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Initiating Coverage

February 16, 2021

SciSparc Ltd.

Rating: Buy

BUY Rated, $20 PT; Leveraging Cannabinoid Therapeutics And The Entourage Effect

Key Metrics

SPRCY - OTC	$6.31
Pricing Date	Feb 12 2021
Price Target	$20.00
52-Week Range	$75.60 - $0.30
Shares Outstanding (mm)	1.0
Market Capitalization (mm)	$6.3
3-Mo Average Daily Volume	826
Book Value/Share	$0.01
Price/Book	631.0x

EPS FY: December

	2020E	Prior 2021E	Curr. 2021E	Prior 2022E	Curr. 2022E
1Q-Mar	--	--	(0.82)E	--	(0.71)E
2Q-Jun	--	--	(0.82)E	--	(0.76)E
3Q-Sep	--	--	(0.82)E	--	(0.74)E
4Q-Dec	--	--	(0.81)E	--	(0.80)E
FY	(3.59)E	--	(3.27)E	--	(2.89)E
P/E	NM		NM		NM

Revenue (M)

	2020E	Prior 2021E	Curr. 2021E	Prior 2022E	Curr. 2022E
1Q-Mar	--	--	0.0E	--	0.0E
2Q-Jun	--	--	0.0E	--	0.0E
3Q-Sep	--	--	0.0E	--	0.0E
4Q-Dec	--	--	0.0E	--	0.0E
FY	0.0E	--	0.1E	--	0.2E

Company Description:

SciSparc, Ltd. (SPRCY) is a biotechnology company developing cannabinoid-based therapeutics. SciSparc has clinical-stage drug development programs for a range of indications including Tourette Syndrome (TS) and Obstructive Sleep Apnea (OSA). SciSparc also has pre-clinical programs in development. Additionally, SciSparc is commercializing an OTC product for the alleviation of pain, called CannAmide, in Canada. SciSparc was founded in 2004 and is based in Ramat Gan, Israel. Aegis Capital served as the Placement Agent for a unit offering (each unit consisting of one ADS and two warrants) in November 2020.

Investment Highlights:

- **A unique opportunity in cannabinoid therapeutics.** SciSparc is advancing a novel pipeline of cannabinoid-based therapeutics, premised on the "entourage effect," which posits a synergistic benefit among cannabinoids, as well as turpenes, when co-administered, particularly with their potentiating effects on Delta-9-Tetrahydrocannabinol (THC). Cannabinoids are naturally occurring substances found in cannabis, and can also be created synthetically. Research on cannabinoids, beginning in the 1960's with the characterization of THC by Dr. Raphael Mechoulam, a member of SciSparc's Scientific Advisory Board, has laid the groundwork for a series of medical advancements in recent years, predicated on exploiting the endocannabinoid system (ECS) to treat medical conditions. SciSparc has leveraged these insights to construct a diverse pipeline of clinical candidates, as well as to advance an OTC product, CannAmide, to commercialization.
- **SCI-110.** SciSparc's lead asset, SCI-110, is a combination therapy of THC and palmitoylethanolamide (PEA), an endogenous fatty acid amide and endocannabinoid analogue. SCI-110 has successfully completed phase 2a trials in Tourette Syndrome (TS) and obstructive sleep apnea (OSA). Data from the phase 2 trial in TS demonstrated 21% tic reduction. Data from the phase 2 trial in OSA showed that 55% of patients demonstrated significant improvement in Apnea-Hypopnea Index (AHI) values with a reduction of ~54%. SCI-110 appeared safe and well-tolerated in the studies. In our view, SCI-110 represents a novel, targeted, Rx-driven embodiment of the entourage effect that can potentially: (1) satisfy patient unmet need across a range of indications, and, as a corollary, (2) underscore a strong investment case in SciSparc.
- **Platform.** Beyond SCI-110, SciSparc has several clinical and pre-clinical stage assets, including SCI-210 (for autism and epilepsy), and SCI-160 (for pain). Additionally, CannAmide (which is comprised of THC + PEA), is approved by Health Canada as an OTC product intended for the treatment of pain. SciSparc commenced commercial production of CannAmide on February 9th, 2021.
- **Cannabinoid opportunity.** We believe that the opportunities for novel therapies addressing the ECS that could deliver patient benefit are still in the early innings. With that said, a significant degree of value is being created in the space, for example, the $7.2 billion acquisition of GW Pharmaceuticals (GWPH; NR) by Jazz Pharmaceuticals (JAZZ; NR) offers an attractive precedent, on the back of meaningful revenue creation from the therapeutic use of cannabinoids. GW Pharma's Epidiolex is indicated for the treatment of seizures associated with certain rare diseases. Epidiolex produced $296.4 million of revenue in 2019, a strong indicator of the revenue potential in this emerging class.
- **Target and estimates.** We initiate coverage on SciSparc's American Depository Shares with a BUY rating and $20 PT, predicated on a DCF valuation model. Our valuation credits SCI-110 in TS and OSA, and includes contribution from CannAmide sales. Additional programs and indications are treated as option value at this time. We use a 30% PoS for the development-stage programs, and a 30% discount rate for conservatism. Risks include: 1) clinical, 2) operational, 3) financial, 4) competition, 5) regulatory, and 6) other.

The Disclosure section may be found on pages 26 - 27 of this report.

Summary

SciSparc Ltd is a clinical-stage biotechnology company that is advancing therapeutics based on cannabinoids. Cannabinoids are a group of compounds that form the active constituents of cannabis. SciSparc was founded in August 2004 and listed its American Depository Shares (ADS) in March 2017. Each ADS represents a right to receive 140 ordinary shares. SciSparc is based in Ramat Gan, Israel.

SciSparc's therapeutic pipeline is based on several components, including: Δ9-tetrahydrocannabinol (THC), non-psychoactive cannabidiol (CBD), and a proprietary Palmitoylethanolamide (PEA).

Underpinning SciSparc's research and development platform is the "entourage effect," that was first described in 1998 by Israeli scientists Shimon Ben-Shabat and Raphael Mechoulam. The premise of the entourage effect is that the cannabinoids found in the cannabis plant work synergistically to affect the body across multiple targets, with improved absorption, among other benefits.

SciSparc is tackling a range of indications that have, we believe, widespread impact and significant medical unmet need. SciSparc's pipeline, which will be discussed further in this report, includes SCI-110 (Tourette Syndrome, Obstructive Sleep Apnea, agitation in Alzheimer's), SCI-210 (autism, epilepsy), and SCI-160 (pain).

In a Phase 2a clinical trial of SCI-110 run in conjunction with Yale University in patients with Tourette Syndrome (TS), an average tic reduction of 21% was reported across the entire sample and the medication was generally well-tolerated.

SciSparc intends to evaluate the safety, efficacy, and tolerability of SCI-110 (a proprietary drug candidate based on THC and PEA) in a phase 2b randomized, controlled trial (RCT). The primary endpoint of the study will be the change in the Yale Global Tic Severity Scale (YGTSS-TTS).

Additionally, SciSparc is developing SCI-110 for Obstructive Sleep Apnea (OSA). OSA is an indication in which patients suffer from repeated cessation of breathing during sleep, which can result in significant negative health impacts, we think. In a prior study, SciSparc showed that 55% of patients who completed the trial (n=10 enrolled; n=9 completed) demonstrated significant improvement of ~54% in Apnea-Hypopnea Index (AHI) values.[1]

CannAmide is a formulation of pharmaceutical-grade PEA, which is a fatty-acid amide molecule and endocannabinoid-analogue that may enhance the activity of cannabinoids. SciSparc has initiated commercial production of CannAmide in Canada (February 9th, 2021). CannAmide, based on naturally occurring PEA, is intended as an alternative to treat chronic

pain, and has no known serious side effects or drug-drug interactions (DDIs), according to SciSparc.

