

A chemical approach to stem-cell biology and regenerative medicine.

Journal:	Nature
Publication Year:	2008
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PubMed link:	18480815
Funding Grants:	Derivation of New ICM-stage hESCs , Reprogramming of human somatic cells back to pluripotent embryonic stem cells

Public Summary:

An improved understanding of stem-cell and regenerative biology, as well as a better control of stem-cell fate, is likely to produce treatments for many devastating diseases and injuries. Chemical approaches are starting to have an increasingly important role in this young field. Attention has focused on chemical approaches that allow the precise manipulation of cells in vitro to obtain homogeneous cell types for cell-based therapies. Another promising approach is the development of conventional chemical and biological therapeutics to stimulate endogenous cells to regenerate. Such therapeutics can act on target cells or their niches in vivo to promote cell survival, proliferation, differentiation, reprogramming and homing.

Scientific Abstract:

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