**Technology Brief: Predicting tumor aggressiveness.**

**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.

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<th>Stage of Development</th>
<th>Planned prospective validation.</th>
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