Upcoming expected catalysts:

1. CannAmide initial sales in Canada
2. Advancement of lead therapeutic candidate SCI-110 in multiple indications
3. Other clinical-stage and pre-clinical stage program updates
4. Regulatory progress
5. Additional therapeutic, OTC product, and/or business development updates

Background

SciSparc (formerly Therapix) is developing cannabinoid therapies and is currently a clinical-stage company. Founded in 2004, SciSparc has since expanded its unique cannabinoid-based pipeline to include multiple therapeutic assets, based upon groundbreaking work by Raphael Mechoulam, Ph.D., Professor of Medicinal Chemistry at the Hebrew University, and a member of the company's Scientific Advisory Board.

As will be discussed later in this report, a series of research discoveries and breakthroughs, beginning with Dr. Mechoulam's identification of the chemical structure of THC in 1964, and subsequent mapping by researchers, globally, over many years, of the endocannabinoid system (including CB1 and CB2 receptors and the potential to exploit them as therapeutic targets in a range of indications), is the foundation on which SciSparc and others have been able to advance therapeutic assets through the clinic with potential implications to benefit numerous stakeholders including patients and shareholders, potentially.

Successful studies have been run for SciSparc's SCI-110 (a combination therapy of THC and CannAmide, a proprietary Palmitoylethanolamide (PEA) formulation) for Tourette Syndrome (TS) and Obstructive Sleep Apnea (OSA). This is in addition to a range of other assets and conditions we believe the company is also developing.

In July 2019, the company announced the issuance of a product license for its proprietary PEA oral table, CannAmide by Health Canada' Natural and Non-prescription Health Products Directorate (NNHPD) for use as an anti-inflammatory and to help relieve chronic pain.

On August 14th, 2020, the Tel Aviv-Jaffa District Court issued an order approving the company's economic rehabilitation petition, trigging a replacement of the board, a capital deposit, and a credit agreement, among other changes.

In November, 2020, Aegis Capital served as the Placement Agent for a unit offering (each unit consisting of one ADS and two warrants) for SciSparc.

On January 28th, 2021, SciSparc announced its name change from Therapix. We believe SciSparc is focused on advancing its proprietary therapeutic pipeline with several clinical-stage assets, which includes compelling phase 2a data in multiple indications.

On February 3rd, 2021, Jazz Pharmaceuticals (JAZZ; NR) entered into a definitive agreement to acquire GW Pharmaceuticals (GWPH; NR) for $7.2bn ($6.7bn net of cash). GW Pharmaceutical's Epidiolex is the first and only FDA approved prescription cannabidiol medicine, as well as a pipeline of cannabinoid medicines, including nabiximols, in phase 3 trials for treatment of spasticity associated with multiple sclerosis and spinal cord injury. Epidiolex achieved ~$610mm of annual sales within two years of launch by addressing unmet needs in epilepsy. In our view, this multi-billion-dollar acquisition validates the economic appeal of, and renders realistic the prospects of, significant revenue, strategic interest, and exclusivity for, cannabinoid-based therapeutics.[7]

Pipeline

SciSparc's drug development pipeline consists of both clinical-stage and pre-clinical programs.

Clinical-stage programs:

- **SCI-110 (formerly THX-110)**
  - Drug candidate for the treatment of Tourette syndrome (TS), Obstructive Sleep Apnea (OSA), and CNS diseases such as agitation in Alzheimer's
  - Completed a successful phase 2a study in TS at Yale University suggesting that SCI-110 (combo of THC and PEA) improved symptoms of TS in adults
  - Initiating a phase 2b clinical trial in two centers in Germany, to evaluate the safety and efficacy of SCI-110 to treat TS symptoms
  - Completed a successful phase 2a clinical study in OSA
  - Leverages Entourage Effect hypothesis
  - Proprietary combination of Delta-9-Tetrahydrocannabinol (THC) and Palmitoylethanolamide (PEA)
    - PEA is a cannabinoid mimetic lipid molecule, naturally occurring in plant and animal sources
    - THC is the primary psychoactive constituent of cannabis[3]
- **SCI-210 (formerly THX-210)**
  - A formulation of cannabidiol (CBD) and PEA for treating symptoms of autism

Pre-clinical programs:

- **SCI-160 (formerly THX-160)**
  - CB2 receptor agonist formulation intended for the treatment of pain
  - Synthesized by Professor Raphael Mechoulam, Ph.D.
- **SCI-210 (formerly THX-210)**
  - A proprietary preparation candidate containing non-psychoactive CBD and CannAmide
  - Intended for the treatment of epilepsy

Cannabinoids

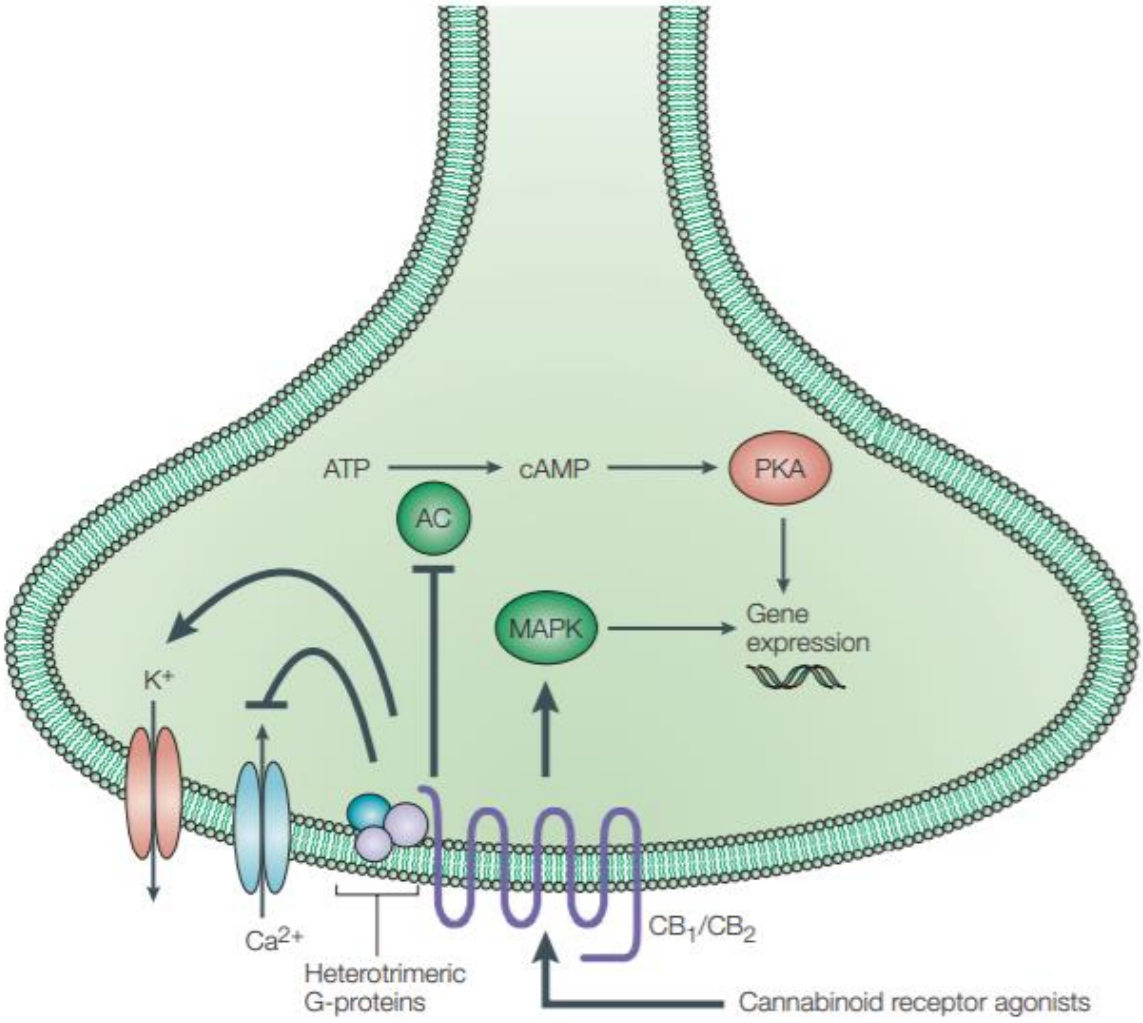
The chemical structure of the main psychoactive ingredient in marijuana, Δ-tetrahydrocannabinol (THC) was identified in 1964 by Dr. Raphael Mechoulam and his colleagues at Israel's Weizmann Institute of Science (Gaoni and Mechoulam, 1964). The presence of 60+ cannabinoids present in the marijuana plant was subsequently described (Dewey, 1986). Synthetic analogues of these cannabinoids were generated through the 1970s. Subsequently, it was shown that an orphan G protein-coupled receptor (GPCR) was the brain receptor for cannabinoids, which was later named the CB1 receptor (Matsuda, 1990). CB1 receptors are the most abundant receptors in the mammalian brain but are also present in lower concentrations in peripheral tissue. A second GPCR, CB2, are found primarily in the immune and hematopoietic systems but also were recently found in the brain (Van Sickle et al, 2005; Gong, et al, 2006).[5]

