

# BIO-TECH SYSTEMS, INC.

*Market Research in the Health Care Field*

NEWS RELEASE

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FOR IMMEDIATE RELEASE

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## **BIO-TECH SYSTEMS ANNOUNCES A NEW RADIOPHARMACEUTICAL REPORT:**

### **Report 230: WORLD MARKET FOR THERAPEUTIC RADIOPHARMACEUTICALS**

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MARKET PROSPECTS FOR THERAPEUTIC RADIOPHARMACEUTICALS;  
EMERGING MARKETS FOR NEW TARGETED ANTIBODIES AND PEPTIDES;  
NEW THERAPEUTIC ISOTOPES WITH ENHANCED PERFORMANCE;  
ANALYSIS OF INDUSTRY ALLIANCES AND PARTNERSHIPS;  
TECHNOLOGICAL TRENDS AND SALES FORECASTS TO 2012

Bio-Tech Systems Inc. announces the publication of a comprehensive report with detailed analysis of the markets for therapeutic radiopharmaceuticals. This includes both current and emerging applications for lymphoma, colon cancer, lung cancer, prostate cancer, breast cancer, endocrine cancer, myeloma, brain cancer, liver cancer, pancreatic cancer and other cancers resistant to traditional therapies. There has been a surge in research activity to expand applications for therapeutic radiopharmaceuticals employing more sophisticated targeting methodologies and more appropriate therapeutic isotopes for the tumors being treated. There is also more confidence with respect to the prospects for FDA approval of these drugs. As interest in new therapeutic radiopharmaceuticals has grown, it has prompted investigators to utilize different isotopes with more appropriate energy levels and half-lives for specific applications. The objective has been to minimize toxicity and reduce the bystander effect on neighboring healthy cells. There is also considerable research involving alpha emitters, where the shorter particle range and high-energy deposition can be used to advantage to destroy DNA directly. There are a number of products in development employing bismuth-212, bismuth-213, astatine-211, radium-223 and polonium-210.

The report has a strong focus on new products and technology and emerging market opportunities. The prospects for therapeutic radiopharmaceuticals are on a major threshold with the approval of Zevalin and Bexxar for treating non-Hodgkins lymphoma. This will be followed by other radioimmunotherapy products for both circulating and solid tumors, which should form a sound base for continued investment in this field. As these products enter the mainstream, there will be others in the pipeline for treating a variety of cancers. One motivator is the potential return on investment. The high pricing of these products is justified by their unique status and is indicative of future market opportunities, even in the presence of competition.

## **Therapeutic Radiopharmaceuticals: Market Analysis and Future Prospects**

U.S. sales of therapeutic radiopharmaceuticals were still on the threshold in 2005, with total sales of \$71 million. Rapid growth is anticipated over the next 5-6 years. By 2012, therapeutic product sales should reach \$1.9 billion, with high continuing growth beyond that time. This will be based on the introduction of new therapeutic radiopharmaceuticals for treating lymphoma, colon cancer, lung cancer, prostate cancer, bone cancer and other persistent cancers. These agents will be used in conjunction with traditional therapies, enhancing their effectiveness, with better specificity and reduced side effects. As interest in new therapeutic radiopharmaceuticals increases, it will prompt investigators to utilize different isotopes with more focused capabilities for treating various tumors, reducing the bystander effect on neighboring healthy cells. Use of these new agents will reduce treatment time and accelerate recovery for many patients. It will also offer an attractive investment opportunity for many of the companies and venture groups supporting these programs.

Treating cancer with drugs is a trial and error process in most cases. Some patients may respond better to one drug than another, even though superficial indications and symptoms are the same. This allows the clinician to try new therapeutic drugs in resistant cases, with the hope that it will produce a positive response. As new therapeutic radiopharmaceuticals enter the mainstream, it will stimulate the development of a large array of related products targeted to many different types of tumors. Molecular Imaging will be merged with therapy to obtain patient specific dosimetry for optimizing patient response and minimizing side effects. This should bring oncologists and nuclear physicians closer together, with a better understanding of nuclear medicine's potentials. With this type of market stimulus, it is likely that many more traditional pharmaceutical companies will enter the field with radioactive versions of targeted therapeutic products in order to enhance treatment options for many cancer patients.

