

Aptorum Group Launches Infectious Disease Liquid Biopsy Subsidiary Start-up and Exclusively In-licensed from Singapore based Accelerate Technologies To Co-Develop Molecular Based Rapid Pathogen Diagnostics Technology To Track Pathogenic Genome

NEW YORK, LONDON, & PARIS--([BUSINESS WIRE](#))-- Regulatory News:

Aptorum Group Limited (Nasdaq: APM, Euronext Paris: APM) (“Aptorum Group” or “Aptorum”), a biopharmaceutical company focused on novel technologies including the targeting of infectious diseases, announced its launch of Aptorum Innovations - an infectious disease liquid biopsy diagnostics subsidiary and its newly established exclusive in-licensing arrangements with Accelerate Technologies Pte Ltd (“Accelerate Technologies”), commercialization arm of the Singapore’s Agency for Science, Technology and Research (“A*STAR”), to co-develop novel molecular-based rapid pathogen identification and detection diagnostics (“RPIDD”) technology. Aptorum Innovations, intends to target the global molecular diagnostics market estimated to reach USD\$13.8billion in market size by 2025, of which 60% is estimated to be attributable to the infectious disease segment¹, with its next-generation RPIDD technology.

The RPIDD technology was initiated and currently under development at A*STAR. The core objectives of RPIDD are to rapidly and accurately identify and detect existing or emerging unknown pathogens (including DNA/RNA-based viruses such as coronavirus, antibiotic-resistant bacteria, fungi, etc.), in a cost-effective, unbiased and broad-spectrum manner, through liquid biopsy (patients’ blood samples and is potentially adaptable for other sample types), genome sequencing and artificial intelligence driven software analytics. A key objective is also to develop RPIDD to leverage existing and emerging Next-Generation Sequencing platforms for pathogenic genome sequencing analysis.

Aptorum Innovations Pte Ltd (“Aptorum Innovations”), a subsidiary of Aptorum Group, is the exclusive licensee and commercializing party of the technology being developed in close cooperation with A*STAR and licensed by Accelerate Technologies. Subject to further validation and optimization of the RPIDD technology, Aptorum Group intends to open its initial series of RPIDD-driven infectious disease liquid biopsy diagnostics laboratories over the course of the next two years, with at least one flagship location in Singapore in collaboration with local hospitals and clinics; other targeted follow-on locations include the United States, European Union and the United Kingdom. Through A*STAR, the technology is currently undergoing product optimization at its Diagnostics Development Hub (DxD) and A*STAR will continue to perform further clinical validation with Singapore based hospital provider; Aptorum Innovations will facilitate further clinical validation with other locations including but not limited to Australia-based Talem Medical Group, Raffles Medical Group (Hong Kong) and other future collaboration potentials.

Dr. Clark Cheng, Chief Medical Officer and Executive Director of Aptorum Group, commented: “With the significant worldwide disruption caused by the COVID19 pandemic and the current global focus on antimicrobial resistance, further to our recent joining with the BEAM alliance², Aptorum Group expands its potential infectious disease liquid biopsy diagnostics capabilities in synergy with its current infectious disease platform (for example, the leading *Staphylococcus aureus* drug program ALS-4) and supports worldwide antimicrobial stewardship policies (ASPs). Bacteremia infections, for example, alone cause nearly 500,000 hospitalizations in the United States annually and account for 11 percent of intensive care unit (ICU) admissions with over \$20.3 billion in aggregate cost³. Mortality associated with these infections is extremely high and can range anywhere from 25 percent to 80 percent⁴. In accordance with Infectious Diseases Society of America’s (IDSA) policy paper⁵, many patients with suspected infections receive empiric antimicrobial therapy rather than appropriate specialized therapy dictated by rapid identification of the infectious agent and as a result, leading to nearly 50% of inappropriate overuse of our small inventory of antimicrobials challenged by rising levels of antimicrobial resistance⁶. Current blood culture-based testing is often inaccurate and time-consuming (up to 3 days on average⁷) resulting in unnecessary patient morbidity and increased risks of mortality. Moreover, current broad spectrum molecular diagnostics are often too cost-benefit prohibitive⁸ and therefore are not adopted as the first line of diagnostics for healthcare providers – with our technology we target to reduce end user costs by over 60% (or more) relative to current service provider average prices. With the forecast global molecular diagnostics market size to reach over US\$13.8billion by 2025, the need to integrate broad-spectrum and affordable rapid molecular diagnostics into day-to-day clinical care and public health has never been greater and the RPIDD technology is being developed to target the improvement of clinical outcomes for patients and tracking of unknown pathogens in a cost-effective manner for our healthcare system⁹.

Aptorum Group, through its subsidiary Aptorum Innovations, intends to commercialize RPIDD through the future set up of proprietary clinical microbiology laboratories as part of our dedicated focus to counter worldwide infectious disease related issues and will explore future collaborations with, for example, other NGS platforms to support this endeavour. It is with great pleasure to announce our planned global diagnostics expansion via Singapore's robust healthcare ecosystems, such as this cooperation with A*STAR whose experienced and innovative molecular engineering team we are confident will help disrupt the global infectious disease liquid biopsy diagnostics market and further promote molecular-based diagnostics as the first line of defence for infectious diseases."