It is believed that the endocannabinoid system plays a role in a variety of CNS disorders. Likely due to the density of CB1 in the cortex and other brain regions, the system's relationship to diseases of movement, mood, anxiety, altered reward mechanisms, memory, learning, and other have been researched and discussed extensively in the literature.[5]

The term "endocannabinoid" – coined in the 90's, following the discovery of membrane receptors for the psychoactive principle in cannabis (THC) – indicates the signaling system that comprises cannabinoid receptors, endogenous ligands and enzymes for ligand biosynthesis and inactivation. This system appears involved in numerous pathological conditions.[6]

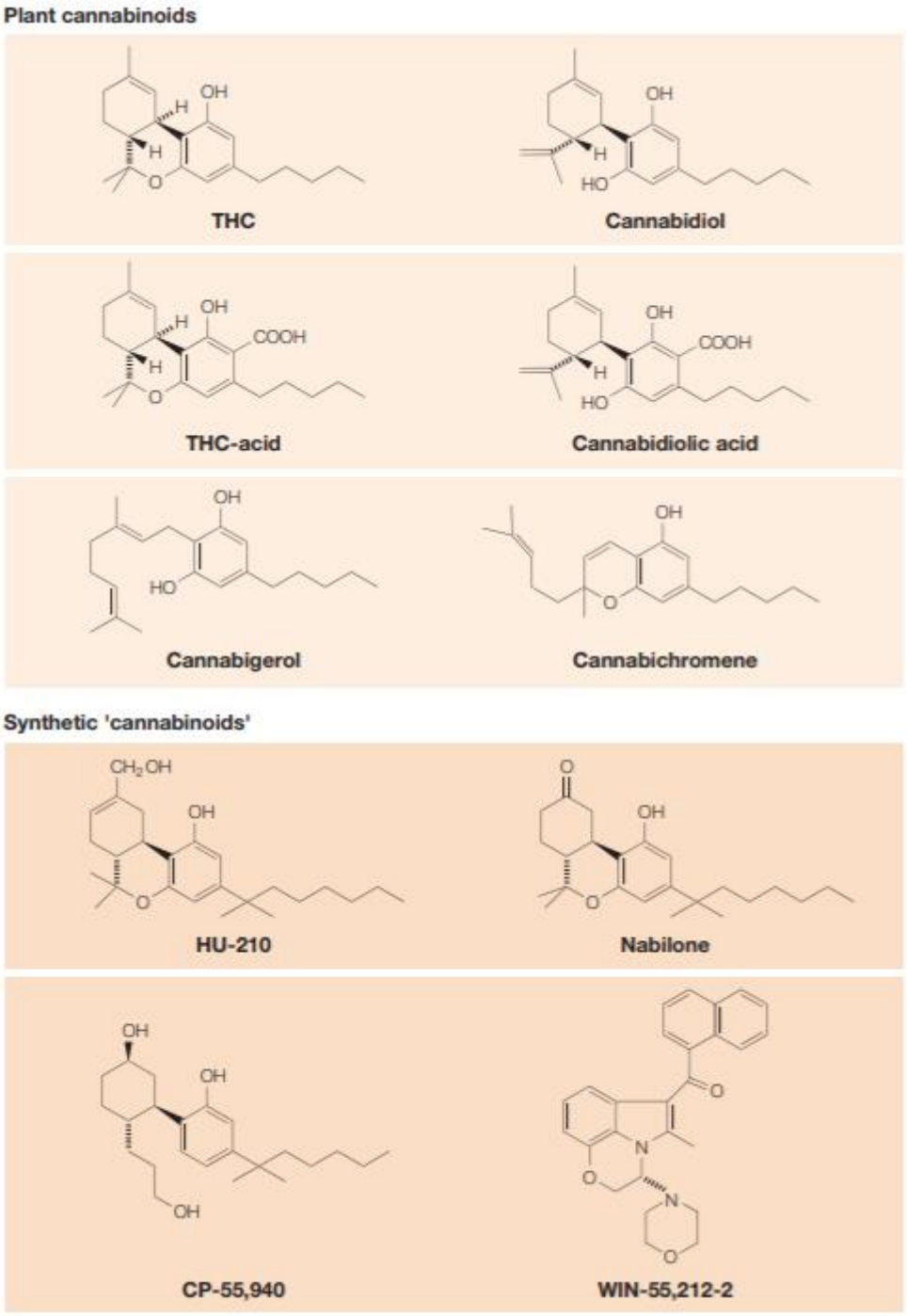
Clinical trials of cannabinoid-related medications in human disease have been completed across a huge array of indications. For example, in "Treatment of Tourette syndrome with Delta 9-tetrahydrocannabinol (THC): a randomized crossover trial," the authors (KR Muller-Vahl et al) demonstrated that THC reduced tics (p=0.015) and obsessive-compulsive behavior (p=0.041) in a trial of n=12 adult patients.[4,5]

Fig. 1. Major signaling pathways associated with cannabinoid receptor activation by agonists



Source: Nature Reviews Drug Discovery

Fig. 2. Chemical structures of some plant and synthetic cannabinoids



Source: Nature Reviews Drug Discovery

Commercial Production of CannAmide

SciSparc announced (Feb 9th) that it has begun commercial production in Canada of its proprietary PEA oral tablet formulation, CannAmide. The product is intended for use as an anti-inflammatory to help relieve chronic pain. The tablets are expected to be marketed to pharmacies and other retail outlets and online across Canada.

Chronic pain, which this product addresses, has significant impacts on physical and mental health, family and community life, society, and the economy. Medical studies have shown that more than 100 million American individuals suffer with chronic pain, at an associated cost of about $600 billion annually, which include direct healthcare expenses, lower productivity and missed wages. In Canada, the costs to the economy due to people with chronic pain was approximately $40 billion.

