

# IPO ANALYSIS

Research on upcoming IPOs for selected  
candidate companies.

Casper Sleep

Schrodinger

Beam Therapeutics

February 2020

VentureDeal

# Casper Sleep Proposes IPO Terms

## Quick Take

Casper Sleep ([CSPR](#)) has filed to raise \$150 million from the sale of its common stock in an IPO, per an amended [registration statement](#).

The company sells sleep mattresses and other related products direct to consumers.

CSPR has grown revenue quickly, but also is generating high operating losses and cash burn.

Management believes it can capture significant value throughout the 'Sleep Economy' but I'm skeptical it can profitably happen at all and more skeptical as to the additional investment required to succeed.

## Company & Technology

New York, NY-based Casper was founded to sell mattresses in a direct-to-consumer business model.

The firm seeks to expand its category to provide a complete range of sleep related products across the 'Sleep Arc,' what it calls the larger 'Sleep Economy.'

The chart below shows an overview:



Management is headed by Chief Executive Officer Mr. Philip Krim, who has been with the firm since 2013 and was previously CEO at Vocalize Mobile and CEO of The Merrick Group.

The company's primary offerings include:

- Mattresses
- Pillows
- Sheets
- Duvets
- Bedroom furniture
- Sleep accessories
- Sleep technologies
- Sleep services

Casper has received at least \$307 million from investors including Institutional Venture Partners, New Enterprise Associates, Norwest Venture Partners, Red Cart Ventures and Vaizra US.

### **Customer Acquisition**

The company utilizes a 'direct-to-consumer' or DTC model to acquire customers directly rather than through wholesale distribution relationships.

CSPR currently operates 60 company-owned retail stores and also sells through 18 retail [partners.In](#) addition, the company obtains customers through its website and via online and offline marketing efforts.

Sales and marketing expenses as a percentage of total revenue have been uneven but trending downward as revenues have increased, as the figures below indicate:

<b>Sales &amp; Marketing</b>	<b>Expenses vs. Revenue</b>
<b>Period</b>	<b>Percentage</b>
Nine Mos. Ended Sept. 30, 2019	36.5%
2018	35.3%
2017	42.6%

Source: Company registration statement

The sales & marketing efficiency rate, defined as how many dollars of additional new revenue are generated by each dollar of sales & marketing spend, dropped to 0.5x in the most recent reporting period, as shown in the table below:

<b>Sales &amp; Marketing</b>	<b>Efficiency Rate</b>
<b>Period</b>	<b>Multiple</b>
Nine Mos. Ended Sept. 30, 2019	0.5
2018	0.8

Source: Company registration statement

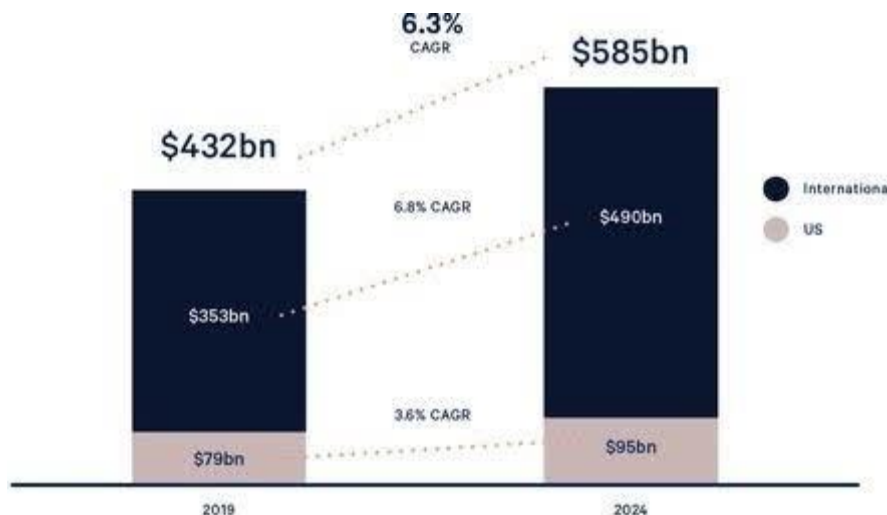
Average Order Value [AOV] grew from \$583 in 2017 to \$686 in 2018 and then to \$710 for the nine-month period ending September 30, 2019, so AOV is beginning to plateau.

