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► **COVER:** 'Patterns of expression' by Claudia Bentley, inspired by the Focus on Biomarkers.



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The special Focus in this issue of *Nature Reviews Cancer* covers the application of biomarkers to cancer research, detection and treatment. With technological advances in gene expression, genomic and proteomic analysis, biomarker discovery is a fast-growing area of cancer research. Articles in this issue describe some of the most-recently discovered biomarkers and their potential applications.

On page 99, Michael Whitfield and colleagues describe a 'proliferation gene-expression signature' associated with cancer cells, and discuss what it can tell us about cancer pathogenesis and progression. William Evans' group describe how gene expression signatures can be used to identify patients with leukaemia who are most likely to respond to certain therapies (page 117). John Potter and colleagues discuss how pharmacogenetic studies might allow tailoring of the use of non-steroidal anti-inflammatory drugs to individuals who are at risk of colorectal cancer but who are not at risk of potential toxicity from these drugs. On page 141, Kent Hunter explains how host genetic factors influence tumour metastasis, and the potential use of these factors as biomarkers for prognosis.

Proteomic research is also producing many interesting cancer biomarkers. Garry Nolan and colleagues discuss a novel approach — using fluorescence-activated cell-sorting analysis to perform 'single-cell proteomics' — to further understand tumorigenesis and to work towards personalised treatment strategies.

By visiting the Biomarkers Focus website (<http://www.nature.com/reviews/focus/biomarkers>) readers can also access cancer biomarker articles published in other NPG journals. The articles in the Focus on Biomarkers in this issue of *Nature Reviews Cancer* will be free during February 2006, making this a useful resource for the cancer research community.

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