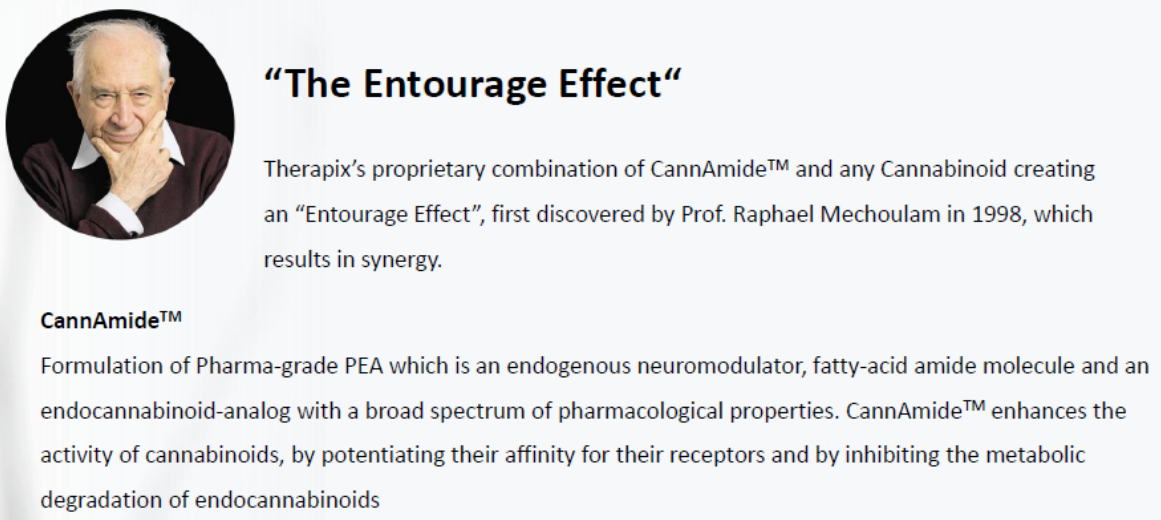
PEA is a naturally occurring fatty acid found throughout the body, including the nervous system, and synthesized on demand following stress, injury, or pain to stimulate the endo-cannabinoid system with a broad spectrum of pharmacological properties. PEA isolated from other sources like soybean lecithin, egg yolks and peanuts are used to supplement naturally derived PEA. However, isolated PEA does not dissolve easily in the stomach or intestine, giving it limited bioavailability. In the current market, available formulations simply encapsulate the particles, which does not materially improve the bioavailability.

The company has entered into an agreement with Procaps, a leading contract development and manufacturing services provider, to develop and commercially manufacture and increase the scale of production of the CannAmide product and its drug candidate, SCI-110 (formerly THX-110).

CannAmide represents a significant opportunity in the chronic pain sector, where opioids remain a mainstay treatment. Despite the increase in related addiction, overdose and death, opioids continue to generate nearly $20 billion in revenue annually. SciSparc has noted that CannAmide has no know serious side effects or drug interactions, making it a safe treatment option. CannAmide is an immediate unique and proprietary oral formulation, produced in a GMP facility approved for marketing only in Canada and each tablet contains 400 mg of PEA as its active pharmaceutical ingredient (API). This pharmaceutical product was developed to increase the bioavailability and potentially the absorption of this low soluble compound.[1]

The Entourage Effect

Fig. 3. The Entourage Effect

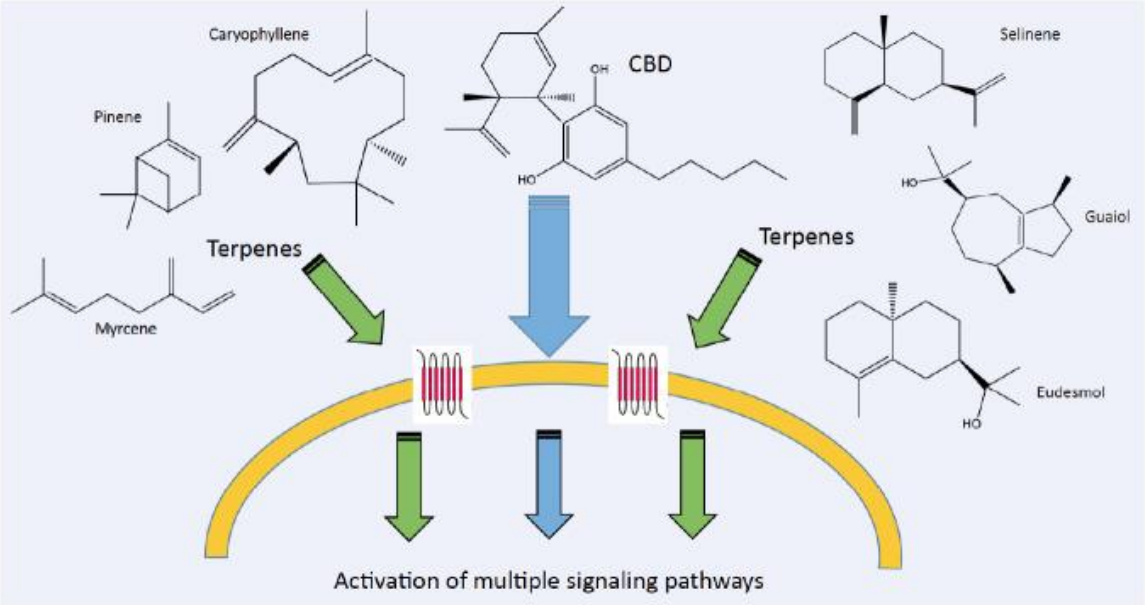


Source: SciSparc

According to Israeli researchers in "The 'Entourage Effect": Terpenes Coupled with Cannabinoids for the Treatment of Mood Disorders and Anxiety Disorders" (Current Neuropharmacology, 2020), the "entourage effect" is the suggested positive contribution derived from the addition to terpenes to the effect of cannabinoids, first postulated by Mechoulam and Ben-Shabat. Synergistic interactions may, the authors state, be found between different cannabinoids and between cannabinoids and terpenes.

According to SciSparc, based on SciSparc's own research and preclinical studies, dronabinol (synthetic THC) and PEA have been shown to work better together than use of THC or PEA alone. PEA is in the endocannabinoid family and is believed to be a pain reliever and anti-inflammatory agent. Combining PEA with dronabinol may stimulate cannabinoid receptors, inhibit metabolic degradation, and thus increase uptake of THC. The overall benefits of the THC/PEA combination are considered to be an increase in efficiency of oral administration, enabling a decrease in dosage and lowering of side effects and adverse events.

Fig. 4. Activation pathways of CBD and accompanying terpenes and terpenoids in human cells



Source: Current Neuropharmacology

Market

Tourette Syndrome (TS)

According to Mayo Clinic, Diagnostic criteria include motor and vocal tics, beginning before 18, occurring multiple times a day, nearly every day, or intermittently for in excess of a year; tics change over time in location, frequency, type, complexity, or severity.

Treatment may include medications that block or lessen dopamine (Haldol, Risperdal, Orap, etc.), Botox injections, ADHD medications, central adrenergic inhibitors (e.g., Catapres, Kapvay), antidepressants (Prozac, etc.), and antiseizure medications (Topamax), and may also include therapy such as behavior training, psychotherapy, and deep brain stimulation.

According to the NIH, it is estimated that 200,000 Americans have the most severe form of TS.

Obstructive Sleep Apnea (OSA)

Obstructive sleep apnea causes breathing to repeatedly stop and start during sleep, according to Mayo Clinic. OSA occurs when throat muscles intermittently relax and block one's airway during sleep. A noticeable sign of OSA is snoring.

There are treatments currently available for OSA which include positive pressure devices to keep one's airway open during sleep, and mouthpieces which thrust the lower jaw forward. Surgery is also an option. OSA can lead to complications including fatigue, CV issues, eye problems, and relationship issues (sleep deprived partners). Other issues may include memory problems, morning headaches, mood swings, feelings of depression, and nocturia.

According to the Journal of Thoracic Disease, OSA with excessive daytime sleepiness occurred in 6% (range, 3-18%) of men and in 4% (range, 1-17%) of women.

Competition

The main competitors of SciSparc include the existing treatment modalities for Tourette syndrome and obstructive sleep apnea, in our view.

Tourette syndrome is a neurological disorder and tics are involuntary and doctors try to contain the tics associated with the disease. Most of the time the tics are mild, and treatment is not required, but when tics become problematic or interfere with daily functioning, behavioral treatment or medication are usually considered. Some available therapies that are used include Deep Brain Stimulation (DBS), medications/pharmacology, and Behavior Modification (Comprehensive Behavioral Intervention for Tics or CBIT).

