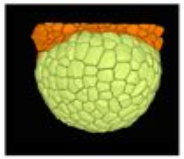
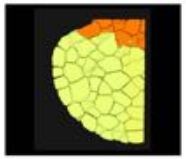
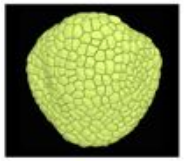
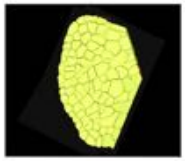
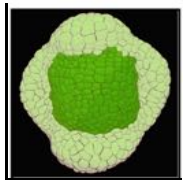
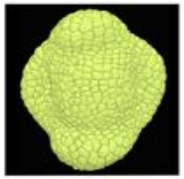
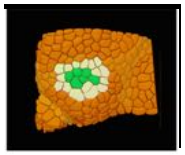
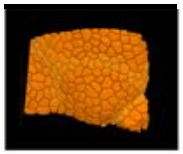
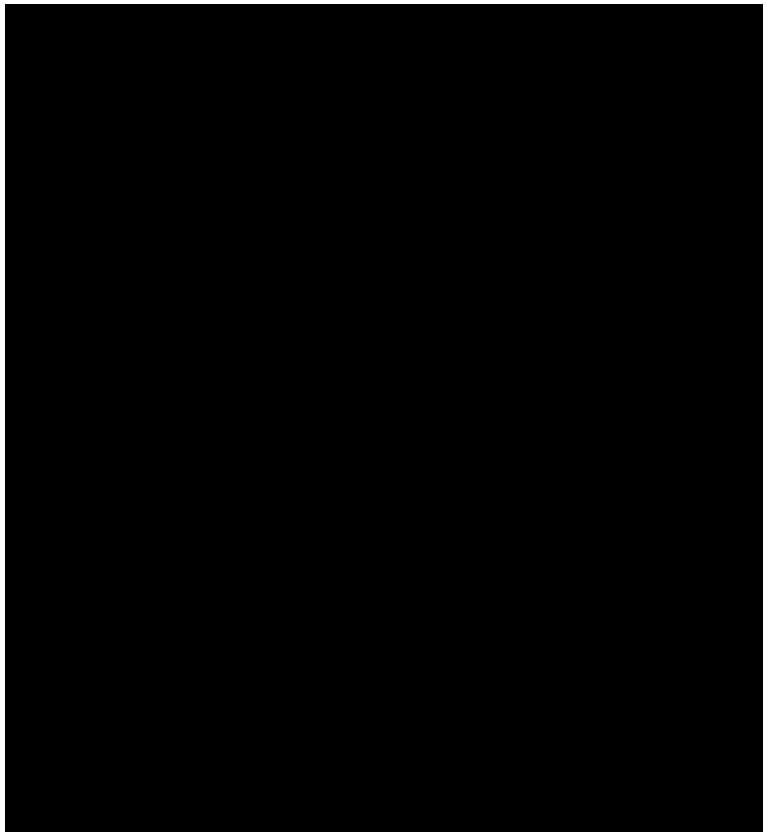
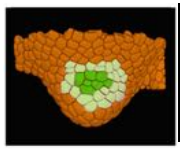
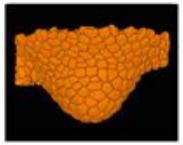
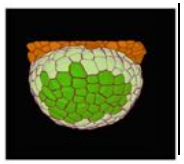
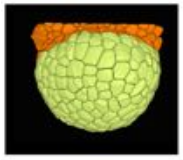
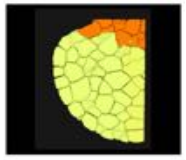
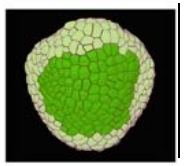
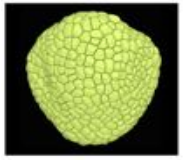
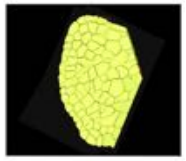
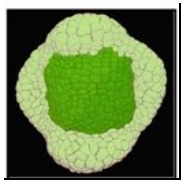
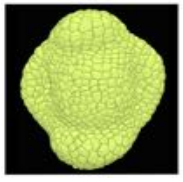
SEPALLATA1/AGL2

	Stages of flower development with future meristem and sepals marked	top view	section	Flanagan and Ma, 1994 (with permission from Springer Nature)	Flanagan and Ma, 1994 (bright field of previous column) with permission			References
Initium stage								1. Flanagan CA, Ma H. Spatially and temporally regulated expression of the MADS-box gene AGL2 in wild-type and mutant arabidopsis flowers. Plant Mol Biol. 1994; 26(2): 581-95. 2. Pelaz S, Ditta GS, Baumann E, Wisman E, Yanofsky MF. B and C floral organ identity functions require SEPALLATA MADS-box genes. Nature. 2000; 405(6783): 200-3.
stage 1								
stage 2								
stage 3								
stage 4								

