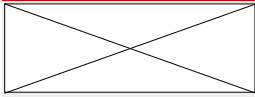




Articles

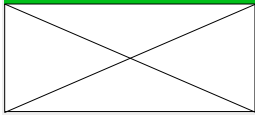


[TCRT 2002](#)
[TCRT 2003](#)
[TCRT 2004](#)
[TCRT 2005](#)
[TCRT 2006](#)
[TCRT 2007](#)

[TCRT February 2007](#)
[TCRT April 2007](#)
[TCRT June 2007](#)
[TCRT August 2007](#)
[TCRT August \(Supplement\) 2007](#)
[TCRT October 2007](#)
[TCRT December 2007](#)

CALL FOR PAPERS

[Click Here](#)



Call for Papers. TCRT invites original articles for the future '08 issues.

TCRT Apr. 2008: Gene therapy, MS submission deadline Dec. 1, '07

TCRT June 2008: Cancer screening, MS submission deadline Feb. 1, '08

TCRT Aug. 2008: Functional imaging, MS submission deadline Apr. 1, '08

TCRT Oct. 2008: Cancer therapeutics, MS submission deadline June 1, '08

Please contact Dr. Mukti H. Sarma (mukti@albany.edu) for more information

TCRT December 2007



Volume 6
 No. 6 (p 589-668)
 December 2007
 ISSN 1533-0338

Optical Spectroscopy A Non-invasive, *In Vivo* Technique for Monitoring Vascular Status of Glioblastoma During Angiogenesis (p. 641- 650)

Abstract

The growth of solid tumors dependent on the process of angiogenesis in which growth factors secreted by tumor and stromal cells promote endothelial cell proliferation, migration, and maturation. This process generates a tumor-specific vascular supply and enables small or dormant tumors to grow rapidly with exponential increases in tumor volume. Determination of tumor oxygenation at the microvascular level will provide important insight into tumor growth, angiogenesis, necrosis, and therapeutic response, and will facilitate to develop protocols for studying tumor behavior.

A non-invasive multi-modality approach based on near infrared spectroscopy (NIRS) technique, namely: Steady State Diffuse Optical Spectroscopy (SSDOS) along with Magnetic Resonance Imaging (MRI) is applied for monitoring the concentration of oxyhemoglobin, deoxyhemoglobin and water within tumor region and for studying the vascular status of tumor and the patho-physiological changes that occur during angiogenesis. Since, the growth of solid tumors depends on the formation of new blood vessels, an association between intramural microvessel density (MVD) and tumor oxygenation is also investigated. The relative decrease in oxygenation value with tumor growth indicates that though blood vessels infiltrate and proliferate the tumor region, a hypoxic trend is clearly present.

Key words: Hemodynamics; Physiological Optics; Optical absorption spectroscopy; Tissue Optics; Glioblastoma; Brain Tumor; Angiogenesis; Vascularization; Noninvasive imaging; Laser optics; Applied physics; and Fiber optics.

Purchase Downloadable Full-text PDF of Articles

Corporate User
 \$100.00

University/Academic User
 \$50.00

Purchase Downloadable Full-text PDF of Article:

[Add to Basket](#)

Subscription is more cost effective than purchasing PDFs on-the-fly. [Click here for details.](#)

[<< Go Back to TCRT December 2007](#)

[Member Login](#) | [Home](#) | [Editorial Board](#) | [Instructions](#) | [Subscribe](#) | [Contact Us](#)

Adenine Press, 2066 Central Avenue, Schenectady, NY 12304 USA
 phone: 518-456-0784; fax: 518-452-4955; email: tcrt@adeninepress.com
 copyright © Adeninepress, All rights reserved.



[Re-initialize IP-based Login](#)