March 9, 2021

Capricor Therapeutics Announces New Advances in Exosome-Mediated mRNA Delivery Platform

-New Data Demonstrates Exosome-Mediated Delivery of mRNAs With Enhanced Expression and Lower Toxicity Compared to Lipid Nanoparticles-

-Functional Enzyme Expression and Real-Time Imaging of mRNA Expression in Live Animals-

-Platform for Advancing Clinical Development of Exosome-RNA Based Vaccine Candidate-

-Data to be Discussed on Earnings Call this Thursday, March 11 at 4:30 p.m. ET-

LOS ANGELES, March 09, 2021 (GLOBE NEWSWIRE) -- Capricor Therapeutics, Inc. (NASDAQ: CAPR), a biotechnology company focused on the development of transformative cell- and exosome-based therapeutics for the treatment and prevention of a broad spectrum of diseases, in collaboration with researchers, announced today that new advances from its positive preclinical study for a multivalent exosome-based mRNA vaccine for COVID-19 have been posted on the bioRxiv preprint server and has been submitted for publication.

“Capricor previously demonstrated that our exosome-based multivalent RNA delivery platform can induce long-lasting immune responses to multiple SARS-CoV-2 proteins, and potentially elicit a broad-based, cellular and humoral immunity. We decided to explore further the expression of RNAs with our exosome-based delivery system and compare exosomes with lipid nanoparticles specifically focused on short term toxicity,” said Linda Marbán, Ph.D., CEO of Capricor. “The data demonstrated functional RNA expression *in vivo* further showing the power of our exosome platform to potentially expand into areas beyond SARS-CoV-2. This strengthens my belief that our exosome platform can deliver RNA effectively into cells and drive the expression of functional proteins. The opportunities for pipeline expansion are very exciting, both in vaccines and in the delivery of therapeutic RNAs.”

Key takeaways from this pre-clinical study include:

- Real-time imaging establishing exosome-mediated mRNA expression in living animals
- Demonstration that exosome-mRNA formulations can drive functional enzyme expression *in vivo*, opening the opportunity for therapeutic exosome-mRNA formulations
- Superior expression from exosome-mRNA formulations compared to Lipid Nanoparticle (LNP)-mRNA formulations
- Exosome-mRNA treatment and exosome injections are free of adverse effects, in contrast to LNP-mRNA treatments and LNP injections

Exosomes are the body's own drug delivery vehicle, produced by all cells, abundant in all biofluids, and demonstrated to be safe by decades of transfusion and transplantation medicine. Their small size, biological origin, minimal immunogenicity and normal role in delivering signals and RNAs to human cells, indicates that they have the potential to expand the range of therapeutics that can be deployed in the fight against a broad spectrum of diseases.

Dr. Marbán continued, "This data is of great importance to Capricor, because it demonstrates the efficacy of our vaccine candidate in mice, as well as corroborates functional RNA expression and demonstrates a potentially safer delivery vehicle compared to commonly used LNPs. We are planning to meet with the U.S. Food and Drug Administration this quarter to discuss next steps for a clinical development strategy for our exosome-mRNA vaccine and look forward to sharing additional updates as they become available."

Conference Call and Webcast Details

Capricor's Executive Consultant, Dr. Stephen Gould, and Capricor's management will host a conference call on Thursday, March 11, 2021 to discuss this data and provide a corporate update. To participate, please dial 877-451-6152 (Domestic/Toll-Free) or 201-389-0879 (International) and reference the conference ID: 13717080

To participate via a webcast (with slides), please visit: http://public.viavid.com/index.php?id=143779.
The webcast will be archived for approximately 30 days and will be available at: http://capricor.com/news/events/.

About Capricor Therapeutics

Capricor Therapeutics, Inc. (NASDAQ: CAPR) is a biotechnology company focused on the development of transformative cell- and exosome-based therapeutics for the treatment and prevention of a broad spectrum of diseases. Capricor's lead candidate, CAP-1002, is an allogeneic cell therapy that is currently in clinical development for the treatment of Duchenne muscular dystrophy and the cytokine storm associated with COVID-19. Capricor is also investigating the field of extracellular vesicles and exploring the potential of exosome-based candidates to treat or prevent a variety of disorders. We are now developing two potential vaccines for COVID-19 as part of our exosome platform. For more information, visit www.capricor.com and follow the Company on Facebook, Instagram and Twitter.

Cautionary Note Regarding Forward-Looking Statements

Statements in this press release regarding the efficacy, safety, and intended utilization of Capricor's product candidates; the initiation, conduct, size, timing and results of discovery efforts and clinical trials; the pace of enrollment of clinical trials; plans regarding regulatory filings, future research and clinical trials; regulatory developments involving products, including the ability to obtain regulatory approvals or otherwise bring products to market; plans regarding current and future collaborative activities and the ownership of commercial rights; scope, duration, validity and enforceability of intellectual property rights; future royalty streams, revenue projections; expectations with respect to the expected use of proceeds from the recently completed offerings and the anticipated effects of the offerings; and any

other statements about Capricor's management team's future expectations, beliefs, goals, plans or prospects constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Any statements that are not statements of historical fact (including statements containing the words "believes," "plans," "could," "anticipates," "expects," "estimates," "should," "target," "will," "would" and similar expressions) should also be considered to be forward-looking statements. There are a number of important factors that could cause actual results or events to differ materially from those indicated by such forward-looking statements. More information about these and other risks that may impact Capricor's business is set forth in Capricor's Annual Report on Form 10-K for the year ended December 31, 2019 as filed with the Securities and Exchange Commission on March 27, 2020 and in our Quarterly Report on Form 10-Q for the quarter ended September 30, 2020 as filed with the Securities and Exchange Commission on November 13, 2020. All forward-looking statements in this press release are based on information available to Capricor as of the date hereof, and Capricor assumes no obligation to update these forward-looking statements.

CAP-1002 is an Investigational New Drug and is not approved for any indications. None of Capricor's exosome-based candidates have been approved for clinical investigation.

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