Remarks: Only one clear expression pattern found in the litterature. NOTE: ORIGINAL IMAGES UNDER COPYRIGHT, CAN BE FOUND IN CITED REFERENCE

SEPALLATA2

	Stages of flower development with future meristem and sepals marked	top view	section	Savidge et al 1995
Initium stage				
stage 1				
stage 2				
stage 3				
stage 4				

References

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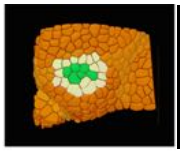
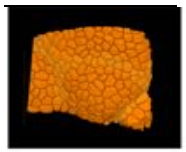
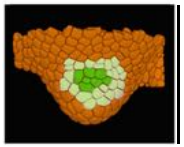
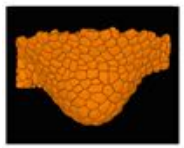
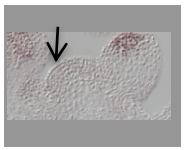
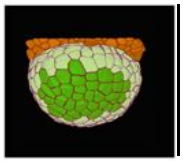
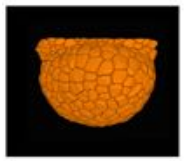
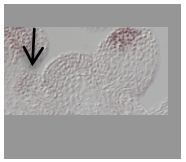
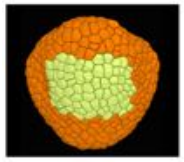
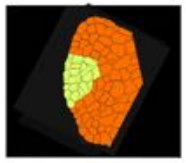
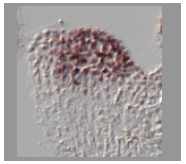
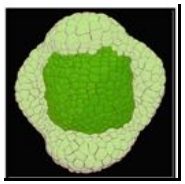
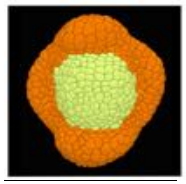
2. Pelaz S, Ditta GS, Baumann E, Wisman E, Yanofsky MF. B and C floral organ identity functions require SEPALLATA MADS-box genes. Nature. 2000; 405(6783): 200-3.
3. Savidge B, Rounsley SD, Yanofsky MF. Temporal relationship between the transcription of two Arabidopsis MADS box genes and the floral organ identity genes. Plant Cell. 1995; 7(6): 721-33.

Remarks: Only one image found, that indicates that SEP2 expression is very similar if not identical to the pattern of SEP1 (see also summary of expression patterns in Krizek and Fletcher (2005). NOTE: ORIGINAL IMAGES UNDER COPYRIGHT, CAN BE FOUND IN CITED REFERENCES

SEPALLATA3/AGL9

	Stages of flower development with future meristem and sepals marked	top view	section	Mandel et al 1998	Urbanus et al 2009	Wu et al 2012	Vachez et al unpublished
Initium stage							
stage 1							
stage 2							
stage 3							
stage 4							

Remarks: Mandel et al (1998) propose that SEP3 is expressed throughout the stage 2 meristem. This was not confirmed by our data, nor by those of Urbanus et al (2009), who saw a weak GFP labelling at best during stage 1/2. The image by Mandel et al (1998) could be a cross section through a stage 3 as well.

