



Oragenics, Inc.

Reports Q4. Expect Q3 IND filing for its COVID-19 vaccine. Key upcoming development milestones should drive stock. Lowering P/T to \$2.25.

United States
Healthcare

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COMPANY UPDATE

Rating: **BUY**

Ticker: OGEN

Price: \$0.34

Target: \$2.25
(from \$2.50)

Reports Q4: Oragenics recently (on March 24) reported its Q4 2021 (ending December) results. Net loss was \$2.3 million or EPS of \$(0.02) compared with our estimates of \$(0.04). There was no guidance or consensus estimates. Oragenics is a clinical stage drug development company so it generates minimal revenue.

Operating expenses: Operating expenses were \$2.4 million, down from Q3 2021's \$4.4 million as it had lower pre-clinical development activities.

No guidance: Management did not provide forward guidance.

Estimate change: We are raising our 2022 EPS estimate to \$(0.13) from \$(0.18).

Focused on the Terra CoV-2 vaccine candidate: The company is focused on its Terra CoV-2 immunization vaccine candidate to combat the novel coronavirus pandemic. The company holds a nonexclusive intellectual property license from the National Institutes of Health (NIH) to the prefusion stabilized spike protein vaccine candidate. The stabilizing of the spike protein in the pre-fusion state may permit the number of immunogenic centers to be increased. This could allow for a greater likelihood of successful antibody binding, resulting in improved immunogenic responses.

Large market potential: COVID-19 has infected ~80 million in the U.S. and has been attributed to over 974,000 deaths in the 2 years since it was discovered in the U.S. Although there are 3 vaccines currently approved for use in the U.S. (Pfizer, Moderna, J&J), we believe there are a large market opportunity for more as the coronavirus may be a persistent ongoing virus.

Terra CoV-2 vaccine benefits: The company believes its vaccine has several advantages: 1) The NIH-created stabilized pre-fusion spike protein. Using the stabilized pre-fusion spike protein antigen should lead to a greater immune response as measured by neutralizing antibody titers. 2) Access to a novel rationally designed adjuvant. Its Terra CoV-2 vaccine should provide long lasting protection from the SARS-CoV-2 virus with only one or two doses, with a more rapid immune response compared to vaccines developed without the inclusion of an adjuvant. 3) Standard vaccine storage and distribution conditions.

IND now expected in Q3 2022 (vs. Q2): The company plans to file an IND (Investigational New Drug) application with the FDA for its Terra CoV-2 vaccine candidate in Q3 2022. If approved, clinical trial may begin in late-2022.

Pre-clinical study: The company just initiated (in March) a toxicology study to evaluate the safety profile and immunogenicity of its NT-CoV2-1 vaccine candidate in rabbits. The study is designed to provide Investigational New Drug (IND)-enabling data to help advance this candidate to human clinical studies. The top-line interim data is expected in August.

Solid balance sheet: As of Q4, the company has \$27 million in cash. We believe the company has enough cash through 2022.

Positive high risks versus high rewards: Oragenics's vaccine still have long development and commercialization (early 2023 at the earliest) challenges ahead, but we believe the ~billion dollars market potential presents high rewards for the risks.

Maintaining BUY: We are maintaining our BUY rating, but lowering our 12-month price target to \$2.25 from \$2.50 which is based on an NPV analysis. This represents significant upside from the current share price. We believe this valuation appropriately balances out the company's high risks with the company's high growth prospects and large upside opportunities.

Company Description

Based in Tampa, FL, Oragenics is focused on the Terra CoV-2 vaccine candidate for coronavirus pandemic and development of treatments for novel antibiotics against infectious diseases.

Stock Data

Exchange:	NYSE
52-week Range:	\$0.30 – 1.15
Shares Outstanding (million):	116
Market cap (\$million):	\$39
EV (\$million):	\$12
Debt (\$million):	\$0
Cash (\$million):	\$27
Avg. Daily Trading Vol. (\$million):	\$1
Float (million shares):	114
Short Interest (million shares):	3
Dividend, annual (yield):	\$0 (NA%)

Revenues (US\$ million)

	2022E (Cur.)	2022E (Old)	2023E (Cur.)	2023E (Old)
Q1 Mar	0E		0E	
Q2 Jun	0E		0E	
Q3 Sep	0E		0E	
Q4 Dec	0E		0E	
Total	0E		0E	
EV/Revs	N/A		N/A	

Earnings per Share (pro forma)

	2022E (Cur.)	2022E (Old)	2023E (Cur.)	2023E (Old)
Q1 Mar	(0.02)E	(0.04)E	(0.04)E	
Q2 Jun	(0.02)E	(0.04)E	(0.04)E	
Q3 Sep	(0.04)E		(0.04)E	
Q4 Dec	(0.04)E		(0.04)E	
Total	(0.13)E	(0.18)E	(0.17)E	
P/E	N/A		N/A	

Important Disclosures

Ascendant Capital Markets LLC seeks to do business with companies covered by its research team. Consequently, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making an investment decision.

