



Endotoxin testing in about 15 minutes

[HOME](#) [HELP](#) [FEEDBACK](#) [SUBSCRIPTIONS](#) [ARCHIVE](#) [SEARCH](#) [SEARCH RESULT](#)

QUICK SEARCH: [advanced]	
Author:	Keyword(s):
Go	
Year:	Vol: Page:

First published online August 9, 2007

Stem Cells Vol. 25 No. 11 November 2007, pp. 2903 -2909

doi:10.1634/stemcells.2007-0409; www.StemCells.com© 2007 [AlphaMed Press](#)

CANCER STEM CELLS

Donor-Derived Human Bone Marrow Cells Contribute to Solid Organ Cancers Developing After Bone Marrow Transplantation

 Itzhak Avital^a, Andre L. Moreira^b, David S. Klimstra^b, Margaret Leversha^c,
 Esperanza B. Papadopoulos^d, Murray Brennan^e, Robert J. Downey^e
^aSurgery Branch, National Cancer Institute, Bethesda, Maryland, USA;^bDepartment of Pathology,^cMolecular Cytogenetics Core Facility,^dDepartment of Medicine,^eDepartment of Surgery, Memorial Sloan-Kettering Cancer Center, New York, New York, USA
Key Words. Cancer stem cells • Bone marrow • Solid organ cancer • Bone marrow transplantation

 Correspondence: Itzhak Avital, M.D., Surgery Branch, National Cancer Institute, Building 10-Hatfield CRC, Room 3-3940, 10 Center Drive, Bethesda, Maryland 20892-1201, USA. Telephone: 301-496-4164; Fax: 301-402-1738; e-mail: avitali@mail.nih.gov

Received May 24, 2007; accepted for publication July 31, 2007.

First published online in *STEM CELLS EXPRESS* August 9, 2007.

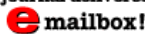
Bone marrow-derived stem cells have been shown to participate in solid organ repair after tissue injury. Animal models suggest that epithelial malignancies may arise as aberrant stem cell differentiation during tissue repair. We hypothesized that if bone marrow stem cells participate in human neoplasia, then solid organ cancers developing after allogeneic bone marrow transplantation (ABMT) might include malignant cells of donor origin. We identified four male patients who developed solid organ cancers (lung adenocarcinoma, laryngeal squamous cell carcinoma, glioblastoma, and Kaposi sarcoma) after myeloablation, total body irradiation, and ABMT from female donors. Donor-derived malignant cells comprised 2.5%–6% of the tumor cellularity. The presence of donor-derived malignant cells in solid organ cancers suggests that human bone marrow-derived stem cells have a role in solid organ cancer's carcinogenesis. However, the nature of this role is yet to be defined.

Disclosure of potential conflicts of interest is found at the end of this article.

This Article	
▶ Full Text	
▶ Full Text (PDF)	
▶ All Versions of this Article:	
▶ 2007-0409v1	
▶ 2007-0409v2	
▶ 25/11/2903 <i>most recent</i>	
▶ Alert me when this article is cited	
▶ Alert me if a correction is posted	
▶ Citation Map	
Services	
▶ Similar articles in this journal	
▶ Similar articles in PubMed	
▶ Alert me to new issues of the journal	
▶ Download to citation manager	
▶ Reprints/Permissions	
Google Scholar	
▶ Articles by Avital, I.	
▶ Articles by Downey, R. J.	
PubMed	
▶ PubMed Citation	
▶ Articles by Avital, I.	
▶ Articles by Downey, R. J.	

[HOME](#) [HELP](#) [FEEDBACK](#) [SUBSCRIPTIONS](#) [ARCHIVE](#) [SEARCH](#) [SEARCH RESULT](#)
[STEM CELLS](#) [THE ONCOLOGIST](#) [CME](#) [ALPHAMED PRESS JOURNALS](#)

get the journal delivered to your



Copyright © 2007 by AlphaMed Press.