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For B cells, less is more

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Graded expression of transcription factors is a presumed mechanism for the specification of different cell fates in development. But its importance has yet to be demonstrated outside of the fruitfly embryo. DeKoter and Singh remedy this situation in the 26 May Science with a study of the ets family transcription factor PU.1 (*Science* 2000, **288**:1439-1441). Hematopoietic progenitor cells lacking this factor can be rescued by infection with a PU.1-containing virus; the resulting macrophages have high expression of PU.1 whereas the B cells show low expression of PU.1. Overexpression of PU.1 blocks B cell development and promotes macrophage development. In contrast, expression of a crippled PU.1 lacking an activation domain preferentially induces the generation of pro-B cells. DeKoter and Singh find that PU.1 is influencing not proliferation but differentiation.

References

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2. Science Magazine's Homepage, [http://www.sciencemag.org/]