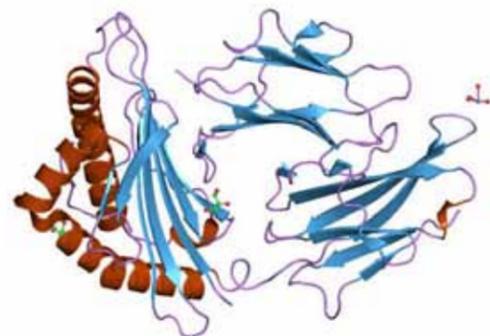
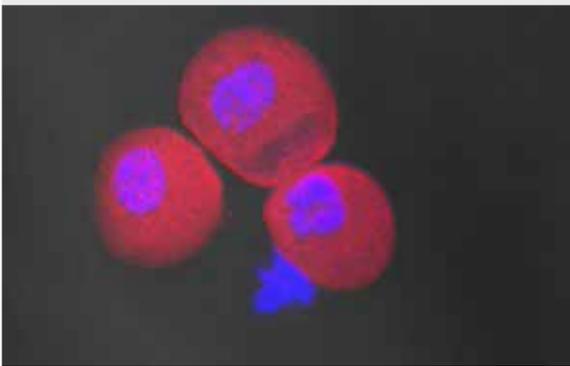
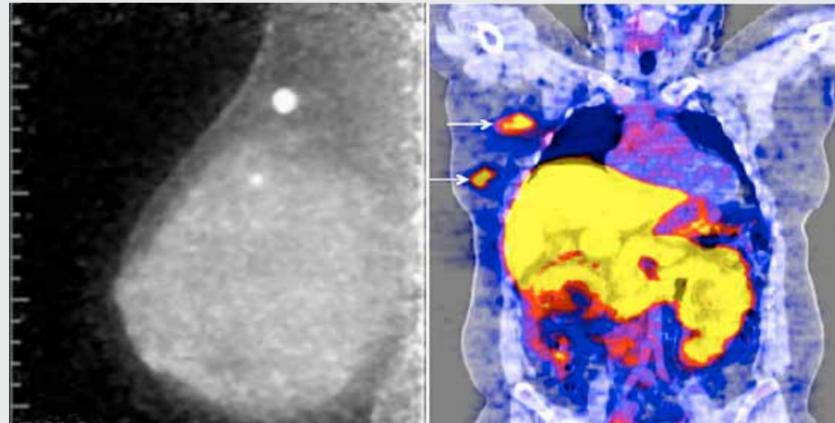
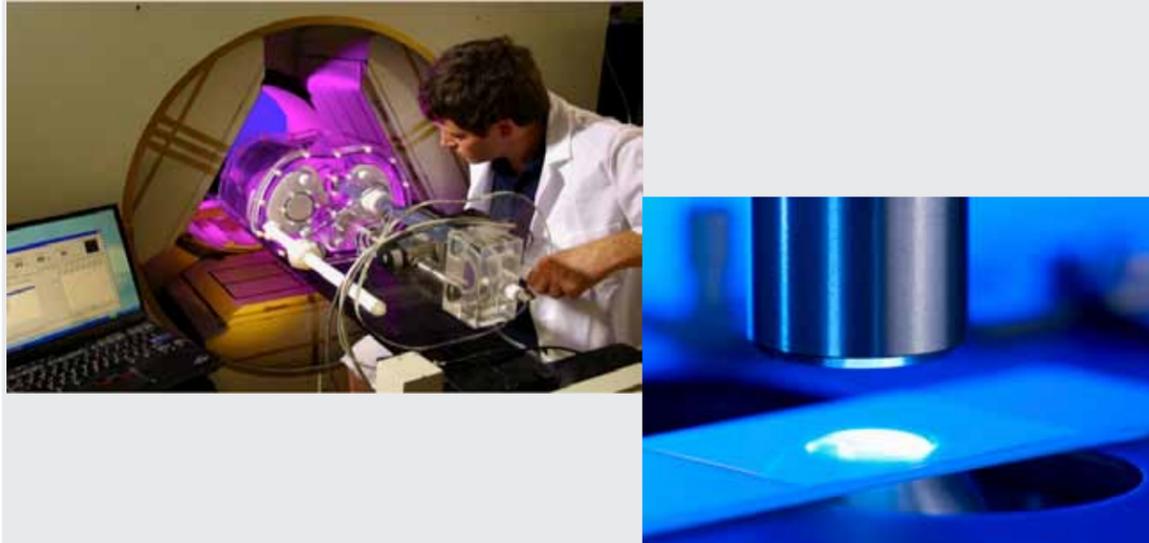


