Spruce Biosciences Raises $88 Million in Series B Financing, co-led by Omega Funds and Abingworth

February 19, 2020

– Proceeds to advance development of Tildacerfont in Congenital Adrenal Hyperplasia and other indications

– Existing Investors Novo Holdings and RiverVest Venture Partners support the deal with new Investors HealthCap, Rock Springs Capital, Aisling Capital, Surveyor Capital (a Citadel company) and Sands Capital joining the syndicate

San Francisco, California — February 19, 2020 –Spruce Biosciences today announced it has raised $88 million in Series B financing co-led by Omega Funds and Abingworth and supported by existing investors Novo Holdings and RiverVest Venture Partners, as well as new investors HealthCap, Rock Springs Capital, Surveyor Capital (a Citadel company), Aisling Capital and Sands Capital. Spruce is a clinical stage biopharmaceutical company developing therapeutics for rare endocrine diseases. The proceeds will be used to further fund the clinical development of the company's lead product, tildacerfont, in classic congenital adrenal hyperplasia (CAH) and other conditions.

Tildacerfont, a second generation CRF-1 receptor antagonist, is the first non-steroidal molecule to demonstrate an ability to normalize elevated androgens in patients with CAH in clinical studies. With the closing of the financing, Spruce will evaluate the ability of tildacerfont to reduce glucocorticoid (GC) steroid usage and improve clinical outcomes in a late-stage clinical program in adults with CAH. In addition, the company plans to complete proof-of-concept trials in the pediatric population.

"We are impressed with the potential for tildacerfont to become the first approved treatment for patients with classic congenital adrenal hyperplasia around the world, as well as the encouraging positive results recently announced from its Phase 2 clinical trial. This drug could be a life-altering therapy for patients with CAH," said Dina Chaya, Advisor to Omega Funds. Bali Muralidhar, Partner at Abingworth commented, "We look forward to working with the Spruce team, and our distinguished syndicate of investors, to build an exciting business and advance Spruce's product development through key inflection points for the benefit of patients."

"The potential utility of tildacerfont, as well as an interest in broader rare endocrine disorders, has attracted a strong group of investors. We are thrilled to partner with these highly respected investors, who have a track record in backing the most promising science and a history of successful biopharmaceutical company development," said Richard King, President and CEO of Spruce Biosciences. "I look forward to leading our highly experienced management team as we advance the development of tildacerfont in CAH and other indications for the benefit of this underserved patient population."

"Existing treatment for CAH is limited to chronic glucocorticoid replacement, and is often unsatisfactory, resulting in many patients continuing to suffer from excess androgen production and high GC exposure," said Wiebke Arlt, M.D., D.Sc., F.R.C.P., F. Med.Sci., Director of the Institute of Metabolism and Systems Research at the University of Birmingham, UK. "In addition to addressing these unmet needs in CAH, tildacerfont's mechanism of action could also be relevant in patients suffering other abnormalities of the hypothalamic-pituitary adrenal axis, including non-classic CAH, Cushing's Disease, and polycystic ovary syndrome."

"There is a high unmet need for safe and effective new therapies to treat CAH," said Phyllis Speiser, M.D., Professor of Pediatrics at Zucker School of Medicine at Hofstra-Northwell and Chief of Pediatric Endocrinology at Cohen Children's Medical Center of New York, NY. "We look forward to working with Spruce as the company advances its clinical programs in pediatric patients with CAH."

About Classic Congenital Adrenal Hyperplasia (CAH)

Classic CAH is a rare genetic disorder affecting the ability of the adrenal glands to function properly. CAH results from a mutation in the gene that encodes the enzyme 21-hydroxylase, which is necessary for the synthesis of key adrenal hormones. As a result, people with CAH have an impaired ability to produce the hormone, cortisol, which can result in life-threatening adrenal crises. Cortisol is also known as "the stress hormone," and is critical for the body's response to stress, illness and injury.

In CAH, the adrenal glands often produce excessive levels of male sex hormones or androgens. While both sexes need androgens for proper growth and development, an excess can cause problems that may include precocious puberty, short stature, hirsutism, increased risk of testicular adrenal rest tumors (TART) in men, and virilization and menstrual dysfunction in women.

Although CAH testing is part of the newborn screening program, treatment options are limited. Glucocorticoids (such as hydrocortisone, prednisone and dexamethasone) are commonly used to treat CAH but are associated with a wide range of side effects, including weight gain, stunted growth in children, reduced bone mineral density, metabolic abnormalities and increased cardiovascular risk. No new treatment options for CAH have been approved for the past several decades.

About Tildacerfont

Spruce's investigational lead product candidate, tildacerfont (formerly SPR001) is a potent, highly selective, oral, small-molecule antagonist of the corticotropin-releasing factor type-1 (CRF1) receptor. Preclinical studies have shown that through targeted delivery, tildacerfont binds to CRF1 receptors to block CRF-stimulated receptor function, thereby decreasing the production of excess androgens (androstenedione [A4]), progestins (17-hydroxyprogesterone [17-OHP]) and adrenocorticotropic hormone (ACTH), the primary driver of adrenal gland enlargement. This may allow physicians to reduce the chronic, high-dose steroids used to treat patients with congenital adrenal hyperplasia (CAH), potentially allowing physicians and patients improved control of CAH.

Tildacerfont has been granted orphan drug status by both the FDA and EMA. For more information on tildacerfont, please

visit www.sprucebiosciences.com.

About Spruce Biosciences

Spruce Biosciences is a clinical-stage biotechnology company focused on developing and commercializing novel therapies for rare endocrine disorders. The company's lead product candidate, tildacerfont, is an investigational oral drug that is being evaluated in studies for the treatment of congenital adrenal hyperplasia (CAH). The company also plans to evaluate tildacerfont in other diseases impacted by elevated ACTH or adrenal androgens. Backed by investors including Omega Funds, Abingworth Bioventures, Novo Holdings, RiverVest Venture Partners, HealthCap, Rock Springs Capital, Aisling Capital, Surveyor Capital (a Citadel company) and Sands Capital, Spruce is committed to bringing new treatment options to patients with unmet needs. For more information, please visit www.sprucebiosciences.com.

About Omega Funds

Founded in 2004, Omega Funds is a leading international investment firm that creates and invests in life sciences companies that target our world's most urgent medical needs. Omega focuses on identifying and supporting companies through value inflection points across the full arc of innovation, from company formation through clinical milestones and commercial adoption. Omega Funds' portfolio companies have brought 37 products to market in multiple therapeutic areas, including oncology, rare diseases, precision medicine and others. Please visit www.omegafunds.com for additional information.

About Abingworth

Abingworth is a leading transatlantic life sciences investment firm. We help transform cutting-edge science into novel medicines by providing capital and expertise to top caliber management teams and building world-class companies. Since 1973, Abingworth has invested in approximately 160 life science companies, leading to more than 40 M&A/exits and over 65 IPOs. Our therapeutic focused investments fall into 3 categories: seed and early-stage, development stage, and clinical co-development. Abingworth supports its portfolio companies with a team of experienced professionals at offices in London, Menlo Park (California) and Boston.

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