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## Controlling the bacterial cell cycle

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In the 15 December *Science*, Laub *et al.* find that a full 19% of the genome of the bacterium *Caulobacter crescentus* is subject to cell-cycle-specific regulation (*Science* 2000, **290**:2144-2148). A surprising number of genes are induced, as in yeast, just before they are needed. Other genes, such as those directing the construction of the flagella and pilus, are induced in transcriptional cascades, with the order of induction reflecting the order of assembly of the respective apparatus. Laub *et al.* also use their microarray to determine the effect of decreasing or increasing the function of the CtrA response regulator. Temporal and spatial regulation of CtrA are vital for the differentiation and cell cycle progression of *Caulobacter cells*, and Laub *et al.* find that 26% (144 of 553) of all cell-cycle-dependent transcripts are directly or indirectly affected by CtrA levels. Candidates for the other important cell cycle regulators in *Caulobacter* include 27 newly identified temporally controlled genes encoding two-component signal transduction proteins and sigma factors.

## References

1. *Science*, [<http://www.sciencemag.org/>]
2. A genome-wide transcriptional analysis of the mitotic cell cycle.