The firm averages \$1,600 in annual net sales per square foot in its retail stores that have been operating for one year or more, which is higher than typical mattress stores.

CSPR has 18 retail partners such as Amazon ([AMZN](#)), Costco ([COST](#)) and Target ([TGT](#)).

## **Market & Competition**

According to a 2019 report by Frost & Sullivan commissioned by the company, the market for 'sleep economy' products and services is expected to reach \$585 billion by 2024, as the graphic shows below:



This represents a forecast CAGR of 6.3% from 2019 to 2024.

The company believes that consumers are increasing their focus on personal wellness and sleep is becoming an important part of that focus. Also, management asserts that the replacement cycle for sleep products is shortening. Consumers typically purchase a new mattress every ten years, so shortening this long cycle between purchases would result in a significantly larger market size.

The firm counts numerous competitors depending on its product type such as mattress, soft goods, bedroom furniture and sleep technologies.

Management says its data-driven approach to customers gives it a better understanding of consumer behavior and improves their ability to design products, market them, and retain customers for a higher lifetime value.

### Financial Performance

Casper's recent financial results can be summarized as follows:

- Growing topline revenue, although at a decelerating rate
- Increasing gross profit and fluctuating gross margin
- Lowered negative operating margin
- Reduced use of cash from operations

Below are relevant financial metrics derived from the firm's registration statement:

### Total Revenue

Period	Total Revenue	% Variance vs. Prior
Nine Mos. Ended Sept. 30, 2019	\$ 312,319,000	20.3%

2018	\$ 357,891,000	42.6%
2017	\$ 250,909,000	

#### **Gross Profit (Loss)**

<b>Period</b>	<b>Gross Profit (Loss)</b>	<b>% Variance vs. Prior</b>
Nine Mos. Ended Sept. 30, 2019	\$ 154,977,000	33.5%
2018	\$ 157,752,000	35.0%
2017	\$ 116,871,000	

#### **Gross Margin**

<b>Period</b>	<b>Gross Margin</b>
Nine Mos. Ended Sept. 30, 2019	49.62%
2018	44.08%
2017	46.58%

#### **Operating Profit (Loss)**

<b>Period</b>	<b>Operating Profit (Loss)</b>	<b>Operating Margin</b>
Nine Mos. Ended Sept. 30, 2019	\$ (65,143,000)	-20.9%
2018	\$ (91,960,000)	-25.7%
2017	\$ (71,261,000)	-28.4%

#### **Comprehensive Income (Loss)**

<b>Period</b>	<b>Comprehensive Income (Loss)</b>
Nine Mos. Ended Sept. 30, 2019	\$ (67,324,000)
2018	\$ (93,169,000)
2017	\$ (73,113,000)

#### **Cash Flow From Operations**

<b>Period</b>	<b>Cash Flow From Operations</b>
Nine Mos. Ended Sept. 30, 2019	\$ (29,706,000)
2018	\$ (72,255,000)
2017	\$ (84,015,000)

Source: Company registration statement

As of September 30, 2019, Casper had \$54.9 million in cash and \$170 million in total liabilities.

Free cash flow during the twelve months ended September 30, 2019, was a negative (\$106.4 million).

#### **IPO Details**

CSPR intends to sell 8.35 million shares of common stock at a midpoint price of \$18.00 per share for gross proceeds of approximately \$150.3 million, not including the sale of customary underwriter options.

No existing shareholders have indicated an interest to purchase shares at the IPO price.

Assuming a successful IPO at the midpoint of the proposed price range, the company's enterprise value at IPO would approximate \$958 million.

Excluding effects of underwriter options and private placement shares or restricted stock, if any, the float to outstanding shares ratio will be approximately 21.31%.

Per the firm's most recent regulatory filing, the firm plans to use the net proceeds as follows:

We intend to use the net proceeds from this offering for working capital, to fund growth and for other general corporate purposes. We will have broad discretion in the way that we use the net proceeds of this offering.

Management's presentation of the company roadshow is [available here](#).

