



WHAT'S NEW

- (i) MTTI and National Health Research Institutes Present a Novel Cancer Therapeutic at 2015 AACR
http://www.mtarget.com/mm5/pdfs/2015April17MTTI_NHRIFinal.pdf
- (ii) MTTI receives patent approval for technology to identify dead and dying cells in patients
<http://www.mtarget.com/mm5/pdfs/PR14OctMCWMTTFinal.pdf>
- (iii) MTTI and National Health Research Institutes Have Joined Forces in Developing Novel Cancer Therapeutics
http://www.mtarget.com/mm5/pdfs/MTTI_NHRI%20press%20release2014August.pdf
http://www.mtarget.com/mm5/pdfs/MTTI_NHRI%20press%20release2014AugustChinese.pdf
- (iv) Real time assessment of tumor response presentation wins the Innovation competition at 2013 SNMMI Meeting, please see link:
[http://www.mtarget.com/mm5/pdfs/PR13June18DualMoleculeFinalWebsite%20\(3\).pdf](http://www.mtarget.com/mm5/pdfs/PR13June18DualMoleculeFinalWebsite%20(3).pdf)
- (v) See educational videos on apoptosis:
 - (a) <http://www.youtube.com/watch?v=Ccc7uph4-yQ>
 - (b) <http://www.youtube.com/watch?v=9KTDz-ZisZ0>
- (vi) See useful sites on biomarkers from Biomarker Profiles, our new strategic alliance:
 - (a) autoimmune disease-<http://www.biomarkerprofiles.com/autoimmune.html>
 - (b) cancer-<http://www.biomarkerprofiles.com/cancer.html>
 - (c) infectious disease-http://www.biomarkerprofiles.com/infectious_disease.html
 - (d) neurological disorder-http://www.biomarkerprofiles.com/neurological_disorders.html
 - (e) rare disease- <http://www.biomarkerprofiles.com/rare.html>
 - (f) other disease-<http://www.biomarkerprofiles.com/otherdisease.html>

CONFERENCES

2014 WMIC, September 17-20, Seoul, Korea

Junling Li, Huaiyu Zheng, Katie Deveau, Alice H. Shum-Siu, Brian D. Gray, Koon Y. Pak, David S. Magnuson, Chin K. Ng. Imaging apoptosis and glucose metabolism of spinal cord injury using ^{18}F -FP-Cy7-DPA and ^{18}F -FDG in rats

Conclusions: The preliminary data demonstrated that imaging cell death assessed by ^{18}F -FP-Cy7-DPA might be a more sensitive imaging biomarker than glucose metabolism assessed by ^{18}F -FDG to determine the status of the downstream distal regions of the spinal cord after a SCI at the T10 level.

F. Elvas, C. Vangestel, S. Rapic, S. Deleye, B. D. Gray, K. Y. Pak, S. Staelens, S. Stroobants, L. Wyffels. Early assessment of tumor response to chemotherapy using $^{99\text{m}}\text{Tc}$ -duramycin in a colorectal cancer model

Conclusions: Our results show that $^{99\text{m}}\text{Tc}$ -duramycin specifically accumulates in apoptotic and chemotherapy responding tumors. Therefore, $^{99\text{m}}\text{Tc}$ -duramycin can be envisaged as a prospective candidate for the assessment of early tumor response to chemotherapy in CRC.

Peter S. Conti, Yan Xing, Brian D. Gray, Guoquan Li, Jinhua Zhao, Koon Yan Pak, Kai Chen. Near-infrared fluorescence imaging of tumor angiogenesis and cell death during chemotherapy treatment using CyAL5-cRGD and Cy5-Duramycin.

Conclusions: CyAL5-cRGD and Cy5-Duramycin have been successfully applied for visualization of integrin $\alpha_v\beta_3$ and PE expression levels. The optical imaging with CyAL5-cRGD and Cy5-Duramycin provided highly sensitive and target-specific evaluations of two important biomarkers associated with tumor response to chemotherapy.

Junling Li, Rachael L. Gerlach, Colleen B. Jonsson, Brian D. Gray, Koon Y. Pak, Chin K. Ng. Characterization of ^{18}F -dipicolylamine (DPA) derivatives in cells infected with influenza virus

Conclusions: ^{18}F -FB-DPA and ^{18}F -FB-Cy7-DPA should be further evaluated as a potential imaging agent for viral infection.

Society of Nuclear Medicine Molecular Imaging Annual Conference, June 6-11, 2014 St. Louis

IMAGING PROBES FOR RESPONSE TO BIOMARKERS STATUS OR THERAPY:

Filipe Elvas, Sara Rapic, Christel Vangestel, Brian Gray, Koon Pak, Steven Staelens, Sigrid Stroobants, and Leonie Wyffels. Monitoring early tumor response to radiotherapy using $^{99\text{m}}\text{Tc}$ -duramycin. NUCL. Med. MEETING ABSTRACTS, May 2014; 55: 496.

Conclusions: In conclusion, ^{99m}Tc -duramycin specifically accumulates in tumors responding to therapy. It might therefore be a promising tracer for early evaluation of tumor response to therapy.

Junling Li, Huaiyu Zheng, Jonathan Warawa, Ramy Fodah, Brian Gray, Koon Pak, and Chin Ng. Evaluation of ^{18}F -FP-Cy7-DPA for imaging bacterial infection in mouse lung. J. NUCL. Med. MEETING ABSTRACTS, May 2014; 55: 1240.

Conclusions: Our preliminary data showed that the uptake of FDPA in the lung was very rapid and correlated well with bacterial growth, thus FDPA should be evaluated further as a potential imaging agent for bacterial infection. SPECIAL

MTA: CARDIOVASCULAR, ENDOCRINE, OTHER POSTERS:

Junling Li, Rachael Gerlach, Colleen Jonsson, Brian Gray, Koon Pak, and Chin Ng. Kinetics studies of ^{18}F -FB-DPA and ^{18}F -FB-Cy7-DPA in cells infected with influenza virus J. NUCL. Med. MEETING ABSTRACTS, May 2014; 55: 1209.

Conclusions: % uptake was proportional to the degree of apoptosis for ^{18}F -FB-DPA and ^{18}F -FB-Cy7-DPA. Two DPA analogues have different internalization kinetics. DPA has a much higher binding affinity than Cy7-DPA. Both tracers hold great potential as imaging agents for viral infection.

MTA I: IMAGE - GUIDED THERAPY POSTERS:

Yan Xing, Guoquan Li, Brian Gray, Koon Pak, Jinhua Zhao, Peter Conti, and Kai Chen. Noninvasive monitoring of chemotherapy treatment with near-infrared fluorescence imaging using Cy5-Duramycin and CyAL5-cRGD J. NUCL. Med. MEETING ABSTRACTS, May 2014; 55: 1451.

SPECIAL MTA: PRECLINICAL PROBES FOR ONCOLOGY POSTERS:

Lanfeng Meng, Dengfeng Cheng, Xiao Li, and Hongcheng Shi. Evaluation of ^{99m}Tc -glucarate for NSCLC location and differentiating drug sensitivity and resistance cancer lines. J. NUCL. Med. MEETING ABSTRACTS, May 2014; 55: 1030.

Conclusions: Cell study, in vivo SPECT imaging and in vitro immunohistochemistry results all supported that ^{99m}Tc -glucarate can be a potential SPECT imaging agent for NSCLC location and therapy predicting by differentiating drug sensitivity and resistance cancer lines.