References

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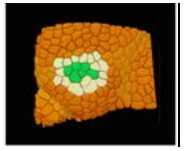
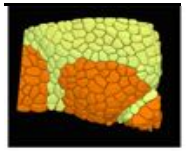
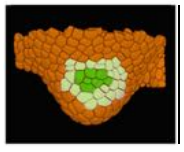
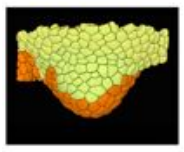
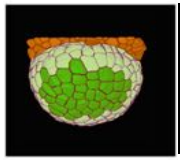
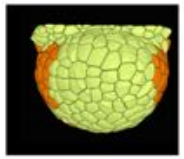
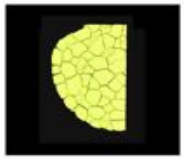
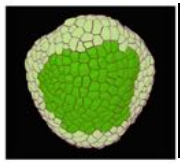
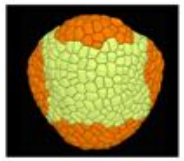
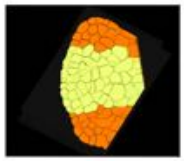
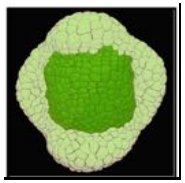
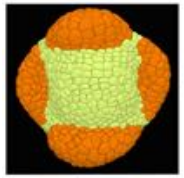
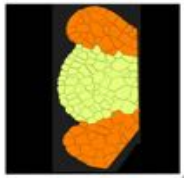
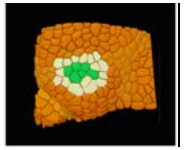
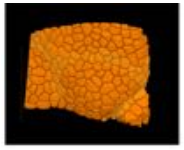
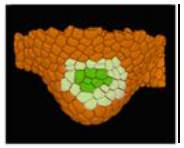
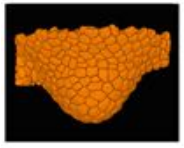
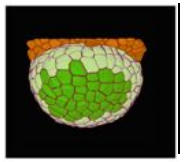
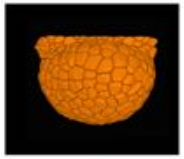
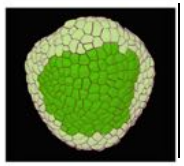
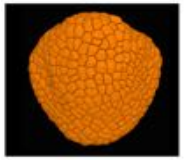
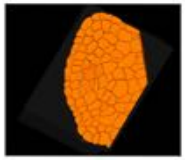
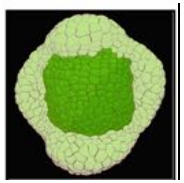
SHOOTMERISTEMLESS

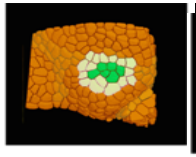
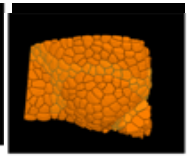
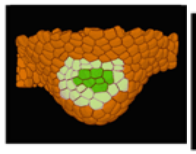
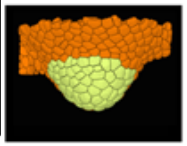
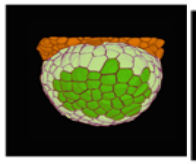
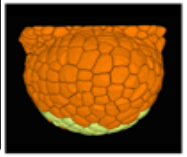
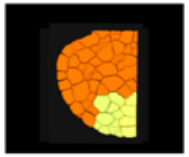
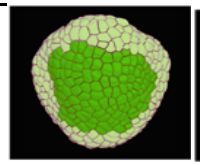
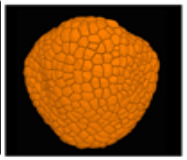
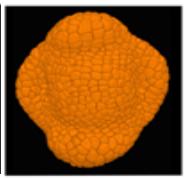
	Stages of flower development with future meristem and sepals marked	topview	section	Long and Barton, 2000	Maier et al 2011 (Creative Commons Attribution licence (CC-BY).	Landrein et al 2015		References
Initium stage								1. Landrein B, Kiss A, Sassi M, Chauvet A, Das P, Cortizo M, et al. Mechanical stress contributes to the expression of the STM homeobox gene in Arabidopsis shoot meristems. Elife. 2015; 4: e07811. 2. Long J, Barton MK. Initiation of axillary and floral meristems in Arabidopsis. Dev Biol. 2000; 218(2): 341-53. 3. Maier AT, Stehling-Sun S, Offenburger SL, Lohmann JU. The bZIP Transcription Factor PERIANTHIA: A Multifunctional Hub for Meristem Control. Front Plant Sci. 2011; 2: 79.
stage 1								
stage 2								
stage 3								
stage 4								
Remarks:	In particular the study by Barton and Long is very detailed. According to the serial sections (not reproduced here), STM reactivates during stage 1 (labelled 5 on the figure) in the future meristem and not in the cryptic bract. The reactivation at this stage is also confirmed by the GFP line used by Landrein et al. The gene is also clearly not expressed in the future sepal primordia at early stage 3. STM is not active in the lateral sepals, even before they grow out and AHP6 is active. NOTE: ORIGINAL IMAGES UNDER COPYRIGHT, CAN BE FOUND IN CITED REFERENCES							