Listed underwriters of the IPO are Morgan Stanley, Goldman Sachs, Jefferies, BofA Securities, UBS Investment Bank, Citigroup, Piper Sandler, and Guggenheim Securities.

## **Commentary**

Casper is forging ahead with its IPO despite high operating losses and very high cash burn in the trailing twelve month period.

Management's story for the IPO is focused on a much larger TAM for the 'sleep economy' and is trying to convince IPO investors that CSPR can capture value from a much larger set of products based on its name brand.

Also, it believes that its direct-to-consumer [DTC] model gives it an edge over traditional retailers in its various categories by virtue of providing the firm with greater insight into customer interests and behaviors.

While the market opportunity for this expansive vision is indeed large, the main questions for IPO investors are whether you believe Casper the vehicle to tap those markets and how much additional investment (and shareholder dilution) will be required to take advantage of those opportunities.

With high operating losses into the foreseeable future, and my uncertainty over management's ability to capture value across the 'sleep economy' spectrum as well as the likely high investment required to do so, my skepticism on CSPR is significant.

Additionally, even if I grant CSPR's ability to accomplish its goals at some point in the future, I don't see a meaningful catalyst over the next year; rather I see more losses and high cash burn, probably requiring either a debt or equity infusion while management paints a rosy picture to keep investors on board.

I'll watch this IPO from the sidelines.

## Schrodinger Files For \$150 Million IPO

### Quick Take

Schrodinger ([SDGR](#)) has filed to raise \$150 million from the sale of common stock in an IPO, per an amended [registration statement](#).

The company provides research software to biopharmaceutical companies and other researchers and is developing drug candidates in-house.

SDGR has a bifurcated business model, the IPO isn't cheap, and the firm is generating increasing operating losses, so I'll watch this IPO go by.

### Company & Technology

New York, NY-based Schrodinger was founded to assist drug development companies and researchers in discovering novel molecules more quickly and at lower cost through all phases of the research process.

Management is headed by Chief Executive Officer Ramy Farid, Ph.D., who has been with the firm since 2002 when he joined as a product manager and was previously an assistant professor in the Chemistry Department at Rutgers University.

The firm says it is currently working on over 25 drug discovery programs with more than ten biopharmaceutical companies, some of which the firm co-founded. Additionally, the company has begun five wholly-owned programs since mid-2018, with a focus on 'developing inhibitors for targets in DNA damage response pathways and genetically defined cancers.'

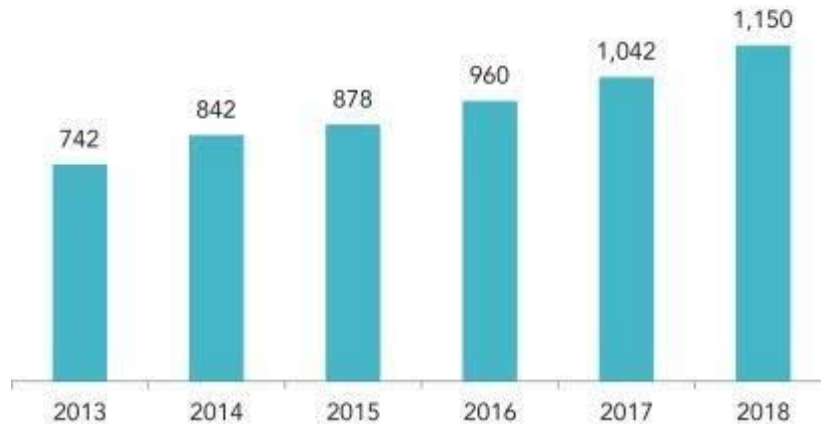
Schrodinger has received at least \$162 million from investors including The Bill & Melinda Gates Foundation Trust and David E. Shaw and related entities.