For analyst certification and other important disclosures, refer to the Disclosure Section, located at the end of this report, beginning on page 12.

Exhibit 1: Oragenics Inc. Investment Highlights (as of November 2021)

Oragenics is a development-stage company dedicated to fighting infectious diseases, including coronaviruses and multidrug-resistant organisms

Lead product is Terra CoV-2, a vaccine candidate to prevent COVID-19

- Gained access to multiple enabling technologies
- Focusing on intranasal vaccine due to medical need and potential for differentiation

Lantibiotics research program features a novel class of antibiotics to address infectious diseases that have developed resistance to commercial antibiotics

Company Summary

- SARS-CoV-2 spike protein vaccine technology licensed from NIH expected to enter human clinical studies in 2022; potential long-lasting protection against SARS-CoV-2, new variants and perhaps other coronaviruses
- NRC's swift expression platform in combination with NIH constructs accelerates high-yield production of spike protein antigens to combat existing and emerging variants
- Potentially improved vaccine access through development of intranasal delivery technology and adjuvant
- Multibillion-dollar market for COVID-19 vaccines likely to accommodate multiple players, particularly in the post-pandemic period
- Cash through 3Q22
- Novel class of peptide antibacterial compounds called lantibiotics
 - Activity against a variety of multidrug-resistant infections, believed to be the next human health crisis

Investment Highlights

1

2

3

Terra CoV-2 Combines Multiple Technologies:

- De-risked antigen to SARS-CoV-2 spike protein vaccine technology from NIH
- Cell line that can rapidly respond to new variants from NRC Canada
- Intranasal adjuvant from Inspirevax

Potential for Highly Differentiated COVID-19 Vaccine:

- Intranasal vaccine could reduce transmission and is needle-free
- Limited number of competing intranasal vaccines (5 Phase 1/2 viral vaccines)
- Expect to file US IND in April 2022

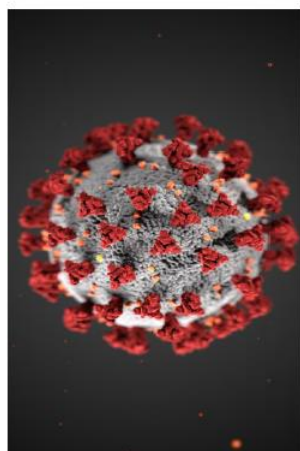


Lantibiotics platform features a novel class of peptide antibacterial compounds, with activity against a variety of multidrug-resistant infections

Source: Company reports

Exhibit 2: Orogenics Terra-CoV-2 Vaccine

Terra-CoV-2 Vaccine Development Overview



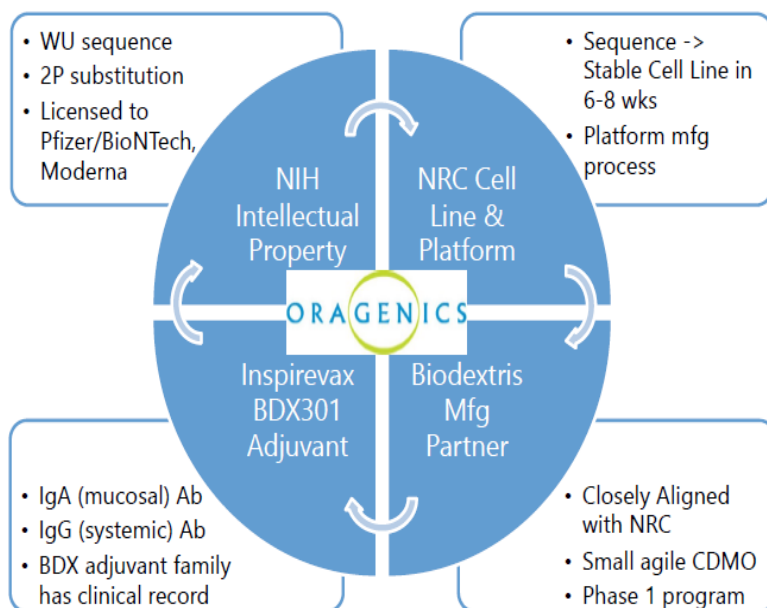
Objective: To develop and commercialize a vaccine providing long lasting immunity from SARS-CoV-2 infection focusing on the spike protein.

