

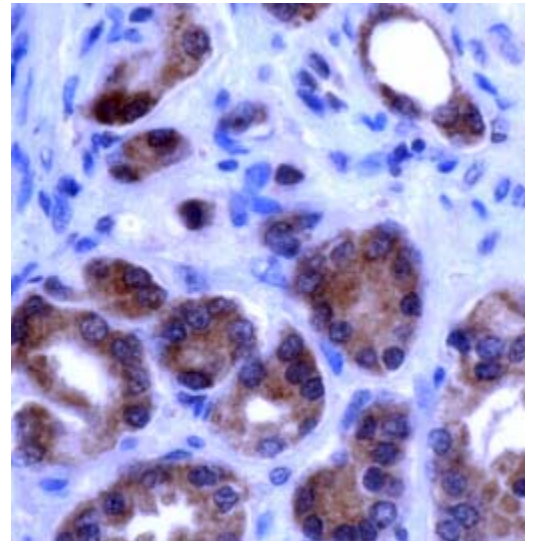
## ECU SEEKS PARTNER TO LICENSE

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### New Method of Cancer Screening and Detection

East Carolina University seeks companies interested in commercializing and/or jointly developing an exciting advancement in cancer diagnostics.

Prostate cancer is one of the most common forms of cancer in men with 230,900 new cases and 30,900 deaths expected in 2004. Early detection and diagnosis continues to be the best way to increase the odds of survival and keep down costs associated with treatment. Dr. Qun Lu, of East Carolina University's Brody School of Medicine, made several recent discoveries concerning a protein (Ca25) that will lead to significant improvements in the field of cancer diagnostics. These discoveries could lead to non-invasive blood tests for the screening of multiple forms of cancer, providing physicians with a new and powerful tool in this ongoing battle.



#### Advantages

- Tests using Ca25 can distinguish between prostate cancer and benign prostate hyperplasia, as well as between benign prostate glands and prostate intraepithelial neoplasia, a significant improvement to current PSA/biopsy tests.
- Ca25-based tests will greatly reduce the number of false-positive tests, reducing the need for unnecessary expensive and painful biopsies.
- Ca25 will be detectable with simple blood tests, providing a non-invasive testing method easily integrated into regular checkups and normal blood work.
- Overexpression of Ca25 has been exhibited in many other forms of cancer, including breast, ovarian, pancreatic, esophageal, colon, adrenal, and leukemia, opening the way for "multiple" test formats to be marketed to the medical community.

#### Technology

Dr. Qun Lu's research led to the discovery that Ca25, originally thought only to be expressed in brain tissue, was expressed by prostate tumors. Since that discovery, Dr. Lu's team determined that Ca25 was capable of distinguishing between prostate cancer and benign prostate hyperplasia, as well as between benign prostate glands and prostate intraepithelial neoplasia, revealing the potential for improvement upon current PSA/biopsy tests. Additionally, Dr. Lu has shown that this protein is excreted and found in prostate stroma, allowing for non-invasive diagnostic testing possibilities. Ca25 has also been shown to be over-expressed in other forms of cancer such as breast, ovarian, esophageal, pancreatic, colon, adrenal and leukemia. With further research and development combining Ca25 with pre-existing assay technology, there is great potential to provide an improved means for the early detection of multiple forms of cancer. Such assays would also be used to monitor the effects of treatment plans and to monitor patients following the completion of treatment.

## About the Inventors



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### Selected Publications:

- Chen, Y.-H. and Q. Lu (equal contribution), E. Scheneeborg, and D. Goodenough. 2000. Restoration of junction assembly and barrier function by down regulation of MAP kinase pathway in *ras*-transformed MDCK cells. *Molec. Biol. Cell* 11: 849-862
- Chen, Y.-H. and Q. Lu. 2002. Association of non-receptor tyrosine kinase c-yes with tight junction protein occluding by co-immunoprecipitation assay. *Methods in Molecular Medicine*. Humana Press, New Jersey. Vol 218: 127-132.
- Chen, Y.-H., Q. Lu, D.A. Goodenough, and B. Jeansonne. 2002. Non-receptor tyrosine kinase c-yes interacts with occludin during tight junction formation in canine kidney epithelial cells. *Mol. Biol. Cell*. 13: 1227-1237.
- Jones, S.B., H.Y. Lu, and Q. Lu. Abl tyrosine kinase promotes dendrogenesis by inducing actin cytoskeletal rearrangement in cooperation with Rho family small GTPases in hippocampal neurons. 2004. *J. Neurosci.* 24 (339): 8510-8521.

### Breakthrough Research at East Carolina

For nearly a century, East Carolina University has served the people of North Carolina and the nation. From modest beginnings as a teacher training school, East Carolina has grown to become an emerging, national research university with an enrollment of nearly 22,000. East Carolina is focused on using new technology to improve the quality of life for the public. East Carolina received three top-ten rankings in a study conducted by the Chronicle of Higher Education measuring the practical application of research for the university's success and efficiency in filing patents, licensing inventions, and creating spin-off companies. ECU was the only North Carolina university to receive a top-ten ranking in the study. ECU's research has led to the formation of several spin-off biotechnology companies in eastern North Carolina. In addition, ECU has entered in to a partnership with Pitt Community College to assist in developing a biotechnology labor pool for the region. Researchers at East Carolina are making discoveries daily that keep in line with the university's mission to serve the public with its tools for innovation.

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