### Customer Acquisition

The company obtains customers through a direct sales force that markets to all types of medical research organizations. The customer base growth has been as follows:



## Expanding Our Customer Base



The firm provides customers with a variety of software modules within the drug discovery and materials design verticals, as shown here:



Sales and marketing expenses as a percentage of total revenue have been dropping as revenues have increased, as the figures below indicate:

Sales & Marketing Period	Expenses vs. Revenue Percentage
Nine Mos. Ended Sept. 30, 2019	26.2%
2018	26.8%
2017	30.0%

Source: Company registration statement

The sales & marketing efficiency rate, defined as how many dollars of additional new revenue are generated by each dollar of sales & marketing spend, rose to 0.7x in the most recent reporting period, as shown in the table below:

<b>Sales &amp; Marketing Period</b>	<b>Efficiency Rate Multiple</b>
Nine Mos. Ended Sept. 30, 2019	0.7
2018	0.6

Source: Company registration statement

Average Revenue per Customer grew by 8.4% in 2018 to reach \$57,947, per the table below:

<b>Average Revenue Per Customer</b>		
<b>Period</b>	<b>ARPC</b>	<b>Variance</b>
2018	\$57,946.96	8.4%
2017	\$53,448.18	

Source: Company registration statement

## **Market & Competition**

According to a 2019 [report by IndustryARC](#), the North and South American market for computational medicine and drug discovery software reached \$2.9 billion in 2018.

The market is expected to reach nearly \$7.9 billion by 2023, representing a CAGR of 5.1% from 2018 to 2023.

The main drivers for this expected growth are a continuous desire by researchers to reduce the cost and time to discover new drugs and materials along with the advent of cloud computing which increases collaboration opportunities.

Major competitive vendors include:

- Entelos
- Genedata AG
- Crown Bioscience
- Biognos AB
- Chemical Computing Group
- Leadscope
- Nimbus Therapeutics
- Rhenovia Pharma
- Dassault Systemes/BIOVIA ([OTCPK:DASTY](#))

Management says its future success will be based on its ability to continue to improve its platform and demonstrate success in its drug discovery efforts.

## Financial Performance

Schrödinger's recent financial results can be summarized as follows:

- Increasing top-line revenue
- Growing gross profit but reduced gross margin
- Increasing operating losses and negative margin
- Decreased use of cash in operations

Below are relevant financial metrics derived from the firm's registration statement:

### Total Revenue

Period	Total Revenue	% Variance vs. Prior
Nine Mos. Ended Sept. 30, 2019	\$ 59,711,000	21.5%
2018	\$ 66,639,000	19.7%
2017	\$ 55,693,000	

### Gross Profit (Loss)

Period	Gross Profit (Loss)	% Variance vs. Prior
Nine Mos. Ended Sept. 30, 2019	\$ 33,566,000	2.9%
2018	\$ 42,937,000	7.9%
2017	\$ 39,800,000	

### Gross Margin

Period	Gross Margin
Nine Mos. Ended Sept. 30, 2019	56.21%
2018	64.43%
2017	71.46%

### Operating Profit (Loss)

Period	Operating Profit (Loss)	Operating Margin
Nine Mos. Ended Sept. 30, 2019	\$ (30,868,000)	-51.7%
2018	\$ (27,969,000)	-42.0%
2017	\$ (19,021,000)	-34.2%

### Net Income (Loss)

Period	Net Income (Loss)
Nine Mos. Ended Sept. 30, 2019	\$ (17,802,000)
2018	\$ (28,425,000)
2017	\$ (17,392,000)

### Cash Flow From Operations

<b>Period</b>	<b>Cash Flow From Operations</b>
Nine Mos. Ended Sept. 30, 2019	\$ (14,794,000)
2018	\$ (23,711,000)
2017	\$ (15,307,000)

Source: Company registration statement

As of September 30, 2019, Schrödinger had \$98.3 million in cash and \$51.0 million in total liabilities.

Free cash flow during the twelve months ended September 30, 2019, was a negative (\$26.2 million).

### **IPO Details**

SDGR intends to sell 10 million shares of common stock at a midpoint price of \$15.00 per share for gross proceeds of approximately \$150.0 million, not including the sale of customary underwriter options.

Assuming a successful IPO at the midpoint of the proposed price range, the company's enterprise value at IPO would approximate \$789 million.

Per the firm's most recent regulatory filing, the firm plans to use the net proceeds as follows:

As of the date of this prospectus, we cannot specify with certainty all of the particular uses for the net proceeds to us from this offering. However, we currently intend to use the net proceeds from this offering to continue to advance our physics-based computational platform and our internal drug discovery programs, as well as for general corporate purposes, including working capital, operating expenses, and capital expenditures.