The newest treatment for Tourette is the use of Deep Brain Stimulation (DBS), which utilizes an implantable electrode to alter the activity of brain circuitry. The procedure is FDA approved for Parkinson's disease, essential tremor, dystonia, and OCD and is currently utilized for patients who have not responded to standard medical or behavioral therapy. In Tourette patients, DBS has the potential to alter the nerve activity through targeted delivery of a stimulus, such as electrical stimulation or chemical agents, to specific neurological sites in the body and be used to treat the abnormal communication that occur deep within the brains of people with TS. So far researchers have probed into several areas in the brain of people with TS, and so far, have seen mixed results.

The second form of treatment are medications/pharmacology. The main goal of treatment with mediations is to reduce tics to a point that they are no longer causing distress to the patient or interfering with daily function. Currently, the medications that doctors have access to for TS are not cures and the tics may not completely resolve. Tics still fluctuate in frequency and severity and will continue to occur whether or not medications are used. Doctors use medications such as Haloperidol (Haldol), pimozide (Orap), and aripiprazole (Abilify) are the only medications approved by the US Food and Drug Administration (FDA) to treat tics. These medications have been found to be only moderately effective in reducing tics and to be better tolerated.

The third form of treatment is the use of Behavior Modification (Comprehensive Behavioral Intervention for Tics or CBIT). CBIT is a non-medical treatment consisting of three important components including training the patient to be more aware of the tics and the urge to tic; training patients to do competing behavior when they feel the urge to tic; making changes to day-to-day activities in ways that can be helpful in reducing tics. CBIT attempts to help children and adults familiarize themselves and identify environmental factors that make their tics worse and teaches skills on how to create environments that are more stable, predictable, and easily manageable. Medical studies show that more than half of the people who undergo CBIT will have significant reductions in tic severity and improved

ability to function. The complete elimination of all tics and other TS symptoms does happen occasionally in CBIT, but CBIT has shown to not be a cure for TS but a tool that helps individuals better manage their tics and improve their quality of life.

The other health disorder that SciSparc seeks to treat is Obstructive sleep apnea (OSA), which is one of the most common sleep disorders and one that can have significant health consequences if left untreated. The disorder is marked by disrupted breathing, fragmented sleep, and a decreased oxygen level in the body.

An initial component of treatment for OSA is informing the patient about the condition and how it may be helped by specific lifestyle changes such as weight loss, exercise, limiting alcohol and sedatives, avoid cigarettes and sleeping on your back.

The core component of treatment for obstructive sleep apnea is the use of a positive airway pressure (PAP) device. The PAP machines work by pumping pressurized air through a hose and into the airway. This stable, steady flow of air prevents airway collapse and promotes regular breathing without sleep fragmentation. The treatment with a PAP device is considered to be the current gold standard in sleep apnea treatment and is offered as initial therapy to the majority of patients. The most common way of receiving PAP therapy is with continuous positive airway pressure (CPAP) devices, which deliver air with a consistent pressure level. Other types of PAP therapy include bi-level (BPAP) and automatic (APAP) devices.

Fig. 5. PAP machine in use by a patient.

Source: CCAS

Although using a PAP device is quite effective at treating obstructive sleep apnea, it has a few negative attributes. Some of people find wearing the mask to be uncomfortable and may not adhere to their prescribed treatment. Patients also need to work closely with their

doctors to make using CPAP as comfortable as possible through optimal mask selection, device settings and addressing discomfort with the mask or other aspects of PAP therapy.

Oral appliances or mouthpieces are also a treatment option for mild or moderate OSA, especially if a person is unable to adjust to using a PAP device. There are two main types of mouthpieces, one is a mandibular advancement devices (MADs) that reduce chronic snoring and teeth grinding which are associated with OSA and tongue retaining devices (TRDs) that keeps the tongue from sliding back in the mouth during the night. A study comparing TRD and MAD found them to have similar efficacy for sleep apnea, however, patients generally preferred having fewer side effects and slept better with a MAD mouthpiece.

Although oral appliances have few side effects, using them consistently is not for everyone. Like CPAP theory, it is necessary to use a mouthpiece for the entire time a patient sleeps and some people find it uncomfortable, making it difficult to sleep soundly.

Additionally, several types of surgery can be employed as a treatment for obstructive sleep apnea. The main goal of surgery is to address anatomical features that cause airway restriction. Though these surgeries are normally well-tolerated, there are risks of complications such as infection, bleeding, pain, and other problems near the surgical site.

Management

Amitay Weiss is *Chief Executive Officer, Director* – Mr. Weiss serves as chairman of the board of P.L.T. Financial Services, as Chairman of the board of Matomy Media Group, and as external director of Cofix Group. In 2016, Mr. Weiss founded Amitay Weiss Management, and now serves as its Chief Executive Officer. From 2001-2015, Mr. Weiss served as Vice President of business marketing and development and in various other positions at Bank Poalei Agudat Israel. Mr. Weiss holds a B.A. in Economics from New England College, an M.B.A. from Ono Academic College, and LL.B from the Ono Academic College.

Adi Zuloff-Shani, Ph.D. is *Chief Technologies Officer* – Dr. Zuloff-Shani has served as Chief Technology Officer since February 2016. Dr. Zuloff-Shani has more than 15 years of experience as a research and development executive. Before joining the company, from 2012 to 2016, Dr. Zuloff-Shani served as a vice president development at Macrocure Ltd., where she interacted and was involved with the activities of all departments including clinical, operations, quality assurance, quality control, finance, and regulatory affairs. Dr. Zuloff-Shani holds a Ph.D. in human biology and immunology from Bar-Ilan University, Israel.

Oz Adler, CPA is *Chief Financial Officer* – Mr. Adler has served as Chief Financial Officer since April 24, 2018 and as VP Finance from March 1, 2018 until April 24, 2018. Previously, he served as Controller and started in September 2017. Mr. Adler has experience in a wide variety of managerial, financial, tax and accounting. Since 2012, Mr. Adler was employed as a CPA at Krost Forer Gabbay & Kasierer, a member of Ernst & Young Global. Mr. Adler holds a B.A. degree in Accounting and Business management from The College of Management, Israel.

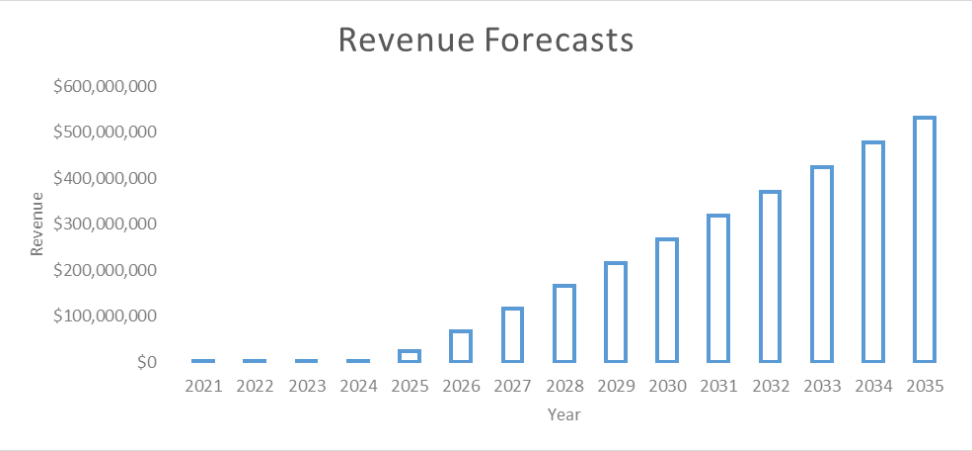
Modeling assumptions

We expect SciSparc to proceed with development activities on its pipeline. Our model provides tangible credit for SCI-110 in TS and OSA, with initial commercial revenue expected in 2025 and 2026, respectively, assuming timely and succesful registration trials in each indication. We believe that SciSparc's IP portfolio consists of patent assignments and provisional assignments, and that the company will be in a position to capture the economic opportunity for its products within our modeled horizon.