### **ABOUT THE AUTHOR**

Marvin Burns is president of Bio-Tech Systems, Inc., a firm that focuses on market research in the healthcare field. Burns specializes in market evaluation, where technological and scientific insight is important. The company has prepared numerous market research reports on diagnostic and therapeutic radiopharmaceuticals, PET imaging and radiopharmaceuticals, brachytherapy, contrast media, interventional radiology and cardiology and the full spectrum of molecular imaging. Burns has also served as a consultant to many international firms and venture groups in these fields. He has also been Technology Editor of Future Oncology, a publication widely circulated in the pharmaceutical and biotechnology industry reporting on new developments in cancer diagnosis and treatment. Burns is a graduate of MIT and Harvard Business School's advanced management program. He has prepared over 100 publications and has 15 patents and invention disclosures. Prior to forming Bio-Tech Systems, he was employed by firms in life sciences, bioinstrumentation and medical imaging fields in general management, marketing and product development. He was also a hospital administrator in charge of professional and technical services including medical imaging, clinical laboratories, therapy services, hospital pharmacy and materials management.

## **Report 230: THERAPEUTIC RADIOPHARMACEUTICALS: REPORT CONTENTS**

### **SECTION I: Market Status, Trends and Forecasts**

Analysis of current and emerging markets for therapeutic radiopharmaceuticals. Discussion of market prospects by product group and disease category. Review of new products in the pipeline, projections for FDA approval and sales forecasts in all categories to 2012. This includes:

- Analysis of market prospects for new targeted radiotherapy agents that have been approved or in development. Applications include lymphoma, colon cancer, lung cancer, prostate cancer, bone cancer, myeloma, endocrine cancer and other cancers resistant to traditional therapies.
- Projections for new products using novel targeting technologies for treating bone cancer, brain cancer, pancreatic cancer, breast cancer and other cancers that may benefit from these modalities.
- Prospects for advanced radiotherapies with new isotopes including lutetium-177, holmium-166, rhenium-188, promethium 149, bismuth 213, bismuth 212, astatine-211 and polonium 210.
- Discussion of product pricing, competitive factors and potential return on investment.

### **SECTION II: Analysis of Procedure Volume**

- Discussion of incidence of disease and relationship to potential radiotherapy procedures. Forecast procedure volume by disease category from 2005-2012 with discussion of rationale for these projections.
- Methodology for collecting procedure data and forecasting future growth. Evaluation of different data sources with rationale for interpreting the results.

### **SECTION III: Radiopharmaceutical Products and Technology**

- Technical principles and functional characteristics of therapeutic radiopharmaceuticals.
- New options in selecting therapeutic isotopes for specific applications.

### **SECTION IV: Current Developments and Emerging Technology**

- Discussion of new therapeutic radiopharmaceuticals in development, with analysis of technological prospects and potential applications. .
- Analysis of product characteristics, performance benefits and trade-offs relative to various therapeutic applications.

### **SECTION V: END-USER ANALYSIS**

- Analysis of end-user groups and comparative requirements for radiotherapy products.
- Procedure mix and product utilization in hospitals and clinics.

### **SECTION VI: Company Profiles**

- Background information on companies in the field and review of recent performance.
- Discussion of each company's market activities and management strategies.