Management's presentation of the company roadshow is [available here](#).

Listed underwriters of the IPO are Morgan Stanley, BofA Securities, Jefferies, and BMO Capital Markets.

### **Commentary**

Schrodinger is seeking public investment capital for its hybrid approach, which is a combination of selling drug discovery software and developing drug candidates in-house.

The company's financials indicate revenue growth is accelerating but so are operating losses. Net loss would have also accelerated in the most recent period if not for an accounting 'fair value' change in its investments.

Sales and marketing expenses as a percentage of total revenue have dropped and its efficiency rate has edged up. Average revenue per customer has also increased.

The market opportunity for drug discovery software is reasonably large and forecast to grow at a moderate rate in the medium term.

As a comparable-based valuation, SDGR is asking IPO investors to pay a premium for its growth trajectory, not an unreasonable request given the firm's top-line revenue growth is accelerating.

However, operating losses are increasing as well as negative operating margin, which is a negative sign, especially in the current environment where investors are focusing more closely on a path to profitability.

I'm not a fan of the firm's bifurcated business model, which are two very different models. One is selling software, the other is developing drug candidates.

Given the rather fully-priced proposed valuation, the increasing operating losses and odd business model, I'll pass on the IPO.

Expected IPO Pricing Date: February 5, 2020.

## Beam Therapeutics Readies \$100 Million IPO

### Quick Take

Beam Therapeutics ([BEAM](#)) intends to raise \$100 million from the sale of its common stock, per an amended [registration statement](#).

The company is advancing a pre-clinical set of programs for the treatment of various diseases that may possibly be treated via gene editing of a single base pair of genes.

BEAM has promise, but the IPO is extremely early stage, genetic treatments are proceeding very slowly through the US FDA and the IPO may be more suited to institutional, long-term hold investors.

### Company & Technology

Cambridge, Massachusetts-based Beam was founded in 2017 to develop life-long genetic treatments for serious diseases by editing a single gene pair.

Management is headed by CEO and Director [John Evans](#), who has been with the firm since its inception and was previously Senior Vice President for Corporate Development and Portfolio Leadership.

Traditional gene editing technologies, such as CRISPR, Zinc Fingers, Arcuses, and TAL Nucleases, work by making a targeted double-stranded break in the DNA and rely on cellular mechanisms to complete the editing process.

Management says that traditional approaches are effective in the case of a disruption of gene expression but they lack control of the outcome, have low efficiency of precise correction, and can result in unwanted DNA modifications.

Beam has developed a gene editing technology that enables the company to develop medicines that use CRISPR's detection mechanism to locate and land on a piece of DNA, where an attached base-editing enzyme, such as deaminase, modifies a single base pair without making double-stranded breaks.

In 2020, management expects to obtain preclinical proof-of-concept in vivo, including engraftment of ex vivo base-edited human cells in mice or base editing with adeno-associated viral vectors [AAV] or lipid nanoparticles [LNP] in non-human primates, which, if successful, would enable the firm to file applications for investigational new drugs [IND] in 2021.

The company's lead drug candidate is currently being investigated for its efficacy in the treatment of sickle cell disease, a severe inherited blood disease, caused by a single-point mutation in the beta globin gene at the sixth amino acid [E6V mutation].

Below is the current status of the company's drug development pipeline:

DELIVERY	THERAPEUTIC AREA	DISEASE	PROGRAM TARGET	APPROACH	RESEARCH	LEAD OPTIMIZATION	IND ENABLING	CLINICAL
ELECTRO-PORATION	Hematology	Sickle Cell Disease	HPFH	Multiplex activation	[Progress bar]			
		Beta-Thalassemia	HPFH	Precise correction	[Progress bar]			
	Oncology	T-Cell Acute Lymphoblastic Leukemia	CAR-T	Multiplex activation	[Progress bar]			
		Acute Myeloid Leukemia	CAR-T	Multiplex silencing	[Progress bar]			
NON-VIRAL (LNP)	Liver Diseases	Alpha-1 Antitrypsin Deficiency	E342K	Precise correction	[Progress bar]			
		Glycogen Storage Disorder 1a	Q347X	Precise correction	[Progress bar]			
			R83C	Precise correction	[Progress bar]			
		Undisclosed	Undisclosed	Multiplex editing	[Progress bar]			
VIRAL (AAV)	Ocular and CNS Disorders	Stargardt Disease	G1981E	Precise correction	[Progress bar]			
		Undisclosed	Undisclosed	Precise correction	[Progress bar]			
		Undisclosed	Undisclosed	Gene silencing	[Progress bar]			

