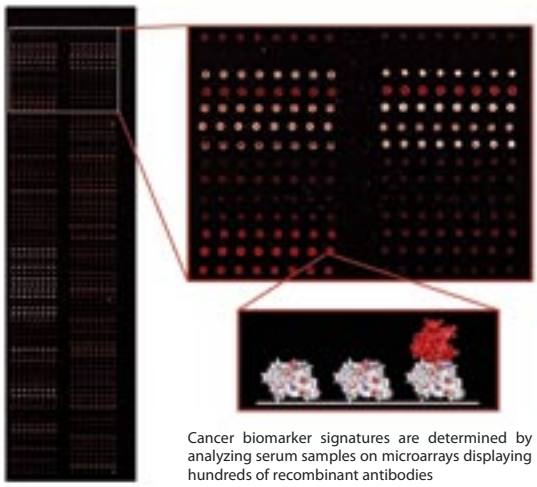
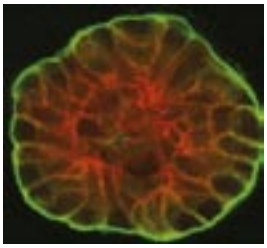
CREATE Health – a strategic centre for translational cancer research

CREATE Health is a centre for translational cancer research focussing on the early diagnosis and prediction of cancer, using cutting edge 'omics technologies, located at the Biomedical Centre at Lund University, Sweden. The centre has physically brought together investigators from diverse fields, such as bioinformatics, nanotechnology, proteomics, transcriptomics, cancer genetics and tumour cell biology with clinical oncologists from Lund University hospital, in order to create a unique environment to address these new challenges.

By using the latest equipment within the 'omics area we are focussing on defining protein signatures that can differentiate between different cancer types and stages at an early phase, says program director Carl Borrebaeck, and continues - *Our goal is to improve the early differential diagnosis of cancer to improve the selection of an optimal, individually-based, cancer treatment. Our vision is that our research will have a substantial impact on how cancer is diagnosed and treated within the next 10 years.*



Cancer biomarker signatures are determined by analyzing serum samples on microarrays displaying hundreds of recombinant antibodies



Immortalized, non-transformed, mammary epithelial cells, grown in Matrigel. The cells polarize and form spheres with a central lumen.
Green: alpha 6-integrin
Red: Phalloidin/actin

The most important achievements of CREATE Health during 2006 are:

- The discovery of a novel histological marker for cyclin D1 positive and negative mantle cell lymphomas that will improve the diagnosis of this important group of lymphomas
- The discovery of a novel gene profile of breast cancer, which is far more effective than previous markers, as an indicator for the selection of the most effective treatment
- The definition of several antibodies which can distinguish malignant from benign ovarian cancer. The antibodies have been tested in tissue microarrays and been proved useful for direct clinical usage. They are now used to develop a serum-based screening assay.
- The definition of the first serum protein signatures which can distinguish between pancreatic cancer patients and healthy individuals as well as predicting survival in these patients
- The definition of distinct subtypes of sporadic and hereditary breast cancers, using gene expression profiling of samples from 650 patients. In addition tiling BACarray CGH analysis shows that gene expression subtypes of breast cancer also have distinct genomic aberrations

For further information please visit **www.createhealth.lth.se**
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