GENETICS

(RE)PROGRAMMING ADULT INTO PLURIPOTENT CELLS

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Last August I found an interesting paper in Cell that could mark a scientific breakthrough. In a step down approach the authors were able to reduce a mix of 24 transcription factors to 4 that were still able to induce a mouse embryonic stem cell signature (by using a fusion cassette of ß-galactosidase and neomycin resistance into Fbx15 gene).
The magic cocktail consisted of Oct3/4 and Sox2 (both embryonic stem cell core factors that directly target Fbx15), c-My (does global histone acetylation) and Klf4 (represses p53 directly).
My first question is if this cocktail reprogramms differentiated cells or if it just selects rare progenitors otherwise hidden under more fibroblast cells. My second question is if these are fully reprogrammed cells – or if the Fbx15 signature is somewhat misleading. My third question: Is this effect mouse specific?
I have now checked ISI if any paper is already citing this work – it seems that we need more patience. Yea, yea.