Cancer Specific Molecular Biomarkers The Future of Diagnostics and Therapy

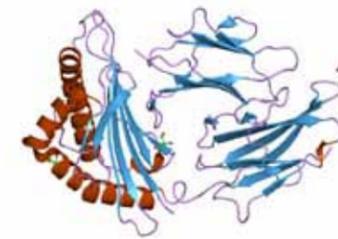


We are now experiencing a transition away from the old method of treating cancer that included trying to detect tumors based on changes in normal physical anatomy, removing tumors as soon as possible, providing general anti-tumor medicines, and hoping the cancer was contained. A new way of treating this disease, based upon recent genomic advances in the understanding of the fundamental biology and chemistry of an individual's specific tumor, is upon us.

And that is where new molecular biomarkers (indicators of a specific biological state or condition) come in. Today thanks to the knowledge gained from genetic and molecular biology research, academic researchers and Medical Technology companies, including NuView Life Sciences, are developing the next generation of molecular biomarkers for use in diagnosis of disease, assessment of treatment response and even targeted therapy.

How Biomarkers Work

Biomarkers are chemical signatures uniquely characteristic of a cell. A good biomarker will be specific to cancer cells while ignoring healthy cells. Because of the wide variety of types of cancer, specific biomarkers are used for specific types of cancer. Once a specific biomarker has been identified, the next step is to develop a novel compound that attaches itself to the biomarker with a means to detect the compound.



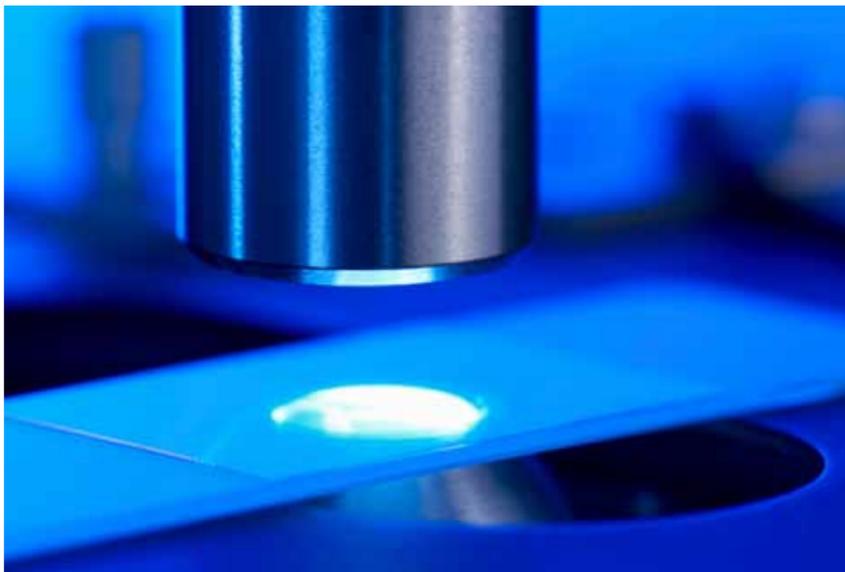
VPAC1 (vasoactive intestinal peptide (VIP) receptor type 1) is heavily expressed by breast, prostate and bladder cancer cells and is a good biomarker for these specific types of cancer. NuView Life Sciences has two peptide based compounds that attach themselves to VPAC1.

Positron Emission Tomography (PET) scanners detect short half life radio active isotopes to build a 3D image. NLS-VPAC1 peptide compound has a CU-64 isotope with a 12.7-hour half-life attached. This imaging agent is injected into the patient before a PET scan. Since NLS attaches to the VPAC1 expressed on breast and prostate cancer cells, a 3D image of the cancer is illuminated allowing the physician to see the precise location and size of the tumor.



In the case of early detection of prostate and bladder cancer, a different approach is used. Prostate and bladder cancer cells end up in the urine of the patient. And these cells express VPAC1.

NDX-VPAC1 peptide compound uses a fluorophore that can be viewed under a microscope. A urine sample is collected from the patient, prepared with the compound and viewed under a microscope. Cancer cells are illuminated.