Potential Benefits:

- Long lasting protection from SARS-CoV-2 virus
- COVID-19 infection prevention
- reduced viral spread
- more rapid immune response
- lower antigen concentration required
- Intranasal and intramuscular administration options

Future Research: Potential cross protection against other coronaviruses and Covid-19 variants.

Differentiation & Rapid Response Through Multi-Partner Collaboration



This purpose-built partnership established by Orogenics will enable us to:

- **Swiftly address new variants** as they arise
- Combine the **immunological properties of the NIH construct** with the **NRC's swift expression platform**
- **Jumpstart IND-enabling studies** by being able to manufacture spike antigens quickly

Next steps: preclinical animal studies, including:

- ✓ mouse immunogenicity study (complete)
- hamster viral challenge study (in-progress)
- rabbit pilot study (in-progress)
- rabbit toxicology study (planning stage)

The data from these studies will be needed for our **IND application**

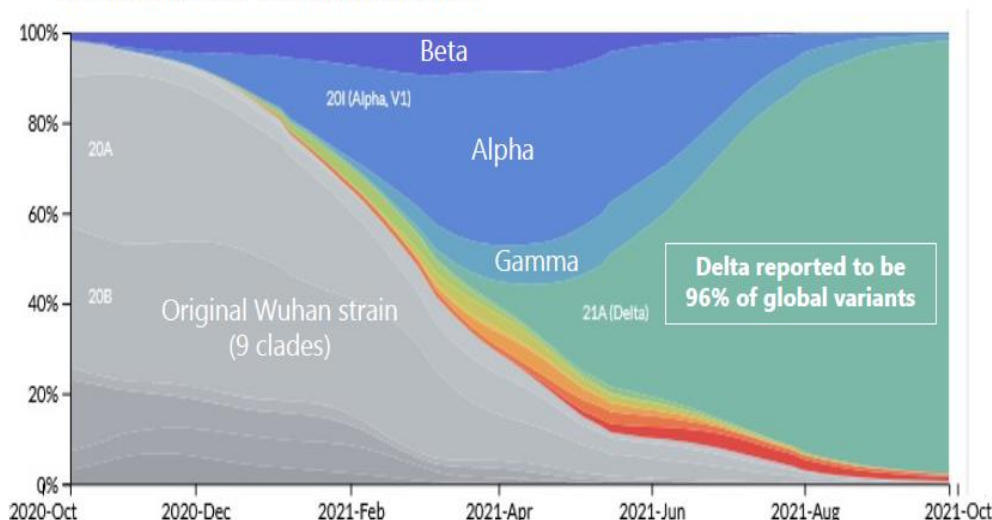
Source: Company reports.

Exhibit 3: COVID-19 Vaccine Commercial Analysis

COVID-19 Vaccine Commercial Analysis

Rapid global evolution of variants

Global SARS-CoV-2 Strain Distribution



- Delta variant has replaced nearly all other variants globally
- Vaccines based on the original Wuhan strain have shown good protection against Delta
- Unknown whether new strains will emerge and displace Delta – will new vaccines be required?

COVID-19 Vaccine Commercial Analysis

Protein subunit vaccine pipeline

Late-stage Protein Subunit Vaccine Candidates vs. Orogenics' Terra Cov-2

Company	Company Type	Adjuvant	Route Admin.	Clinical Stage
Medigen	Taiwanese vaccine manufacturer	CpG 1018 (Dynavax)	Intramuscular (IM) injection	EUA (Taiwan)
Novavax	US public biotech	Matrix-M (Novavax)	IM injection	EUA (Indonesia)
Sanofi Pasteur	Big Pharma	AS03 (GSK)	IM injection	Phase 3
Clover	Chinese public biotech	CpG 1018 (Dynavax)	IM injection	Phase 3
SK Parma	Korean vaccine manufacturer	AS03 (GSK)	IM injection	Phase 3
Medicago	Canadian biotech	AS03 (GSK)	IM injection	Phase 3
Orogenics	US public biotech	TQL1055 (Adjuvance)	IM injection	Preclinical

- Six late-stage protein subunit candidates with adjuvants are progressing toward approval
- An additional 6 protein subunit candidates are in Phase 1 & 2 studies (from companies located in high-income countries)
- Given intense competition for protein subunit vaccines administered by intramuscular injection, Orogenics has decided to focus on its intranasal vaccine candidate

Source: Company reports.

