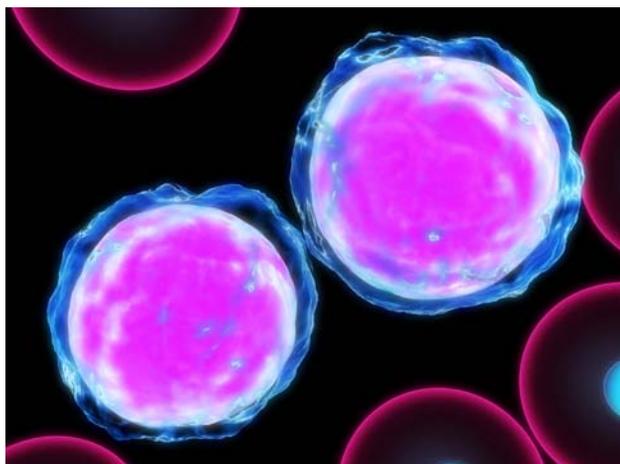


Intellectual Property  
(Non-confidential)



NATIONAL MEDICAL CENTER AND  
BECKMAN RESEARCH INSTITUTE

## Predictive Assay for Cancer Therapy-Related Myelodysplasia and AML



### DESCRIPTION

Therapy-related myelodysplasia, also known as acute myeloid leukemia (t-MDS/AML), is a lethal complication of cancer treatment (e.g. radiation and chemotherapy) which can occur years after treatment is complete. The pathogenesis of t-MDS/AML is not well understood; consequently, there is no known method to predict the risk of development of the condition in individual cancer survivors. The highlighted technology provides a validated and robust method for the prediction of t-MDS/AML based on a 38-gene expression profile of peripheral blood stem cells that can accurately distinguish between patients who will or will not develop t-MDS/AML. The genes assayed in this analysis include those related to mitochondrial function,

protein synthesis, cellular metabolism, and hematopoietic regulation as well as DNA repair and DNA-damage checkpoint genes. Most importantly, this expression profile can accurately predict the t-MDS/AML onset several years before the disease becomes clinically overt. Such knowledge could be critical in guiding the course of preventative and therapeutic interventions.

### KEY ASPECTS

- Validated gene-expression-based method for accurate prediction of the onset of therapy-related myelodysplasia
- Only method currently available to robustly predict the onset of t-MDS/AML
- Assayed genes include those related to mitochondrial function, protein synthesis, cellular metabolism, and hematopoietic regulation as well as DNA repair and DNA-damage checkpoint genes
- Click on the [link](#) to view the *Cancer Cell* publication: "Altered hematopoietic cell gene expression precedes development of therapy-related myelodysplasia/acute myeloid leukemia and identifies patients at risk." *Cancer Cell*. 2011 Nov 15;20(5):591-605. PMID: 22094254

### INTELLECTUAL PROPERTY

Title	Patent Number	Country	Date Filed
Gene Signatures for Prediction of Therapy-Related Myelodysplasia and Methods for Identification of Patients at Risk for Development of the Same	PCT/US11/64040	PCT	12/8/2011

### CONTACT

Ryan Kelly, Ph.D.  
Manager, Office of Technology Licensing  
Telephone: (626) 471-9359  
Email: [rykelly@coh.org](mailto:rykelly@coh.org)

This material is a summary of public domain and non-confidential City of Hope information. Additional material may be disclosed under a confidentiality agreement.