Precision Therapeutics' TumorGenesis Division Isolates Discovery Biomarkers for Thyroid Cancer Cell Types, Initiating Its Proprietary Process for New Drug Development Via Patient-Derived Tumor Models

February 5, 2019

MINNEAPOLIS, Feb. 05, 2019 (GLOBE NEWSWIRE) -- Precision Therapeutics Inc. (NASDAQ: AIPT) ("Precision" or "the Company") today announces its TumorGenesis subsidiary has identified three thyroid cancer cell types and has isolated the discovery biomarkers. The company will utilize this discovery to further develop its proprietary TumorGenesis system for Cancer Cell Capture and Culture, which permits screening of drugs against the cancers cells. The TumorGenesis system enables cells grown outside the body to behave as though they were present in a patient, potentially making the drug screening process more predictive.

The TumorGenesis system, which the Company believes represents a paradigm shift in the way drug discovery is conducted, relies on the ability to grow tumors outside the body that will have the same genotype as a cancer mutation. This methodology will allow pharmaceutical developers to create therapies that are unique to a particular patient's tumor. The biomarkers identified by TumorGenesis for these types of thyroid cancer involve the sequencing of the peptides that reside on the surface of the tumor cell. The Company's discovery of these biomarkers is essentially the first step in refining this methodology.

"Identifying the surface biomarkers to tumor cells is an approach that will allow TumorGenesis to help separate different cell types and identify novel biomarkers that may lead to new ways of treating cancers of all types," commented Richard Gabriel, COO of TumorGenesis. "We will couple our biomarker array with genetic sequencing, deep machine learning and creation of novel blocks of biomarkers that will be able to separate and then culture cancer cells in an environment where they behave as if they were inside a human body. This important milestone is the first step of our three-part development process."

The company is currently exploring how to determine which grouping of biomarkers can be effectively expanded in a culture and will then grow a tumor *ex vivo* that expresses the key genetic properties of a cancer subtype. In addition to thyroid cancer, the company is currently researching other cancer cell types, including ovarian, breast, glioblastoma, liver and colon. Thyroid cancer is mostly curable, with a few aggressive, difficult to treat forms.

It is estimated that thyroid cancer will cause 2,060 deaths this year alone, with women three-times more likely to have the disease, although women and men die at a similar rate, making the prognosis for men worse than for women with the diagnosis. Currently there are 594 clinical trials ongoing worldwide for Thyroid cancer, with 84 in the United States alone. The global thyroid treatment market was valued at $340 million in 2017 and will reach $2.090 billion by the end of 2025, growing at a CAGR of 25.5 percent in the period of 2018-2025.

"This is an important first step in the development of our Cancer Cell Capture, Culture and Screening methodology, and we hope to both progress our methodology in thyroid cancer and expand our capabilities into other cancer types," commented Dr. Carl Schwartz, chief executive officer of Precision Therapeutics. "We are convinced this is a paradigm shift toward personalized medicine in cancer treatment and believe that once we are able to grow tumors outside the body, our Helomics subsidiary will facilitate the screening of drug discovery candidates using its AI platform, and provide more optimal treatment opportunities for individual patients."

To be added to the Precision Therapeutics' database, please email Info@MoneyInfo-llc.com with your email address. This is solely for the use of Precision Therapeutics and will not be sold or distributed to third parties.

Additional Information and Where to Find It

This communication does not constitute an offer to sell or the solicitation of an offer to buy any securities or a solicitation of any vote or approval. This communication may be deemed to be solicitation material in respect of the proposed transaction between Precision Therapeutics Inc. ("Precision") and Helomics. In connection with the proposed transaction, Precision has filed a registration statement on Form S-4, containing an exchange offer prospectus, a proxy statement for the annual meeting of the stockholders of Precision, an information statement and other detailed information regarding the proposed merger and related matters (the "S-4") with the SEC.

Each of Precision and Helomics plans to mail the proxy statement/prospectus/information statement contained in the Form S-4 to its stockholders at a future date. The Form S-4 and proxy statement/prospectus/information statement contains important information about Precision, Helomics, the merger and related matters. Investors and stockholders should read carefully the proxy statement/prospectus/information statement and the other documents filed with the SEC in connection with the merger before they make any decision with respect to the merger. A copy of the merger agreement with respect to the merger has been filed by Precision as an exhibit to its Form 8-K dated October 26, 2018.

The identity of people who, under SEC rules, may be considered "participants in the solicitation" of Helomics stockholders in connection with the proposed merger, and a description of their interests, is disclosed in the S-4 filing made by Precision.

This communication is not a substitute for the registration statement, definitive proxy statement/prospectus/information statement or any other documents that Precision has filed or may file with the SEC or that Precision or Helomics may send to their respective security holders in connection with the proposed transaction.

SECURITY HOLDERS OF HELOMICS ARE URGED TO READ ALL RELEVANT DOCUMENTS FILED WITH THE SEC, INCLUDING THE PROXY STATEMENT/PROSPECTUS/INFORMATION STATEMENT, BECAUSE THEY WILL CONTAIN IMPORTANT INFORMATION ABOUT THE PROPOSED TRANSACTION.