About The Rapid Pathogen Identification and Detection Diagnostics Technology (RPIDD)

RPIDD is an innovative liquid biopsy-driven rapid pathogen molecular diagnostics technology with proprietary and patented technologies being developed to deplete host DNA and enrich pathogenic DNA / RNA for analysis through harnessing the power of Next-Generation Sequencing platforms (such as Illumina's sequencing platforms) and proprietary artificial intelligence-based software analytics to rapidly identify and detect in blood over a potential targeted 1000+ viruses, bacteria, fungi and parasites present through its genome composition and other unknown pathogens. RPIDD has been and continues to be validated in human samples and so far, such testing has been able to detect pathogens – ranging from bacteria, fungi and viruses in an unbiased manner. RPIDD is currently under optimization for upcoming planned validations in collaboration with a number of healthcare providers in Singapore and other jurisdictions before it may be commercialized.

About Aptorum Group

Aptorum Group Limited (Nasdaq: APM, Euronext Paris: APM) is a pharmaceutical company dedicated to the discovery, development and commercializing of therapeutic assets to treat diseases with unmet medical needs, particularly infectious diseases and cancers (including orphan oncology indications). The pipeline of Aptorum is also enriched through the establishment of drug discovery platforms that enable the discovery of new therapeutics assets through programs such as the systematic screening of existing approved drug molecules and microbiome-based research platform for treatments of metabolic diseases. In addition to the above main focus, the company is also pursuing therapeutic and diagnostic projects in neurology, gastroenterology, metabolic disorders, women's health and other disease areas. Aptorum also has projects focused on surgical robotics and natural supplement for women undergoing menopause and experiencing related symptoms.

For more information about Aptorum Group, please visit www.aptorumgroup.com.

Disclaimer and Forward-Looking Statements

This press release does not constitute an offer to sell or a solicitation of offers to buy any securities of Aptorum Group.

This press release includes statements concerning Aptorum Group Limited and its future expectations, plans and prospects that constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. For this purpose, any statements contained herein that are not statements of historical fact may be deemed to be forward-looking statements. In some cases, you can identify forward-looking statements by terms such as "may," "should," "expects," "plans," "anticipates," "could," "intends," "target," "projects," "contemplates," "believes," "estimates," "predicts," "potential," or "continue," or the negative of these terms or other similar expressions. Aptorum Group has based these forward-looking statements, which include statements regarding projected timelines for application submissions and trials, largely on its current expectations and projections about future events and trends that it believes may affect its business, financial condition and results of operations. These forward-looking statements speak only as of the date of this press release and are subject to a number of risks, uncertainties and assumptions including, without limitation, risks related to its announced management and organizational changes, the continued service and availability of key personnel, its ability to expand its product assortments by offering additional products for additional consumer segments, development results, the company's anticipated growth strategies, anticipated trends and challenges in its business, and its expectations regarding, and the stability of, its supply chain, and the risks more fully described in Aptorum Group's Form 20-F and other filings that Aptorum Group may make with the SEC in the future, as well as the prospectus that received the French Autorité des Marchés Financiers visa n°20-352 on 16 July 2020.

As a result, the projections included in such forward-looking statements are subject to change and actual results may differ materially from those described herein. Aptorum Group assumes no obligation to update any forward-looking statements contained in this press release as a result of new information, future events or otherwise.

This announcement is not a prospectus within the meaning of the Regulation (EU) n°2017/1129 of 14 June 2017 as amended by Regulations Delegated (EU) n°2019/980 of 14 March 2019 and n°2019/979 of 14 March 2019.

This press release is provided “as is” without any representation or warranty of any kind.

1 <https://www.globenewswire.com/news-release/2020/05/20/2036545/0/en/Molecular-Diagnostics-Market-Worth-USD-13-8>

2 <https://ir.aptorumgroup.com/news-releases/news-release-details/aptorum-group-joins-beam-alliance-combat-antimicrobia>

3 Angus DC, Wax RS. Epidemiology of sepsis: an update. *Crit Care Med.* 2011;29:S109–S116. Torio CM, Andrews RM. National inpatient hospital costs: the most expensive conditions by payer: HCUP Statistical Brief #160. 2013. Agency for Healthcare Research and Quality, Rockville, MD.
<http://www.hcup-us.ahrq.gov/reports/statbriefs/sb160.pdf> Accessed June 23, 2015.

4 <https://www.mlo-online.com/home/article/13008417/the-impact-of-molecular-approaches-to-infectious-disease-diagnostics>

5 https://www.idsociety.org/globalassets/idsa/policy--advocacy/current_topics_and_issues/diagnostics/statements/better-te

6 <https://www.mlo-online.com/home/article/13008417/the-impact-of-molecular-approaches-to-infectious-disease-diagnostics>

7 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6258864/>

8 <https://www.mlo-online.com/diagnostics/assays/article/13008693/is-mdx-costeffective-for-infectious-disease-applications>

9 <https://cmr.asm.org/content/31/3/e00095-17>

Contacts

Aptorum Group Limited
Investor Relations Department:
Tel: +44 20 80929299
Email: investor.relations@aptorumgroup.com

Redchip – Financial Communications United States
Investor relations
Dave Gentry
dave@redchip.com
+1 407 491 4498

Actifin – Financial Communications Europe
Investor relations
Ghislaine Gasparetto
ggasparetto@actifin.fr
+33 1 56 88 11 22

Source: Aptorum Group Limited