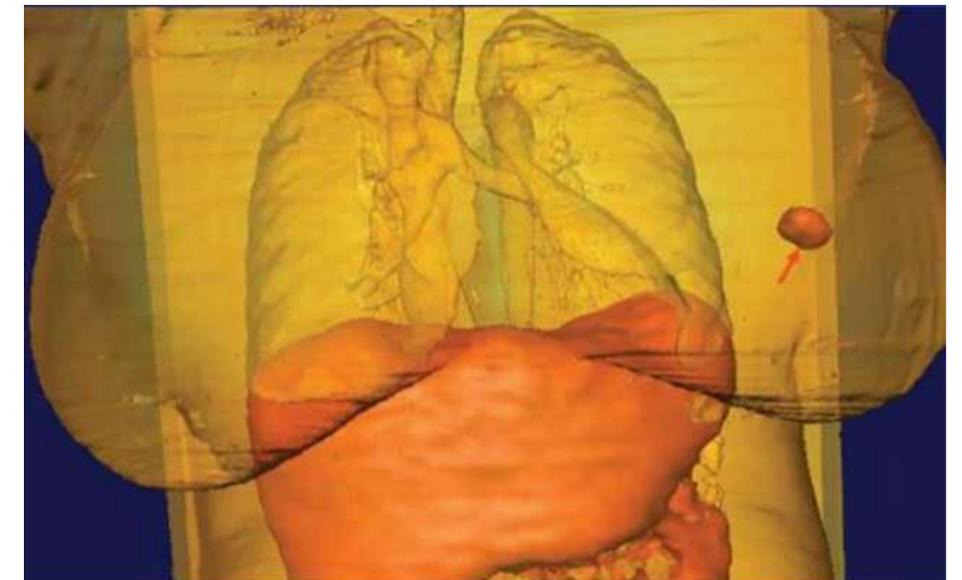


Eliminating 80% of Breast Biopsies

Today, a woman sees her doctor for an annual mammogram and receives the unsettling news that a "suspicious mass" has been found. What she wants next are immediate answers to questions. Yet, unfortunately, she will be subjected to a costly, painful and invasive biopsy, after which there will be waiting for lab results to be reported. And, 80 percent of the time, this entire process is unnecessary since the growth will turn out to be benign. Of the 1.6 million breast biopsies performed every year in the United States, about 1.3 million will result in a benign diagnosis.

Using NLS-VPAC1 and a PET scan before a biopsy will allow the physician to quickly note if there is cancer present. If so,

then a biopsy can be taken at the precise location. NuView's NLS-VPAC1 will severely minimize the number of unnecessary, invasive biopsies conducted on cancer-free patients, spare them from physical and psychological trauma, and save billions of dollars each year in U.S. healthcare dollars.

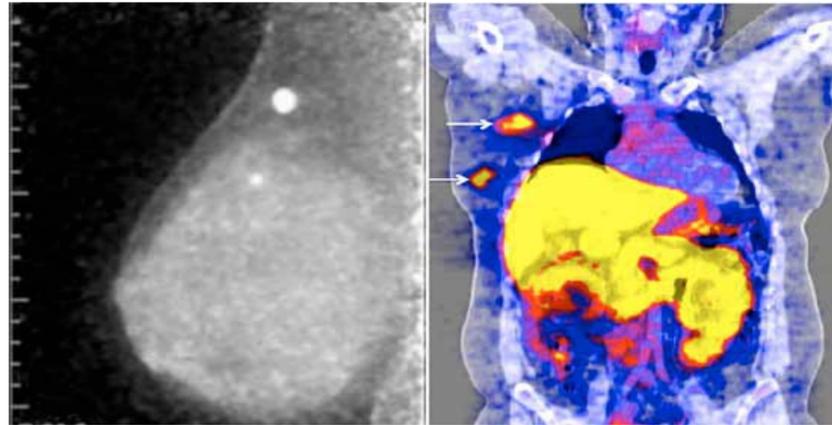


PET Image of patient with malignant lesion of the left breast. Imaged with the NLS-VPAC1 molecular imaging biomarker.

Providing Better Options for Breast Cancer Therapy

Once a woman has been determined to have breast cancer, the big question is “What now?”

One option is to do nothing at this time. The cancer may be localized in a small area and the biopsy reveals that this is not an aggressive cancer. Rather than do followup invasive biopsies on a periodic basis, NLS-VPAC1 and a Pet scan will reveal if the cancer has gotten larger or spread, without the need for a biopsy.



PET image of patient with malignant lesion in right upper right breast using NLS-VPAC1 biomarker.

Whole Body PET image showing small malignant tumor in right breast and involved pair of lymph nodes in axilla.

