Technology Brief: Predicting tumor aggressiveness.

Docket Number: 07B108

Summary	• Actively dividing tumors appear to progress to a life-threatening condition more rapidly than slowly dividing tumors. • The assessment of actively dividing tumors currently involves a manual enumeration of mitotic cells in a histological slide prepared from the tumor and assessed by a trained pathologist. • Moffitt researchers have invented a method of using gene expression data to identify patients with slightly more aggressive forms of tumors that might require closer monitoring or chemotherapeutic intervention.
Features and Benefits	• The basic principle is that the gene expression data from a group of selected genes is assessed to identify adenocarcinoma tumor samples with a high rate of mitosis and thus a higher likelihood of having a poor response to treatment. • The genes involved are those in the regulation of the cell cycle and the mitotic process, to assess the overall mitotic state of a tumor sample. • Gene expression levels can be assessed with data from microarrays or Q-PCR. • The genes and the mechanism for evaluating them are possibly applicable to a variety of tumor types in addition to adenocarcinoma.
Stage of Development	Planned prospective validation.
Inventor	T. Yeatman, S. Enkemann, S. Eschrich
Patents and Publications	Director's Challenge Consortium et al. (2008) Nature Medicine 14:822-827. US patent application filed.

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