



## **FOR IMMEDIATE RELEASE**

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### **Ember Therapeutics Broadens Brown Fat Small Molecule Drug Discovery Portfolio, Secures Exclusive License Options to Intellectual Property for Three Small Molecule Targets**

*Researcher Jorge Plutzky, M.D., Joins Ember's Scientific Advisory Board*

**Watertown, Mass. – October 4, 2012** – [Ember Therapeutics, Inc.](#), a company harnessing breakthroughs in brown fat biology and insulin sensitization to revolutionize the treatment of metabolic disease, today announced that it has secured exclusive option rights to intellectual property for three key small molecule targets – retinaldehyde dehydrogenase 1 (Aldh1a1), thioesterase superfamily member 1 (Them1), and TRPV4.

Previously, Ember announced the licensing of technology to several biologics including irisin and BMP7, and has secured licensing to several functional/pathway screens that are key to its brown fat pipeline, including PRDM16 and Foxc2. Ember now has expanded its brown fat portfolio to include the licensing of options to three exciting direct biochemical drug targets in brown fat biology. Last week, Ember announced that it has secured an exclusive option to license a TRPV4 program that was recently the subject of a [Cell publication](#) that highlights the importance of this specific channel in brown fat biology. Today, Ember has added exclusive options for innovative programs targeting Aldh1a1 and Them1. This further illustrates Ember's aggressive strategy to secure a broad intellectual property portfolio, spanning all aspects of brown fat biology, particularly those components related to pharmaceuticals.

In a recent study published in [Nature Medicine](#), Jorge Plutzky, M.D., director of The Vascular Disease Prevention Program at Brigham and Women's Hospital and associate professor at Harvard Medical School, and fellow researchers, including C. Ronald Kahn, M.D., one of Ember's scientific co-founders, found that inhibition of Aldh1a1 induced classic brown fat characteristics, including increased energy expenditure, protection against cold exposure, lowered glucose levels and reduced weight gain. Aldh1a1 is an enzyme involved in the retinoid metabolism process that is abundant in white fat cells, including in depots of visceral fat, which is often referred to as abdominal fat. The effects of Aldh1a1 inhibition were evident in both a genetic knockout model as well as through anti-sense targeting of Aldh1a1 in obese mice, with the induction of brown fat-like attributes in white adipose tissue, including visceral fat.

In a separate study, recent work published by David Cohen, M.D., Ph.D., and his laboratory at Brigham and Women's Hospital, demonstrated that Them1, a long chain fatty acyl-CoA thioesterase that is highly enriched in brown fat, plays an important role in regulating energy homeostasis. The research, reported in the journal [\*Proceedings of The National Academy of Sciences\*](#) earlier this year, found that preclinical models deficient in Them1 have increased rates of fatty acid oxidation in brown fat and are highly resistant to diet-induced obesity, diabetes, inflammation and hepatic steatosis.

“These recent findings on Aldh1a1, Them1 and TRPV4 provide a deeper understanding of the pathways and mechanisms that relate to brown fat,” said Louis Tartaglia, Ph.D., president and interim chief executive officer of Ember Therapeutics. “Aldh1a1, Them1 and TRPV4 all present significant, potential therapeutic opportunities for obesity and diabetes. By securing these exclusive license options, Ember is strategically expanding our portfolio of small molecule drug discovery programs for brown fat approaches to the treatment of metabolic disorders.”

Ember is also pleased to announce that Dr. Plutzky, lead researcher in the Aldh1a1 discovery, has joined Ember's Scientific Advisory Board. Dr. Plutzky is recognized nationally and internationally for his expertise across both basic science and clinical issues relevant to cardiovascular disease and metabolic abnormalities related to diabetes, dyslipidemia and obesity. He is a former member of the Food and Drug Administration's Endocrine and Metabolism Physician's Advisory Panel. He has received numerous awards for his work and has published extensively in the highest level of peer-reviewed journals.

#### **About Ember Therapeutics, Inc.**

Ember Therapeutics is a product-focused company harnessing breakthroughs in brown fat biology and insulin sensitization to revolutionize the treatment of metabolic disease. Today's rising epidemic of obesity and Type 2 diabetes coupled with the lack of innovation in the industry's metabolic disorder treatment pipeline underscores the need for novel, peripherally-acting treatments with improved safety profiles. Ember's unique approach leverages recent research breakthroughs in brown fat biology to develop a pipeline of proprietary large and small molecules designed to amplify the body's innate ability to efficiently burn fuels like glucose. Ember's expertise is also driving the development of the next generation of highly selective insulin sensitizers that have robust anti-diabetic effects, but lack the serious side effects of currently approved insulin sensitizers. Ember is a private company launched in 2011 by renowned scientific founders, an experienced leadership team and Third Rock Ventures. For more information, please visit [www.embertx.com](http://www.embertx.com).

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