The proxy statement/prospectus/information statement, the Form 8-K and all other documents filed with the SEC in connection with the merger will be made available to investors free of charge on Precision's website at www.precisiontherapeutics.com. In addition, the proxy statement/prospectus, the Form 8-K and all other documents filed with the SEC in connection with the merger will be made available to investors free of charge by calling or writing to:

Bob Myers, Chief Financial Officer
Precision Therapeutics Inc.
2915 Commers Drive, Suite 900
Eagan, MN 55121
Tel: 651-389-4806

In addition to the Form S-4, the proxy statement/prospectus/information statement and the other documents filed with the SEC in connection with the merger, Precision is obligated to file annual, quarterly and special reports, proxy statements and other information with the SEC. You may read and copy any reports, statements and other information filed with the SEC at the SEC's public reference rooms at 450 Fifth Street, N.W., Washington, D.C. 20549 or at the other public reference rooms in New York, New York and Chicago, Illinois. Please call the SEC at 1-800-SEC-0330 for further information on the public reference rooms. Filings with the SEC are also available to the public from commercial document-retrieval services and at the website maintained by the SEC at www.sec.gov.

About Precision Therapeutics Inc.
Precision Therapeutics (NASDAQ:AIPT) operates in two business areas: first, applying artificial intelligence to personalized medicine and drug discovery to provide personalized medicine solutions for patients and clinicians as well as clients in the pharmaceutical, diagnostic, and biotech industries, and second, production of the FDA-approved STREAMWAY® System for automated, direct-to-drain medical fluid disposal. For additional information, please visit www.precisiontherapeutics.com.

Precision Therapeutics' medicine business is committed to improving the effectiveness of cancer therapy using the power of artificial intelligence (AI) applied to rich data diseases databases. This business has launched with Precision Therapeutics' investment in Helomics Corporation, a precision medicine company and integrated clinical contract research organization whose mission is to improve patient care by partnering with pharmaceutical, diagnostic, and academic organizations to bring innovative clinical products and technologies to the marketplace. In addition to its proprietary precision diagnostics for oncology, Helomics offers boutique CRO services that leverage their patient-derived tumor models, coupled to a wide range of multi-omics assays (genomics, proteomics and biochemical), and a proprietary bioinformatics platform (D-CHIP) to provide a tailored solution to our client's specific needs. Helomics is 25% owned by Precision Therapeutics. Helomics® is headquartered in Pittsburgh, Pennsylvania where the company maintains state-of-the-art, CLIA-certified, clinical and research laboratories. For more information, please visit www.Helomics.com.

Precision Therapeutics has also announced the formation of a subsidiary, TumorGenesis to pursue a new rapid approach to growing tumors in the laboratory, which essentially "fools" the cancer cells into thinking they are still growing inside the patient. Precision Therapeutics and Helomics have also announced a proposed joint venture with GLG Pharma focused on using their combined technologies to bring personalized medicines and testing to ovarian and breast cancer patients, especially those who present with ascites fluid (over one-third of patients). The growth strategy in this business includes securing new partnerships and considering acquisitions in the precision medicine space.

Sold through the Skyline Medical business of Precision Therapeutics, The STREAMWAY System virtually eliminates staff exposure to blood, irrigation fluid and other potentially infectious fluids found in the healthcare environment. Antiquated manual fluid handling methods that require hand carrying and emptying filled fluid canisters present an exposure risk and potential liability. Skyline Medical's STREAMWAY System fully automates the collection, measurement, and disposal of waste fluids and is designed to: 1) reduce overhead costs to hospitals and surgical centers; 2) improve compliance with OSHA and other regulatory agency safety guidelines; 3) improve efficiency in the operating room, and radiology and endoscopy departments, thereby leading to greater profitability; and 4) provide greater environmental stewardship by helping to eliminate the approximately 50 million potentially disease-infected canisters that go into landfills each year in the U.S. For additional information, please visit www.skylinemedical.com.

Forward-looking Statements
Certain of the matters discussed in this announcement contain forward-looking statements that involve material risks to and uncertainties in the Company's business that may cause actual results to differ materially from those anticipated by the statements made herein. Such risks and uncertainties include (1) risks related to the proposed merger, including the fact that we may not complete the merger; we do not have complete information about Helomics; the combined company will not be able to continue operating without additional financing; possible failure to realize anticipated benefits of the merger; costs associated with the merger may be higher than expected; the merger may result in disruption of the Company's and Helomics' existing businesses, distraction of management and diversion of resources; delay in completion of the merger may significantly reduce the expected benefits; and the market price of the Company's common stock may decline as a result of the merger; (2) risks related to our partnerships with other companies, including the need to negotiate the definitive agreements; possible failure to realize anticipated benefits of these partnerships; and costs of providing funding to our partner companies, which may never be repaid or provide anticipated returns; and (3) other risks and uncertainties relating to the Company that include, among other things, current negative operating cash flows and a need for additional funding to finance our operating plan; the terms of any further financing, which may be highly dilutive and may include onerous terms; unexpected costs and operating deficits, and lower than expected sales and revenues; sales cycles that can be longer than expected, resulting in delays in projected sales or failure to make such sales; uncertain willingness and ability of customers to adopt new technologies and other factors that may affect further market acceptance, if our product is not accepted by our potential customers, it is unlikely that we will ever become profitable; adverse economic conditions; adverse results of any legal proceedings; the volatility of our operating results and financial condition; inability to attract or retain qualified senior management personnel, including sales and marketing personnel; our ability to establish and maintain the proprietary nature of our technology through the patent process, as well as our ability to possibly license from others patents and patent applications necessary to develop products; the Company's ability to implement its long range business plan for various applications of its technology; the Company's ability to enter into agreements with any necessary marketing and/or distribution partners and with any strategic or joint venture partners; the impact of competition, the obtaining and maintenance of any necessary regulatory clearances applicable to applications of the Company's technology; and management of growth and other risks and uncertainties that may be detailed from time to time in the Company's reports filed with the Securities and

Exchange Commission, which are available for review at www.sec.gov. This is not a solicitation to buy or sell securities and does not purport to be an analysis of the Company's financial position. See the Company's most recent Annual Report on Form 10-K, and subsequent reports and other filings at www.sec.gov.

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