We model steady share growth in both TS (200K+ patients in the US) and obstructive sleep apnea (millions of patients, about 5% of whom are most severely impacted, we believe). In terms of pricing and margin structure, investors are invited to consider GW Pharma's (GWPH; NR) US pricing and margin achievements, to which we apply a haircut as a matter of conservatism.

We are forecasting modest sales revenue from the company's commercialization of its CannAmide pharmaceutical product in 2021 and 2022 as the company scales its manufacturing process and sales infrastructure.

Fig. 6. Revenue forecasts



Source: Aegis Capital estimates

Fig. 5. Modeling assumptions

SCI-110															
Tourette Syndrome															
Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
U.S. patients	200,000	201,400	202,810	204,229	205,659	207,099	208,548	210,008	211,478	212,959	214,449	215,950	217,462	218,984	220,517
Penetration					*0.7%*	*1.7%*	*2.7%*	*3.7%*	*4.7%*	*5.7%*	*6.7%*	*7.7%*	*8.7%*	*9.7%*	*10.7%*
SCI-110 patients					1,440	3,521	5,631	7,770	9,939	12,139	14,368	16,628	18,919	21,241	23,595
WAC					$16,250	$16,250	$16,250	$16,250	$16,250	$16,250	$16,250	$16,250	$16,250	$16,250	$16,250
Est. revenue					$23,393,720	$57,211,013	$91,500,601	$126,267,441	$161,516,533	$197,252,925	$233,481,712	$270,208,037	$307,437,090	$345,174,109	$383,424,382
Obstructive Sleep Apnea															
Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
U.S. patients (excessive daytime somnolence indicia)	16,000,000	16,112,000	16,224,784	16,338,357	16,452,726	16,567,895	16,683,870	16,800,657	16,918,262	17,036,690	17,155,947	17,276,038	17,396,971	17,518,749	17,641,381
Penetration						*0.003%*	*0.008%*	*0.013%*	*0.018%*	*0.023%*	*0.028%*	*0.033%*	*0.038%*	*0.043%*	*0.048%*
SCI-110 patients						497	1,335	2,184	3,045	3,918	4,804	5,701	6,611	7,533	8,468
WAC						$16,250	$16,250	$16,250	$16,250	$16,250	$16,250	$16,250	$16,250	$16,250	$16,250
Est. revenue						$8,076,849	$21,689,031	$35,491,389	$49,485,916	$63,674,628	$78,059,557	$92,642,756	$107,426,293	$122,412,261	$137,602,769
CannAmide															
Anti-inflammatory, chronic pain (OTC)															
Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Canadian chronic pain incidence	3,759,000	3,811,626	3,864,989	3,919,099	3,973,966	4,029,602	4,086,016	4,143,220	4,201,225	4,260,042	4,319,683	4,380,159	4,441,481	4,503,661	4,566,713
Penetration	0.04%	0.08%	0.12%	0.17%	0.27%	0.77%	1.27%	1.77%	2.27%	2.77%	3.27%	3.77%	4.27%	4.77%	5.27%
CannAmide customers	1,400	3,000	4,500	6,750	10,818	31,118	51,984	73,428	95,462	118,098	141,350	165,230	189,750	214,925	240,768
WAC	$50	$50	$50	$50	$50	$50	$50	$50	$50	$50	$50	$50	$50	$50	$50
Est. revenue	$70,000	$150,000	$225,000	$337,500	$540,923	$1,555,897	$2,599,183	$3,671,377	$4,773,082	$5,904,916	$7,067,506	$8,261,490	$9,487,521	$10,746,262	$12,038,388
Est. consolidated revenue	**$70,000**	**$150,000**	**$225,000**	**$337,500**	**$23,934,643**	**$66,843,758**	**$115,788,816**	**$165,430,207**	**$215,775,532**	**$266,832,469**	**$318,608,775**	**$371,112,283**	**$424,350,904**	**$478,332,632**	**$533,065,539**

Source: Aegis Capital estimates

Valuation

Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Revenue	**$70,000**	**$150,000**	**$225,000**	**$337,500**	**$23,934,643**	**$66,843,758**	**$115,788,816**	**$165,430,207**	**$215,775,532**	**$266,832,469**	**$318,608,775**	**$371,112,283**	**$424,350,904**	**$478,332,632**	**$533,065,539**
Growth		*114%*	*50%*	*50%*	*6992%*	*179%*	*73%*	*43%*	*30%*	*24%*	*19%*	*16%*	*14%*	*13%*	*11%*
COGS	$32,400	$58,000	$78,750	$109,688	$7,180,393	$18,716,252	$30,105,092	$39,703,250	$47,470,617	$53,366,494	$57,349,580	$59,377,965	$59,409,127	$57,399,916	$53,306,554
Gross profit	$37,600	$92,000	$146,250	$227,813	$16,754,250	$48,127,506	$85,683,724	$125,726,957	$168,304,915	$213,465,975	$261,259,196	$311,734,318	$364,941,778	$420,932,717	$479,758,985
Gross margin	*54%*	*61%*	*65%*	*68%*	*70%*	*72%*	*74%*	*76%*	*78%*	*80%*	*82%*	*84%*	*86%*	*88%*	*90%*
SG&A	$2,210,000	$2,409,040	$2,529,492	$2,655,967	$2,788,765	$2,928,203	$3,074,613	$3,228,344	$3,389,761	$3,559,249	$3,737,212	$3,924,072	$4,120,276	$4,326,290	$4,542,604
R&D	$4,078,000	$6,035,440	$6,337,212	$6,654,073	$6,986,776	$7,336,115	$7,702,921	$8,088,067	$8,492,470	$8,917,094	$9,362,948	$9,831,096	$10,322,651	$10,838,783	$11,380,722
Total operating expenses	$6,288,000	$8,444,480	$8,866,704	$9,310,039	$9,775,541	$10,264,318	$10,777,534	$11,316,411	$11,882,231	$12,476,343	$13,100,160	$13,755,168	$14,442,927	$15,165,073	$15,923,326
EBIT	($6,250,400)	($8,352,480)	($8,720,454)	($9,082,227)	$6,978,709	$37,863,188	$74,906,190	$114,410,546	$156,422,683	$200,989,633	$248,159,036	$297,979,149	$350,498,851	$405,767,644	$463,835,659
Operating margin						*57%*	*65%*	*69%*	*72%*	*75%*	*78%*	*80%*	*83%*	*85%*	*87%*
Interest															
EBT	($6,250,400)	($8,352,480)	($8,720,454)	($9,082,227)	$6,978,709	$37,863,188	$74,906,190	$114,410,546	$156,422,683	$200,989,633	$248,159,036	$297,979,149	$350,498,851	$405,767,644	$463,835,659
Tax							$3,745,309	$17,161,582	$32,848,763	$42,207,823	$52,113,397	$62,575,621	$73,604,759	$85,211,205	$97,405,488
Tax rate							*5%*	*15%*	*21%*	*21%*	*21%*	*21%*	*21%*	*21%*	*21%*
Net income	($6,250,400)	($8,352,480)	($8,720,454)	($9,082,227)	$6,978,709	$37,863,188	$71,160,880	$97,248,964	$123,573,920	$158,781,810	$196,045,638	$235,403,528	$276,894,093	$320,556,439	$366,430,170
Growth						*443%*	*88%*	*37%*	*27%*	*28%*	*23%*	*20%*	*18%*	*16%*	*14%*
D&A															
CAPEX															
Change in W.C.															
Financing															
FCFE	($6,250,400)	($8,352,480)	($8,720,454)	($9,082,227)	$6,978,709	$37,863,188	$71,160,880	$97,248,964	$123,573,920	$158,781,810	$196,045,638	$235,403,528	$276,894,093	$320,556,439	$366,430,170
Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Discount rate	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*
Discount factor	1.30	1.69	2.20	2.86	3.71	4.83	6.27	8.16	10.60	13.79	17.92	23.30	30.29	39.37	51.19
Discounted FCFE	($4,808,000)	($4,942,296)	($3,969,255)	($3,179,940)	$1,879,569	$7,844,352	$11,340,647	$11,921,699	$11,652,971	$11,517,739	$10,939,068	$10,103,986	$9,142,187	$8,141,371	$7,158,812
PoS	*100%*	*100%*	*100%*	*100%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*
PoS-weighted D-FCFE	**($4,808,000)**	**($4,942,296)**	**($3,969,255)**	**($3,179,940)**	**$563,871**	**$2,353,306**	**$3,402,194**	**$3,576,510**	**$3,495,891**	**$3,455,322**	**$3,281,720**	**$3,031,196**	**$2,742,656**	**$2,442,411**	**$2,147,644**

Source: Aegis Capital estimates

Valuation	
Interim years	$13,593,229
Terminal value	$7,823,559
Implied value	$21,416,788
Est. Value/share	**$20**

Source: Aegis Capital estimates

Discount rate	Implied PT
10%	$464
15%	$183
20%	$85
25%	$41
30%	**$20**
35%	$9
40%	$2

Source: Aegis Capital estimates

Income statement

SciSparc Ltd.