All 12 programs are wholly owned by Beam Therapeutics  
LNP = Lipid Nanoparticle; AAV = Adeno-Associated Virus; CNS = Central Nervous System

**NEXT STEPS**

- *in vivo* proof-of-concept in multiple indications in 2020
- IND-enabling studies initiated in multiple indications beginning 2020
- Initial wave of IND filings beginning 2021

Source: Company registration statement

Additionally, although no clinical trials have been conducted and there is no guarantee that Beam’s clinical trials will yield similar results, management says it has demonstrated in cell lines ‘the ability of base editors to perform simultaneous multiplex editing with very high efficiencies and without any detectable chromosomal rearrangements.’

The firm intends to engineer allogeneic CAR-T products by multiplex editing T cells from healthy donors, with an initial focus on the treatment of relapsed, refractory, pediatric T-cell Acute Lymphoblastic Leukemia [T-ALL] and pediatric Acute Myeloid Leukemia [AML].

Other drug targets currently being investigated include Alpha-1 Antitrypsin Deficiency [AATD], an inherited disorder that can cause progressive lung and liver disease, Glycogen Storage Disease Type 1A, also known as the Von Gierke disease, an inborn disorder of glucose metabolism which results in low blood glucose levels, as well as Stargardt disease - an inherited disorder of the central region of the retina, causing progressive vision loss.

Investors in Beam Therapeutics include F-Prime Capital, ARCH Venture Partners, Cormorant Asset Management, Redmile Group, Altitude Life Science Ventures, GV ([GOOG](#)), Omega Funds, Eight Roads Ventures, and Osage University Partners. Source: [Crunchbase](#)

## Market & Competition

According to a [2019 market research report](#) by Global Market Insights, the global gene editing market is projected to reach \$7.5 billion by 2024, growing at a CAGR of 14.9% between 2016 and 2024.

The main factors driving forecasted market growth are the rising prevalence of cancer and other genetic disorders, rising demand for synthetic genes, and increased production of genetically modified crops and organisms, as well as an increasing preference for personalized medicine.

The CRISPR technology segment is the fastest growing as business revenue is expected to surpass \$3 billion by 2024 due to its wider applications in genetic engineering as well as the speed and specificity of edits carried out using it.

According to another [2018 market research report](#) by Grand View Research, the global sickle cell disease treatment market was valued at \$2.1 billion in 2017 and is projected to reach \$5.5 billion by 2023, growing at a CAGR of 14.3% between 2018 and 2024.

Currently, about 20 to 25 million people globally are living with inherited sickle cell traits and about 300,000 infants are born with the disease annually.

It is common among people of African, Middle Eastern, as well as South Asian descent and an increase in immigration, improvements in the healthcare sector, as well as the widespread population of African descent are some of the factors expected to drive the global market.

Major competitors that provide or are developing gene editing technologies include:

- Agilent Technologies ([A](#))
- Allele Biotech
- Bio Rad ([BIO](#))
- AstraZeneca ([AZN](#))
- CRISPR Therapeutics ([CRSP](#))
- Dharmacon (LON:HZD)

Other competitors that are developing treatments for Sickle cell disease include:

- Emmaus Medical (OTC:[OTC:EMMA](#))
- Global Blood Therapeutics ([GBT](#))
- bluebird bio ([BLUE](#))
- Pfizer ([PFE](#))
- Novartis ([NVS](#))

Source: [Sentieo](#)

## Financial Status

BEAM's recent financial results are typical of pre-clinical stage biopharma IPO firms in that they feature nominal revenue and significant R&D and G&A costs associated with advancing its pipeline of drug treatment targets.



