

Plant researchers from CBSG have elucidated how plants produce flowers (Science, April 2, 2010)

The gene *APETALA1* (*AP1*) encoding a transcription factor is required for the development of flowers in the small cruciferous plant *Arabidopsis thaliana*. If *AP1* (and the closely-related gene *CAULIFLOWER*) is mutated, a normal *Arabidopsis* inflorescence (left panel) does not develop. Instead, the plants do not transition normally to flowering and a massive over-proliferation of their inflorescence meristems occur, leading to a cauliflower-like appearance (middle panel), reminiscent to the well-known vegetable (right panel). The work by Kaufmann and co-authors has characterized the gene regulatory network that *AP1* controls and that permits the developmental switch to occur and floral development to commence. They discovered that in the first few hours when *AP1* is active, it down-regulates a large number of genes that are involved in the vegetative development and floral induction, followed by a burst of gene activity that is needed for the next developmental program: the formation of the flower. *AP1* is a hub between the two networks. This work will appear in the first Science issue of April:

Orchestration of Floral Initiation by *APETALA1* by Kerstin Kaufmann[#], Frank Wellmer, Jose M. Muiño[#], Thilia Ferrier, Samuel E. Wuest, Vijaya Kumar, Antonio Serrano-Mislata, Francisco Madueño, Pawel Krajewski, Elliot M. Meyerowitz, Gerco C. Angenent[#], and José Luis Riechmann ([#], NGI)

