



nature publishing group



► **COVER:** 'Shaggy hair' by Manuel Enriquez, based on an image of the tips of the villi in the mouse small intestine, courtesy of Paul Appleton, and inspired by the Perspective on p967.



EZZIE HUTCHINSON



NICOLA MCCARTHY



SARAH SETON-ROGERS



GEMMA ALDERTON

**L**ike the animals in *Animal Farm*, we have moved from a position where all cancer cells are equal to one where some cancer cells are more equal than others. There is a specific subset of cancer cells that alone are thought to maintain the growth of the tumour — cancer stem cells.

The identification of these cells is now a crucial goal for cancer research. But how do we discern a true cancer stem cell from a cancer progenitor cell, for example? On pages 903 and 906 we have highlighted two recently published papers that begin to address this question. By building on the advances recently made in the identification of normal adult stem cells, there are a few markers, genes and activated pathways that, when combined with suitable *in vitro* and *in vivo* assays, can be used to identify cancer-stem-cell-like cells. However, a definitive set of markers with which to isolate *bona fide* cancer stem cells within a given tumour type remains to be established.

Accompanying this month's issue is a Poster on 'molecular mechanisms of stem-cell identity and stem-cell fate' by Fiona M. Watt and Kevin Eggan. As this is a relatively new area of research that uses a number of specific terms, the Poster also includes a stem-cell glossary that clarifies some of these. The poster has been produced in conjunction with our sister journal *Nature Reviews Molecular Cell Biology* and, thanks to the generous support of Abcam, is freely available online at <http://www.nature.com/nrc/poster/stemcell>.

We hope that this poster will prove to be a useful summary of the origins and fates of stem cells during development and in the adult, and will also provide a guide to some of the markers that have been used to identify stem cells and cancer-stem-cell-enriched populations.

#### EDITORIAL OFFICES

**LONDON** NatureReviews@nature.com  
The Macmillan Building, 4 Crinan Street,  
London N1 9XW, UK  
Tel: +44 (0)20 7843 3620;  
Fax: +44 (0)20 7843 3629

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#### MANAGEMENT OFFICES

**LONDON** nature@nature.com

The Macmillan Building,  
4 Crinan Street,  
London N1 9XW, UK

Tel: +44 (0)20 7833 4000;

Fax: +44 (0)20 7843 4596/7

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**NEW YORK** nature@natureny.com

Nature Publishing Group,

75 Varick Street,

9th floor, New York,

NY 10013-1917, USA

Tel: +1 212 726 9200;

Fax: +1 212 696 9006

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Tel: +81 3 3267 8751;

Fax: +81 3 3267 8746

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Harpal Singh Gill

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Printed in Wales by Cambrian Printers

on acid-free paper