Below are the company's financial results for the past two and ¾ years (Audited PCAOB for full years):

	Nine months ended September 30,		Year ended December 31, 2018	Period from January 25, 2017 (Inception) through December 31, 2017
	2019	2018		
(in thousands, except share and per share data)				
<b>Consolidated Statement of Operations and Other</b>				
<b>Comprehensive Loss Data:</b>				
License revenue	\$ 12	\$ —	\$ —	\$ —
Operating expenses:				
Research and development	34,402	24,021	33,873	5,859
General and administrative	14,393	8,157	11,868	2,021
Total operating expenses	48,795	32,178	45,741	7,880
Loss from operations	(48,783)	(32,178)	(45,741)	(7,880)
Other income (expense):				
Loss on issuance of preferred stock in connection with Blink Merger(1)	—	(49,500)	(49,500)	—
Loss on issuance of preferred stock to investors	—	(67)	(5,715)	—
Change in fair value of derivative liabilities	(3,600)	(5,549)	(11,749)	(500)
Change in fair value of preferred stock tranche liabilities	—	(4,325)	(4,325)	404
Interest income	1,982	75	292	—
Other expense	(7)	—	—	(26)
Interest expense	(68)	—	—	—
Total other income (expense)	(1,693)	(59,366)	(70,997)	(122)
Net loss	(50,476)	(91,544)	(116,738)	(8,002)
Unrealized gain on marketable securities	48	—	—	—
Comprehensive loss	\$ (50,428)	\$ (91,544)	\$ (116,738)	\$ (8,002)

Source: Company registration statement

As of September 30, 2019, the company had \$110.9 million in cash and marketable securities and \$43.8 million in total liabilities. (Unaudited, interim)

### IPO Details

BEAM intends to sell 6.25 million shares of common stock at a midpoint price of \$16.00 per share for gross proceeds of approximately \$100.0 million, not including the sale of customary underwriter options.

No existing shareholders have indicated an interest to purchase shares at the IPO price. Since it is typical for investors to support life science IPOs in this manner, the absence of this element is a negative signal to prospective IPO investors.

Assuming a successful IPO at the midpoint of the proposed price range, the company's enterprise value at IPO would approximate \$614 million.

Excluding effects of underwriter options and private placement shares or restricted stock, if any, the float to outstanding shares ratio will be approximately 13.79%.

Per the firm's most recent regulatory filing, it plans to use the net proceeds (together with its existing cash) as follows:

approximately \$64.0 million for continued research and development of our portfolio of base editing programs, including preclinical studies and advancement through potential preclinical proof-of-concept for our three delivery modalities;

approximately \$54.0 million for IND-enabling studies and the potential initiation of clinical studies for certain of our current programs;

approximately \$42.0 million for continued advancement of our platform technologies and discovery-stage research for other potential programs; and

the remainder for general corporate purposes.

Management's presentation of the company roadshow is not available.

Listed underwriters of the IPO are J.P. Morgan, Jefferies, Barclays and Wedbush PacGrow.

### **Commentary**

BEAM is seeking public capital market funding for its very early stage pre-clinical pipeline of single base pair gene editing programs.

Its lead program has 'achieved preclinical proof-of-concept in vivo with long-term engraftment of ex-vivo based edited human CD34 cells in mice.'

While the firm's programs have significant long-term potential across a range of disease conditions that may be cured via single base pair editing, the risk is extremely high.

Management seeks to focus on simpler gene editing approaches such as those conditions that may be improved or cured via a single base pair gene edit, but even these types of genetic therapies are highly speculative and rely on algorithms to minimize errors and mutations.

Additionally, the US FDA is proceeding very slowly on approving gene therapies. To my knowledge, there is only one gene therapy that has been approved to-date.

Management has entered into various collaborations, none of which are with major pharmaceutical research firms.

As to valuation, the proposed valuation at \$614 million is at the very high end of the typical range of biopharma IPOs.

Given the firm's pre-clinical stage of development and its gene editing focus, the IPO would appear to be more suited to institutional, very long-term hold investors.

Expected IPO Pricing Date: February 5, 2020.