

News & Views

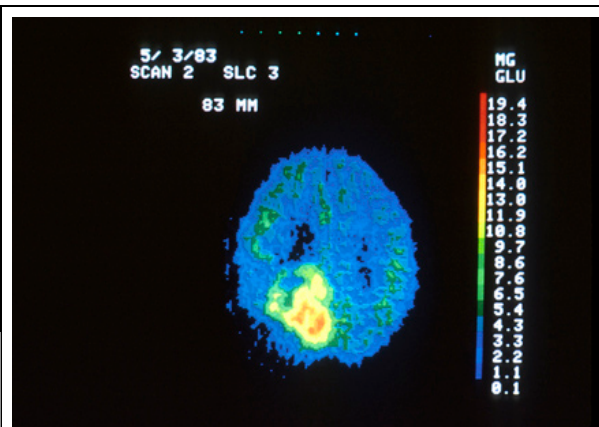
Diagnosing and Differentiating Cancer at the Molecular Level

BY RENEE DIJULIO, NOVEMBER 07, 2011 IN [PET/CT](#)

A new PET imaging agent in development may be useful in detecting the presence of COX-2.

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Cancer takes many forms, even within one type. And so, not surprisingly, as more is learned about the disease (in its many forms),



The malignant brain tumor is visible here due to its increased glucose production. Courtesy Dr. Giovanni Di Chiro, neuroimaging, National Institute of Neurologic Disorders and Stroke (NINDS).

treatment becomes very different depending on the diagnosis. That difference occurs at both the macro and micro level. The earlier the specifics are known, the earlier the treatment can be specifically tailored to produce the best outcome.

Earlier treatment tends to produce better outcomes in general, often because the cancer is more easily removed and controlled. Consequently, earlier diagnostic methods that produce more useful information are in demand. Because cancer is a molecular disease, it makes sense that diagnostics at the molecular level reveals clinically valuable information.

In radiology, this translates to molecular imaging techniques—nuclear medicine, in particular. A group working with Md Jashim Uddin, PhD, research assistant professor of biochemistry at Vanderbilt University School of Medicine in Nashville, Tenn, is developing imaging agents intended to provide physicians with this type of data. The newest agent was the subject of a paper recently published in *Cancer Prevention Research*.

Reference: Uddin MJ, Crews, BC, Ghebreselasie K, et al. Fluorinated COX-2 inhibitors as agents in PET imaging of inflammation and cancer. *Cancer Prevention Research*. 2011;4(10):1536-1545.

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