

Editor's Summary

2 July 2009

iPS cells three years on

In the three years since Kazutoshi Takahashi and Shinya Yamanaka first demonstrated the generation of iPS (induced pluripotent stem) cells from 'normal' somatic cells using defined factors, interest in these cells has been high. Yet although they are reproducibly generated by transfection of a small number of factors, only a few per cent of transfected cells become pluripotent, and the procedure is very slow. In a review that starts with the 'pre-iPS' days, Shinya Yamanaka focuses on the mechanisms of iPS production, and on the reasons for its inefficiency and slowness. He concludes by proposing a model for direct reprogramming in which all or most cells have the potential to become pluripotent.

PROGRESS

Elite and stochastic models for induced pluripotent stem cell generation

Shinya Yamanaka

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