Income Statement Model

($000s)	F2018A 12/31/2018	F2019A 12/31/2019	F2020E 12/31/2020	F1Q:21E 3/30/2021	F2Q:21E 6/30/2021	F3Q:21E 9/31/2021	F4Q:21E 12/31/2021	F2021E 12/31/2021	F1Q:22E 3/30/2022	F2Q:22E 6/30/2022	F3Q:22E 9/31/2022	F4Q:22E 12/31/2022	F2022E 12/31/2022
CannAmide Sales Revenue				**$10**	**$15**	**$20**	**$25**	**$70**	**$30**	**$35**	**$40**	**$45**	**$150**
Growth y/y				*N/A*	*N/A*	*N/A*	*N/A*	**N/A**	*10.0%*	*15.0%*	*20.0%*	*25.0%*	**114.3%**
COGS				*5*	*7*	*9*	*11*	**32**	*13*	*14*	*15*	*16*	**58**
Gross profit				*5*	*8*	*11*	*14*	**38**	*17*	*21*	*25*	*29*	**92**
Gross margin				*50%*	*52%*	*54%*	*56%*	*54%*	*58%*	*60%*	*62%*	*64%*	*61%*
Operating Expenses:													
Research and development	**$2,710**	**$1,639**	**$1,311**	1,235	987	1,100	756	**$4,078**	1,828	1,461	1,628	1,119	**$6,035**
Growth y/y	*39.5%*	*-39.5%*	*-20.0%*	*N/A*	*N/A*	*N/A*	*N/A*	*211.0%*	*48.0%*	*48.0%*	*48.0%*	*48.0%*	*48.0%*
General and administrative	**$4,371**	**$2,469**	**$1,852**	525	567	553	565	**$2,210**	572	624	597	616	**$2,409**
Growth y/y	*14.7%*	*-43.5%*	*-25.0%*	*N/A*	*N/A*	*N/A*	*N/A*	*19.3%*	*9.0%*	*10.0%*	*8.0%*	*9.0%*	*9.0%*
Other expenses, net	**$160**	**$0**	**$0**	*0*	*0*	*0*	*0*	**$0**	*0*	*0*	*0*	*0*	**$0**
Growth y/y	*N/A*		*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
Operating Loss	**$7,241**	**$4,108**	**$3,163**	**520**	**560**	**544**	**554**	**$2,178**	**560**	**610**	**582**	**600**	**$2,201**
Finance income	(828)	(305)	(355)	(112)	(145)	(155)	(165)	(577)	(168)	(175)	(188)	(195)	(726)
Finance expenses	121	676	688	202	235	244	265	946	225	245	265	285	1,020
Loss from continuing operations	**$6,534**	**$4,479**	**$3,496**	**$610**	**$650**	**$633**	**$654**	**$2,547**	**$617**	**$680**	**$659**	**$690**	**$2,495**
Loss from discontinued operations, net	**2,415**	**207**	**226**	133.0	125.0	140.0	138.0	**536**	62.0	64.0	69.0	72.0	**267**
Loss	**$8,949**	**$4,686**	**$3,722**	**$743**	**$775**	**$773**	**$792**	**$3,083**	**$679**	**$744**	**$728**	**$762**	**$2,762**
Attributable to:													
Equity holders of the Company (continuing operations)	**6,534**	**4,479**	**3,496**	**$610**	**$650**	**$633**	**$654**	**2,547**	**$617**	**$680**	**$659**	**$690**	**2,645**
Equity holders of the Company (discontinued operations)	**1,989**	**315**	**226**	*133.0*	*125.0*	*140.0*	*138.0*	**536**	*138.0*	*132.0*	*141.0*	*147.0*	**558**
Non-controlling interests	**426**	**(108)**	**-**										
Total attributable to continuing operations/discontinued operations/non-controlling interests	**$8,949**	**$4,686**	**$3,722**	**$743**	**$775**	**$773**	**$792**	**$3,083**	**$755**	**$812**	**$800**	**$837**	**$3,203**
Basic and diluted loss per ADS attributable to equity holders of the company:													
Loss from continuing operations	**$1.87**	**$1.04**	**$3.37**	**$0.70**	**$0.71**	**$0.69**	**$0.69**	**$2.79**	**$0.59**	**$0.65**	**$0.62**	**$0.67**	**$2.40**
Loss from discontinued operations	**$0.57**	**$0.07**	**$0.22**	**$0.12**	**$0.11**	**$0.13**	**$0.12**	**$0.48**	**$0.12**	**$0.12**	**$0.12**	**$0.13**	**$0.48**
Total basic and diluted net loss per ADS attributable to equity holders of the company	**$2.44**	**$1.11**	**$3.59**	**$0.82**	**$0.82**	**$0.82**	**$0.81**	**$3.27**	**$0.71**	**$0.76**	**$0.74**	**$0.80**	**$2.89**
ADS outstanding													
Basic & diluted ADS outstanding (ratio of 1:140 w/ ordinary shares)	*3,668*	*4,222*	*1,037*	*1,064*	*1,092*	*1,120*	*1,147*	*1,106*	*1,147*	*1,147*	*1,175*	*1,133*	*1,151*

Source: Company documents, Aegis Capital estimates

Balance sheet

SciSparc Ltd.

Balance Sheet Model
($000s)

	Annual 2016A 12/31/2016	Annual 2017A 12/31/2017	Annual 2018A 12/31/2018	Annual 2019A 12/31/2019
Assets:				
Cash	$676	$9,195	$1,485	$870
Restricted deposit	11	24	10	10
Other accounts receivable	117	278	404	75
Convertible loan	-	-	531	-
Restricted deposit	-	-	23	24
Prepaid public offering costs	430	19		
Property and equipment, net	11	50	2,107	175
Total Assets	**$1,245**	**$9,566**	**$4,560**	**$1,154**
Liabilities				
Credit from others	-	-	91	67
Trade payables	590	1,017	1,618	864
Other accounts payable	82	160	844	108
Related parties	-	-	874	-
Convertible debenture	-	-	779	-
Conversion component of convertible debenture	-	-	277	-
Warrants	-	-	-	7
Lease liability	-	-	-	94
Total Liabilities	**$672**	**$1,177**	**$4,483**	**$1,140**
Equity Attributable to Equity Holders of the Company				
Share capital	1,087	3,812	3,822	6,323
Share premium	26,600	36,612	38,108	$39,313
Reserve from share-based payment transactions	4,449	5,311	4,409	4,862
Warrants	-	-	-	464
Foreign currency translation reserve	321	782	497	497
Transactions with non-controlling interests	261	261	261	261
Accumulated deficit	(32,145)	(38,389)	(46,912)	(51,706)
Total equity attributable to the Company shareholders	**573**	**8,389**	**185**	$14
Non -controlling interest	-	-	(108)	-
Total stockholders' equity	**573**	**8,389**	**77**	**$14**
Total Liabilities and stocholders' equity	**$1,245**	**$9,566**	**$4,560**	**$1,154**

Source: Company documents, Verity estimates

Cash flow statement

SciSparc Ltd.

