



# NANOCEUTICALS™ TODAY

RBC LIFE SCIENCES: PIONEERING NANOTECHNOLOGY IN NUTRITIONAL SCIENCE

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## CELEBRATING THE LIFE OF DR. RICHARD SMALLEY THE FATHER OF NANOTECHNOLOGY

The revolutionary new field of nanotechnology began in 1985 at Rice University in the research laboratory of Richard Smalley, Ph.D. He and two colleagues, Dr. Robert Curl and Sir Harold Kroto, were working with carbon, an element that was known to exist in only two forms - either as diamond or graphite. During their experiments they discovered an entirely new form of carbon when 60 carbon atoms formed bonds shaped as five-and-six-sided polygons, creating a hollow sphere that resembled a soccer ball. Dr. Smalley named the new molecule after Buckminster Fuller, the architect who designed the geodesic dome. It was later abbreviated and became known as a "buckyball".

The most surprising discovery was that buckyballs, which were less than one nanometer in size, exhibited entirely new and different physical properties than those same elements found in larger molecules. The manufacturing, assembling or manipulating of nanoscale molecules became known as nanotechnology.

Continuing his research, Dr. Smalley invented a method to attach carbon buckyballs together to form long nanotubes, creating tiny wires stronger than steel, and one tenth the weight, that could transmit electricity far more efficiently than copper wire. He referred to these types of applications as

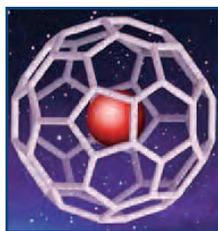
"dry" nanotechnology. He also predicted that some of the greatest applications of nanotechnology would be in biology and healthcare, which he referred to as "wet" nanotechnology.

Word of his discovery spread throughout the world, and other scientists began to assemble and manipulate other elements into molecules smaller than one nanometer. They also demonstrated new and different properties with potential revolutionary applications such as fabrics that change color, products that clean themselves, nanoshells that deliver cancer drugs only to the malignant tumor.

In 1996, Doctor Richard Smalley and his colleagues were awarded the highest recognition achievable in chemistry - the Nobel Prize. He also received awards and honors from more than a dozen universities and professional organizations, and he appeared before Congress in support of nanotechnology research in the battle against cancer and other diseases. He was highly honored by the worldwide scientific community, the media, and the public. On October 28th, when Dr. Smalley passed away, the Chaplain of the United States Senate offered up a prayer for him.

As a member of the Rice Alliance for Technology and Entrepreneurship, I was privileged to hear Professor Smalley speak at seminars held at Rice over the past few years. On each occasion I knew that we were hearing the words of a giant in the history of man's technological progress.

– Clinton Howard



## HOW ARE NANOCLUSTERS™ AND MICROHYDRIN® MADE?

We are frequently asked about the Company's proprietary process by which we manufacture NanoClusters™ and Microhydrin®.

We start with a nanoscale form of silica that we bond with other minerals to form geometric nanoscale structures. They range in shape from pyramidal, cubical, or hexagonal to spherical, and form in approximate sizes from 3 nanometers to 100 nanometers. They can enclose or adsorb nutrients. Note: "adsorb" is a different process than "absorb". Under specific conditions they combine like bunches of grapes to form NanoClusters™.

To manufacture Microhydrin, we treat NanoClusters electronically with negative charges in a process by which they continue to hold electrons as long as they remain in a dry state as Microhydrin powder. When ingested, Microhydrin mixes with digestive juices and water and begins to release its antioxidants (electrons). It continues this antioxidant activity for several hours in the gastrointestinal tract and while it is absorbed into the blood stream.

Oxidized compounds, known as free radicals, constantly form in our bodies, as a result of internal metabolism and external pollutants,

damaging our DNA, cells and vital organs, and causing signs and symptoms of early aging. In vitro studies have shown that Microhydrin® scavenges (makes safe) even the most dangerous oxidized free radicals, such as the hydroxyl and super oxide radicals. Human clinical studies have shown that Microhydrin also reduces the accumulation of lactic acid caused by strenuous labor or exercise.\*

However, there are different types of oil-and-water-based free radicals that must be neutralized by different types of antioxidants. To meet your need to scavenge an even broader range of free radicals, we combined Microhydrin® with eight other oil-and-water based antioxidants, alpha lipoic acid, quercetin, milk thistle, niacinamide, selenium, n-acetyl l-cysteine, ascorbic acid, and green tea creating the very potent broad-spectrum antioxidant, Microhydrin Plus™.\*

An in vitro study conducted at a medical school showed that human brain cells were protected against oxidative damage with Microhydrin Plus. Reducing oxidative damage is an important daily requirement if we are to maintain better health as we continue to grow older.\*

*\* These statements have not been evaluated by the Food and Drug Administration. The products described are not intended to diagnose, treat, cure, or prevent disease.*