



PRESS RELEASE

Advances in Nuclear Medicine

● AREVA Works to Battle Cancer with innovative Treatment

Bethesda, Md., November 2009

AREVA subsidiary, AREVA Med, partners with the National Cancer Institute and University of Alabama at Birmingham (a U.S. Comprehensive Cancer Research Center) to advance nuclear medicine in the fight against cancer

Relying on its vast experience in radiochemistry and nuclear facilities design, AREVA, a world leader in technological solutions for CO₂-emissions-free energy generation transmission and distribution, is currently developing innovative production methods to produce the Lead-212 radio-isotope, used in the promising targeting therapy called Alpha radio-immunotherapy.

The AREVA Med project was distinguished in September 2009 by the Clinton Global Initiative in New York City when its efforts in this field were recognized.

Research has shown that this rare isotope could be a critical key to certain cancer treatments. It has, however, traditionally existed in very limited quantities. AREVA has developed innovative processes that will give it the capacity to produce large amounts of this isotope that can be used for research and treatment of patients suffering from cancer.

Work is under way for AREVA to design a new facility that would produce reliable, long-term supplies of medical-grade Lead-212, leading to the development of new and innovative treatments to fight numerous types of cancer, including the most aggressive forms.

To speak with someone about this project, please contact Jarret Adams at (301) 841-1695 or jarret.adams@areva.com.

In a few minutes, Jarret will be able to:

- Explain the great significance of this partnership and visionary project
- Connect you with:
 - Patrick Bourdet, President and CEO, AREVA Med

Press Contacts

Jarret Adams
Tel.: (301) 841-1695
jarret.adams@areva.com

Laurence Pernot
Tel.: (301) 841-1694
laurence.pernot@areva.com



Background

Alpha Radio-Immunotherapy, or Alpha-RIT, is a powerful anti-cancer therapy that works by binding an isotope, such as Lead-212, to a monoclonal antibody. Using the body's own antigens, this treatment targets only cancer cells and destroys them using the high energy of Lead-212.

Alpha-RIT has proven promising in the treatment of numerous types of cancers, such as pancreatic, ovarian, melanoma, and others that remain fatal, despite the tremendous efforts by the global scientific community.

Alpha-RIT was first developed years ago, and although the chemistry issues and the efficiency of the treatment were successfully addressed, Lead-212 Alpha-RIT efforts subsided due to the scarcity of this isotope and the technical difficulties encountered in producing enough, affordable, high-quality Lead-212.

This scientific treatment has re-emerged recently thanks to a limited number of remarkable scientists, chemists, and radio-chemists – including a few at AREVA Med – that have been focusing their research on the development of innovative methods to attach monoclonal antibodies to isotopes.

Because of its nuclear energy expertise, know-how, and robust engineering and industrial capacities, AREVA and its subsidiary, AREVA Med LLC, have established and completed an ambitious R&D program to produce medical-grade Lead-212 suitable for Alpha-RIT – to treat both solid and liquid types of cancer.

In June 2008, AREVA and the U.S. National Cancer Institute (NCI) signed a Cooperative Research and Development Agreement (CRADA) for the design of a new radio pharmaceutical drug using Lead-212 in the near future. With these cooperative efforts, and because of the availability and quality of AREVA Lead-212, a significant number of preclinical studies and assays have been performed which demonstrated the high efficiency of the Alpha-RIT using Lead-212 to kill cancer cells.

A very important collective effort is currently under way with the NCI and the University of Alabama, Birmingham to obtain authorization from the Food and Drug Administration to proceed to unprecedented human trials using Lead-212 Alpha-RIT to treat cancer.

The project has three major focus areas:

1. A R&D program focused on finding innovative ways to produce suitable Lead-212 for cancer treatment. This program has been completed.
 - a. Important progress has been made in the last two years. AREVA has designed a pre-industrial pilot plant that can produce medical grade Lead-212 for preclinical trials and clinical studies. The medical-grade quality of AREVA Lead-212 has been assessed by the U.S. National Cancer Institute.
2. An ambitious human trial program focused on the development of new therapies to treat the most deadly forms of cancer using Lead-212 Alpha-RIT. The design of this program will be completed by the end of 2009.



- a. The Lead-212 supply shortage that has stunted research is no longer an issue because of AREVA's efforts. In addition to the current human trial study design, other clinical studies are under evaluation to develop new cancer targeting drugs based on the same principle, but are focused on other types of cancer such as lung and prostate. Promising preclinical studies have proven the efficiency of Alpha-RIT to treat HIV and viral diseases, in addition to targeting cancer.
3. The design of a first-of-its-kind industrial facility that will be able to produce significant quantities of Lead-212 for cancer treatments. This work is under way.

AREVA Med also benefits from the support of other AREVA subsidiaries. TransNuclear, with its robust, worldwide logistics capability, has opened new routes to safely deliver AREVA Lead-212 anywhere in the world. Canberra supports the project thanks to its vast experience designing high quality nuclear measurement equipment. AREVA TA is working on the design of a unique production facility.

History

The development of this initiative is directly related to AREVA's expertise with nuclear material and the design and construction of nuclear facilities. AREVA Med is drawing on AREVA's nuclear expertise to develop powerful new medicine.

Behind the tangible progress of AREVA Med, there is also a unique human story. This idea was initiated several years ago at the working level in one of AREVA's industrial sites, La Hague, in Normandy.

It was recognized by AREVA's top management, winning the company's Sustainable Development Award in 2005, among 220 other global AREVA projects.

Following this recognition, the project's organization and technical progress evolved, until it was presented to the company's top management in 2007. Because of its goals and technological merit, AREVA Chief Executive Officer Anne Lauvergeon and the AREVA Executive Committee allocated the project a multi-million-euro budget.

The project has been managed since 2007 from AREVA's North American headquarters in Bethesda, Maryland, in close proximity to the U.S. National Cancer Institute (NCI).

In 2008, the NCI and AREVA signed an agreement to develop the new Lead-212 cancer treatment.

During the first worldwide Nuclear Medicine Conference in Toronto (SNM annual meeting) in June 2009, the NCI announced that it would focus its research on RIT using Lead-212 (instead of the isotope Bismuth-213), confirming the relevancy of AREVA's approach.

In the current worldwide isotope shortage, the importance of production ability for medical-grade isotopes to meet patient needs is only growing. AREVA has dem-

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onstrated its commitment to the project by developing and promoting this “working-level idea,” transforming it first into a tangible project and now considering the design of a large production facility. AREVA is leveraging its capabilities and devoting significant resources to make the formerly scarce Lead-212 available for cancer research and future treatments.

With this project, AREVA innovates and changes a longstanding practice where industry waits for benefits before investing in isotope production capacities while the scientific community waits for “reliable isotope medical-grade supply” to perform clinical studies and demonstrate therapeutic benefits to produce new medicines.

MORE ABOUT

As the leading U.S. nuclear vendor and a key player in the electricity transmission and distribution sector, AREVA Inc.'s 6,000 U.S. energy employees are committed to serving the nation and paving the way for the future of the electricity market. With 45 locations across the nation and nearly \$2 billion in energy revenues in 2008, AREVA Inc., through its subsidiaries, combines U.S. leadership, access to worldwide expertise and a proven track record of performance. In the U.S. and in more than 100 countries around the world, AREVA is engaged in the 21st century's greatest challenges: making energy available to all, protecting the planet, and acting responsibly toward future generations. AREVA Inc. is headquartered in Bethesda, Maryland.