SUPERMAN

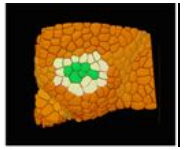
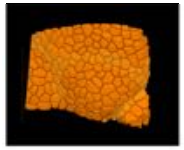
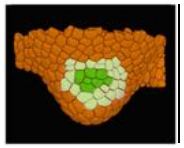
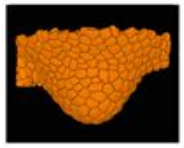
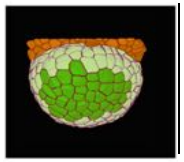
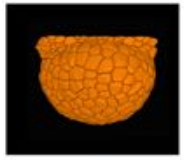
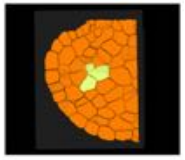
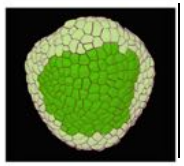
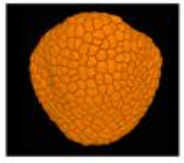
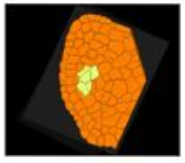
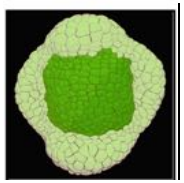
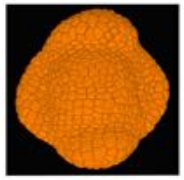
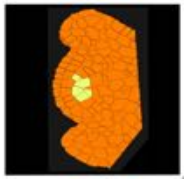
	Stages of flower development with future meristem and sepals marked	top view	section	itoh et al 2003	Prunet et al 2017	References
Initium stage						1. Ito, T., et al. (2003). "Whorl-specific expression of the SUPERMAN gene of Arabidopsis is mediated by cis elements in the transcribed region." Curr Biol 13(17): 1524-1530. 2. Prunet, N., Jack, T.P., and Meyerowitz, E.M. (2016). Live confocal imaging of Arabidopsis flower buds. Dev. Biol. 419, 114–120. 3. Prunet, N., Yang, W., Das, P., Meyerowitz, E.M., and Jack, T.P. (2017). SUPERMAN prevents class B gene expression and promotes stem cell termination in the fourth whorl of Arabidopsis thaliana flowers. Proc Natl Acad Sci USA 114, 7166–7171.
stage 1						
stage 2						
stage 3						
stage 4						

Remarks: The publication by Ito et al (2003) described an expression pattern somehwere between the third and fourth whorl. The line made by Prunet al shows a partial overlap between AP3-GFP (green) and SUP-VENUS N7 (red). NOTE: ORIGINAL IMAGES UNDER COPYRIGHT, CAN BE FOUND IN CITED REFERENCES

Short Vegetative Phase

	Stages with approx. zones of future meristem (green) and sepals (yellow) marked	SVP top view	SVP section	Hartmann et al 2000 (with permission from John Wiley and Sons)	Liu et al 2013	Liu et al 2007 (reproduced with permission)		References
Initium stage								1. Hartmann, U., Höhmann, S., Nettesheim, K., Wisman, E., Saedler, H., and Huijser, P. (2000). Molecular cloning of SVP: a negative regulator of the floral transition in Arabidopsis. Plant J. 21, 351–360. 2. Liu, C., Teo, Z.W.N., Bi, Y., Song, S., Xi, W., Yang, X., Yin, Z., and Yu, H. (2013). A conserved genetic pathway determines inflorescence architecture in Arabidopsis and rice. Dev. Cell 24, 612–622. 3. Liu, C., Zhou, J., Bracha-Drori, K., Yalovsky, S., Ito, T., and Yu, H. (2007). Specification of Arabidopsis floral meristem identity by repression of flowering time genes. Development 134, 1901–1910.
stage 1								
stage 2								
stage 3								
stage 4								
Remarks:	SVP is expressed during the early stages of flower development and then gradually fades, remaining in the bract domain until stage 2. NOTE: ORIGINAL IMAGES UNDER COPYRIGHT, CAN BE FOUND IN CITED REFERENCES							

WUSCHEL

	Stages of flower development with future meristem and sepals marked	top view	section	Maier et al (2011)	Rozier et al (2014) (with permission from Springer Nature)	Mayer et et al (1998)	Lenhard et al (2001)
Initium stage							
stage 1							
stage 2							
stage 3							
stage 4							

Remarks: In the flower the expression of WUS is limited to the L3. The gene is activated during stage 1 : note relatively weak expression in images from Rozier et al.

References

1. Lenhard M, Bohnert A, Jurgens G, Laux T. Termination of stem cell maintenance in Arabidopsis floral meristems by interactions between WUSCHEL and AGAMOUS. Cell. 2001; 105(6): 805-14.
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6. Schoof H, Lenhard M, Haecker A, Mayer KF, Jurgens G, Laux T. The stem cell population of Arabidopsis shoot meristems in maintained by a regulatory loop between the CLAVATA and WUSCHEL genes. Cell. 2000; 100(6): 635-44.