## **THERAPEUTIC RADIOPHARMACEUTICALS: PARTIAL LIST OF EXHIBITS**

THERAPEUTIC ANTIBODIES APPROVED TO DATE

THERAPEUTIC RADIOPHARMACEUTICAL PIPELINE PRODUCTS

HISTORIC AND FORECAST PROCEDURE VOLUME AND SALES OF THERAPEUTIC RADIOPHARMACEUTICALS FROM 2002-2012

2005 THERAPEUTIC RADIOPHARMACEUTICAL SALES SUMMARY BY PROCEDURE CATEGORY AND PRODUCT

2008 THERAPEUTIC RADIOPHARMACEUTICAL SALES SUMMARY BY PROCEDURE CATEGORY AND PRODUCT

2012 THERAPEUTIC RADIOPHARMACEUTICAL SALES SUMMARY BY PROCEDURE CATEGORY AND PRODUCT

HISTORIC AND FORECAST SALES OF THERAPEUTIC RADIOPHARMACEUTICALS BY PRODUCT CATEGORY FROM 2002-2012

HISTORIC AND FORECAST PROCEDURE GROWTH OF THERAPEUTIC RADIOPHARMACEUTICALS BY PRODUCT GROUP FROM 2002-2012

HISTORIC AND FORECAST SALES GROWTH OF LYMPHOMA AGENTS BY MANUFACTURER AND PRODUCT FROM 2002-2012

HISTORIC AND FORECAST GROWTH OF LYMPHOMA PROCEDURES BY MANUFACTURER AND PRODUCT FROM 2002-2012

FORECAST SALES OF NEW THERAPEUTIC RADIOPHARMACEUTICALS FOR MYELOMA, BONE CANCER AND ENDOCRINE TUMORS FROM 2008-2012

FORECAST GROWTH OF NEW RADIOPHARMACEUTICAL PROCEDURES FOR MYELOMA, BONE CANCER AND ENDOCRINE TUMORS FROM 2008-2012

FORECAST SALES OF NEW THERAPEUTIC RADIOPHARMACEUTICALS FOR SOLID TUMORS BY DISEASE TYPE FROM 2008-2012

FORECAST PROCEDURE VOLUME FOR NEW RADIOPHARMACEUTICALS FOR SOLID TUMORS BY DISEASE TYPE FROM 2008-2012

FORECAST SALES OF NEW RADIOPHARMACEUTICALS FOR LUNG CANCER, PROSTATE CANCER AND BREAST CANCER BY PRODUCT FROM 2008-2012

FORECAST NEW PROCEDURE GROWTH FOR LUNG CANCER, PROSTATE CANCER AND BREAST CANCER FROM 2008-2012

FORECAST SALES OF RADIOPHARMACEUTICALS FOR COLON CANCER, PANCREATIC CANCER AND LIVER CANCER BY PRODUCT FROM 2008-2012

FORECAST GROWTH OF NEW PROCEDURES FOR COLON CANCER, PANCREATIC CANCER AND LIVER CANCER BY PRODUCT FROM 2008-2012

FORECAST SALES OF NEW RADIOPHARMACEUTICALS FOR MELANOMA, BRAIN CANCER AND OTHER SOLID TUMORS BY PRODUCT FROM 2008-2012

FORECAST PROCEDURE GROWTH FOR NEW RADIOPHARMACEUTICALS FOR MELANOMA, BRAIN CANCER AND OTHER TUMORS FROM 2008-2012

HISTORIC AND FORECAST SALES GROWTH OF BONE PAIN PALLIATION AGENTS BY PRODUCT TYPE FROM 2002-2012

GROWTH OF RADIOTHERAPY PROCEDURE VOLUME FROM 2005-2012

COMPARATIVE ALLOCATION OF DIAGNOSTIC FACILITIES BY HOSPITAL SIZE IN 2005

COMPARATIVE UTILIZATION PARAMETERS FOR IMAGING MODALITIES IN 2005

RELATIVE PROCEDURE VOLUME FOR DIFFERENT IMAGING MODALITIES, PERCENTAGE RELATIONSHIP BY HOSPITAL BED SIZE IN 2005

## COMPANY PROFILES INCLUDE

ALGETA ASA

ALPHAMED, INC.

ANTISOMA LTD. (UK)

BERLEX LABORATORIES

BIOGEN IDEC INC.

BIO-NUCLEONICS, INC.

BOSTON LIFE SCIENCES, INC

BRACCO DIAGNOSTICS

BRISTOL MYERS SQUIBB IMAGING

CARDINAL HEALTH

CELLECTAR, LLC

CIS BIO-INTERNATIONAL

CYTYC CORPORATION (PROXIMA  
THERAPEUTICS)

CYTOGEN CORPORATION

DOW CHEMICAL CO.

DRAXIMAGE, INC.

GE HEALTHCARE DIAGNOSTICS

GLAXO SMITHKLINE CORP.

IMMUNOMEDICS, INC.

LYNNTECH, INC.

MALLINCKRODT INC. (TYCO  
HEALTHCARE)

MDS NORDION

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PHARMACEUTICALS INC

PALATIN TECHNOLOGIES INC.

PEREGRINE PHARMACEUTICALS

SIRTEX MEDICAL LTD.

THERAGENICS CORPORATION



# ORDER FORM

Report No. 230 — WORLD MARKET FOR THERAPEUTIC RADIOPHARMACEUTICALS

The report is priced at \$9,500 plus \$4,500 for a global license.

Electronic PDF copies are available at no extra charge.

Please make checks payable to: BIO-TECH SYSTEMS, INC.

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