Cash Flow Model
($000s)

	Annual 2016 12/31/2016	Annual 2017A 12/31/2017	Annual 2018A 12/31/2018	Annual 2019A 12/31/2019
Loss	**($2,007)**	**($6,244)**	**($8,949)**	**($4,686)**
Adjustments to reconcile NI to CFFO:				
Depreciation and amortization	4	5	147	179
Loss (gain) from sale of equipment	-	1	(7)	1,223
Cost of share-based payment	327	862	604	553
Finance expenses (income), net	2	525	(748)	156
Gain from sale of investments in inventories	(34)	-	-	
Impairment loss of intangible assets	-	-	273	-
Impairment loss of goodwill	-	-	160	-
Aborted public offering costs	-	-	53	-
Tax benefit	-	-	(60)	-
Changes in Operating Assets and liabilities				-
Accounts Receivable	(110)	(143)	(99)	329
Trade payables	233	349	177	(840)
Other Accounts payable	111	66	649	(736)
Related parties	-	-	668	(874)
Net Cash provided by Operating Activities	**($1,474)**	**($4,579)**	**($7,132)**	**($4,696)**
Cash Flows from Investing Activites				
Investment in restricted bank deposits	-	(11)	(10)	(1)
Purchase of property and equipment	(4)	(44)	(17)	(1)
Proceeds from sale of property and equipment	(1)	2	44	724
Proceeds from (investment in) convertible loans	-	-	(2,125)	546
Acquisition of initially consolidated subsidiary	-	-	14	0
Net Cash Provided by investing activities	**($5)**	**($53)**	**($2,094)**	**$1,268**
Cash Flows from Financing activities				
Proceeds from issue of share capital	914	13,193	-	2,216
Issue of warrants	-	-	-	682
Payment of issue expenses relateed to previous period	-	-	-	(30)
Interest paid on lease liability	-	-	-	(17)
Repayments of lease liability	-	-	-	(47)
Issue of convertible debentures	-	-	1,481	-
Prepaid public offering costs	(349)	(18)	(36)	-
Receipt of short-term credit from others	-	-	91	-
Net Cash Provided by Financing Activities	**565**	**13,175**	**$1,536**	**$2,804**
Exchange rate differences on cash in foreign currency	**($8)**	**($527)**	**$301**	**$9**
Exchange rate differences on translation differences on cash	**$25**	**$503**	**($321)**	-
Net Increase (Decrease) in Cash and Cash Equivalents	**($897)**	**$8,519**	**($7,710)**	**($615)**
Cash and cash equivalents, Beginning of period	1,573	676	9,195	1,485
Cash and cash equivalents, End of Period	**$676**	**$9,195**	**$1,485**	**$870**

Source: Company documents, Verity estimates

Sources

1. SciSparc
2. MedicineNet (link)
3. DrugLibrary (link)
4. NIH (link)
5. NCBI (link)
6. Nature (link)
7. GW Pharmaceuticals (link)

Companies mentioned

Company	Rating
NeoVision	NR
Labcoat Medica	NR
Arteria	NR
Circulation	NR
X-Cardia	NR
Incumed	NR
Medgenesis Partners	NR
Advanced Technology Laboratories	NR
ITCI SPRTN	NR
Carnie Capital	NR
Hadas Arazim Group	NR
E&Y	NR
Macrocure	NR
GW Pharma	NR
Jazz Pharmaceuticals	NR
Matomy Media Group	NR
Cofix Group	NR
Amitay Weiss Management	NR
Bank Poalei Agudat Israel	NR
SciSparc	BUY

Required Disclosures

Price Target

$20

Valuation Methodology

Discounted cash flow

Risk Factors

- **Development.** There is a significant risk that SciSparc's clinical-stage and pre-clinical-stage programs could fail. This is a common risk for biotechnology companies.
- **Commercial.** Historically, SciSparc has been a pre-revenue biotechnology company. The associated negative cash flows, and the transition to commercial-stage carry meaningful risks.
- **Financial.** SciSparc has been financing its operations using the capital markets because it does not produce sufficient operating cash flow to sustain its operations. Financings are inherently dilutive to existing shareholders. Dilution is a major risk.
- **Size.** SciSparc has a small size. This is a risk.
- **Regulatory.** SciSparc faces regulatory risks in numerous geographies and from numerous regulators that are both company-specific and industry-wide.
- **Other.** There are many other risks. All of the risks mentioned, as well as those we've neglected to mention, could cause a material decline in the share price.

For important disclosures go to www.aegiscap.com.

We, Nathan Weinstein, CFA and Chrishan Anketell, hereby certify that the views expressed in this research report accurately reflect our personal views about the subject companies and their securities. We also certify that We have not been, do not, and will not be receiving direct or indirect compensation in exchange for expressing the specific recommendations in this report.

Research analyst compensation is not dependent upon investment banking revenues received by Aegis Capital Corp.

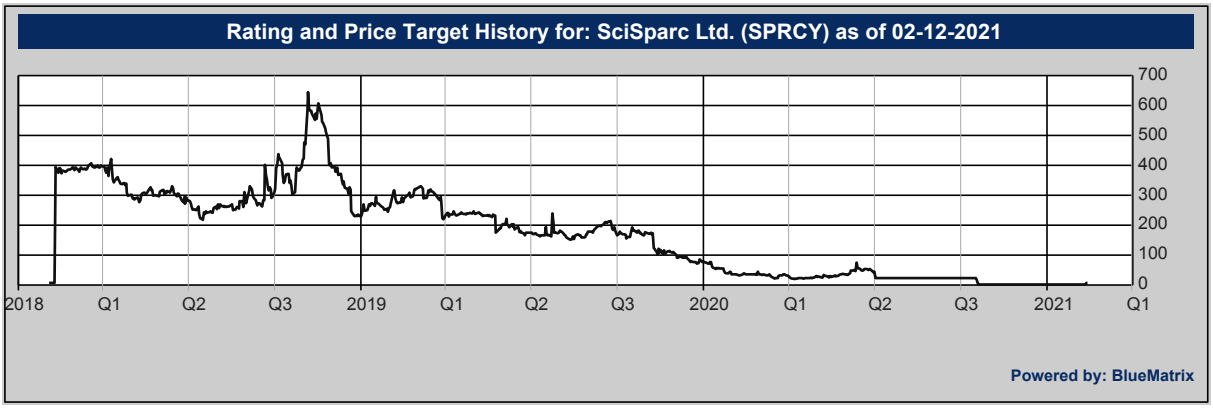
Aegis Capital Corp. intends to seek or expects to receive compensation for investment banking services from the subject company within the next three months.

The firm nor the Research Analyst have any material conflict of interest in which the Research Analyst has a reason to know or knows at the time of publication of this research report.

Members of Aegis Capital Corp., including senior officers of Aegis Capital Corp., have positions in the common stock of SciSparc Ltd.. These positions individually or in the aggregate exceed 5% of any class of equity securities in the subject company.

Neither the research analyst who prepared this report or a member of the research analyst’s household has a financial position in the debt or equity securities of the subject company.

Aegis Capital Corp. has performed investment banking services for and received fees from SciSparc Ltd. within the past 12 months.



Rating	Percent	Investment Banking Services/Past 12 Mos. Percent
BUY [BUY]	92.00	40.58
HOLD [HOLD]	8.00	33.33
SELL [SELL]	0.00	0.00

Meaning of Ratings

A) A Buy rating is assigned when we do not believe the stock price adequately reflects a company's prospects over 12-18 months.

B) A Hold rating is assigned when we believe the stock price adequately reflects a company's prospects over 12-18 months.

C) A Sell rating is assigned when we believe the stock price more than adequately reflects a company's prospects over 12-18 months.

Other Disclosures

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