A second option is for the physician to decide to put the patient on therapy or perform surgery. Then the question is if the cancer has returned or is the patient responding to therapy. Again, using NLS-VPAC1 and a Pet scan will reveal the presence and size of any breast cancer.

Eliminating 70% of Prostate Biopsies

The detection and diagnosis of Prostate Cancer in men is fraught with many of the same problems as Breast Cancer. To start, both have unreliable screening methods – for Prostate Cancer, this consists of a PSA test and possibly a

digital rectal examination. Like Breast Cancer, the next step in the path towards a diagnosis is performing an invasive biopsy procedure to attempt to obtain a sample of the mass for diagnosis. There is a huge unmet medical need for early, accurate and non-invasive method(s) to detect Prostate Cancer.

The U.S. Preventive Services Task Force (USPSTF), the American Urological Association (AUA), and many other organizations have recommended against PSA detection and monitoring of disease. PSA testing has led to over diagnosis and overtreatment of disease.

This means more men are receiving invasive biopsies and treatment procedures unnecessarily due to inaccurate screening for disease and the inability to accurately and non-invasively monitor disease progression. The result of these potentially unnecessary procedures is increased pain and morbidity including incontinence, impotence and serious infection.

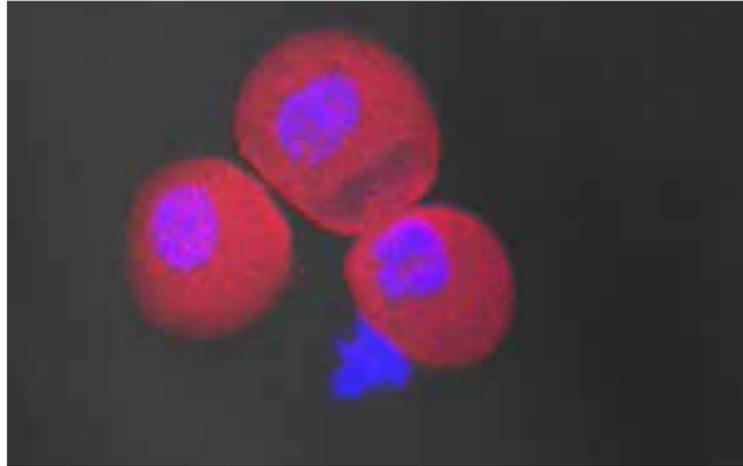


To put this in perspective, of the 1,800,000 biopsies performed in the U.S. and Europe due to an elevated PSA, 1,300,000 of the biopsies came back negative, wasting \$2.5B annually.

The NDX-VPAC1 urine test is over 95%



Biopsy Needle



accurate in determining there is no cancer present per early trials performed at Thomas Jefferson University.

When a urine sample is centrifuged and NDX-VPAC1 added, cancer cells appear as red blooms. Since this is a

non-invasive and nonsurgical test, not only is less risky for a patient, but also less costly. These factors should lead to medical acceptance as a requirement before any biopsy is performed.

Providing Better Options for Prostate Cancer Therapy

Using NLS-VAPC1 with a PET scan will give doctors and patients the ability to see the cancer. No longer will biopsies be performed blind. Urologists will know exactly where the cancer is for biopsy, reducing both the number of tumor samples needed and the rate of repeat biopsy due to uncertainty in diagnosis.



If therapy or surgery is performed, the NDX-VPAC1 urine test can help determine if the cancer is still present.

Early Detection of Bladder Cancer

In the U.S. 74,000 men and women a year have late detection of bladder cancer. There are no early stage bladder cancer tests available. 15,000 die each year, but with early



detection, there is a 95% survival rate. Current detection is performed doing a biopsy with a cystoscope inserted through the urethra. For those having surgery, periodic biopsies are performed to ensure the bladder cancer has not returned.

NDX-VPAC1 urine test shows great promise from early trials to detect the presence of bladder cancer at any stage. Not only could this boost the survival rate, but this none invasive approach would save money and discomfort for the ongoing monitoring of patients who went through therapy or surgery.

Specific Detection of Cancer is the Future of Medicine

"Each cancer is different and to manage it effectively, we need a better view and to gain a better understanding of the way the disease is developing. Then we can interrupt the complex network of proteins the disease uses to thrive", says Dr. Mathew Thakur, creator of the NLS-VPAC1 and NDX-VPAC1 technology.

"We are clearly in the process of changing how a large number of different types of cancer are detected, diagnosed and ultimately treated", said William G. Bradley, MD, PhD, NuView Life Sciences Medical Advisor.