Exhibit 4: Terra-CoV-2 Vaccine Key Benefits

Potential Key Vaccine Attributes

- Currently designed for availability and use for post-pandemic distribution
- Access to **novel rationally designed adjuvant for intramuscular administration**
- **Potential Intranasal Delivery using separate adjuvant technology** – potential intranasal delivery, with meaningful differentiation for children and needle-phobic populations
- Potential for **single dose** efficacy (based on Phase 1 results)
- **Likely low COGs** based on using Chinese Hamster Ovary Cell Line approach
- Potential storage and transport at **refrigerated (5°C) temperatures**, not -50° to -80°C
- Potential advantage for remote locations, particularly in developing world

Source: Company reports

Exhibit 5: Terra-CoV-2 Vaccine Development Milestones (as of November 2021)

Vaccine Program CMC Updates

Activity	Status
National Research Council of Canada (Licensor of Cell Line & Platform)	
• Important partner to Orogenics/Biodextris	Supporting R&D activities to de-risk development and critical path activities
• Areas of program support	Process -> Methods -> Characterization -> Cell Line Development -> R&D
• Clonal cell line development program	In-progress for Wuhan (WU) antigen; planned for Delta antigen
• Hamster Challenge Study	In-life completed; data anticipated Nov. 30 th
• Journal publication opportunity;	Orogenics-NRC-Inspirevax collaboration (NRC lead)
• GLP-Tox Enabling Pilot Rabbit Study	In-life on-going; data anticipated Dec. 30 th
Biodextris (Antigen Manufacturer)	
• 3 Stable Cell GMP Banks produced (WU+Beta+Delta)	In-Progress; Being Released
• Process & Methods tech transfer from NRC/Orogenics to Biodextris	Complete (process), In-Process (Methods)
• Materials Procurement	De-risked & largely complete
• Current focus of CMC activities; timing of IND submission	WU+IN administration); est. April 2022 (Delta available if needed)
Inspirevax (Adjuvant Technology)	
• GMP BDx301 availability	Available
• Nasal delivery device selection	In-Progress
• Final clinical kit fill/finish	Planning Stage

Source: Company reports.

Exhibit 6: COVID-19 Vaccine Opportunities

- **Market evolving rapidly across several dimensions**
 - Virus evolution with emergence & disappearance of variants
 - Target populations are increasingly “seropositive” (from vaccination or exposure)
 - Rapidly shifting competitive landscape
- **Terra CoV-2 commercial opportunity**
 - Assessed distinct formulations for intramuscular or intranasal administration
 - Intramuscular approach with Adjuvance TQL1055 adjuvant
 - Intranasal approach with Inspirevax BDX301 adjuvant

Terra CoV-2 commercial opportunity

- **Focus on intranasal Terra CoV-2 candidate**
 - Less competition and more opportunities to differentiate
- **Establish first as preferred booster dose**
 - Reduce virus transmission at source of infection (mucosal surfaces)
 - Needle-free
 - Advantages of protein subunit intranasal vaccine versus live viral vaccines
- **Develop for routine childhood immunization**
 - Longer-term objective
 - Needle-free option appreciated by kids and parents
 - Easier to fit needle-free into crowded immunization schedule

COVID-19 Vaccine Commercial Analysis Competitive landscape

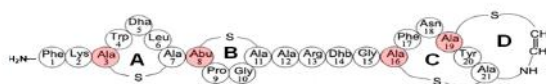
- **Most competitive vaccine market ever**
 - 129 Marketed/clinical-stage vaccines
 - 45 Clinical-stage protein subunit vaccine candidates (same type as Terra CoV-2)
 - 9 Clinical-stage intranasal vaccines
 - 194 Preclinical-stage vaccine candidates
- **Late market entrants need to differentiate their vaccine**
 - Improve reduction in transmission of virus
 - Provide needle-free administration options
 - Fit with future target markets
 - “Best booster” for seropositives
 - Routine childhood immunization schedule
 - Protect against dominant variant

Source: Company reports.

Exhibit 7: Orogenics Lantibiotics (as of March 2021)

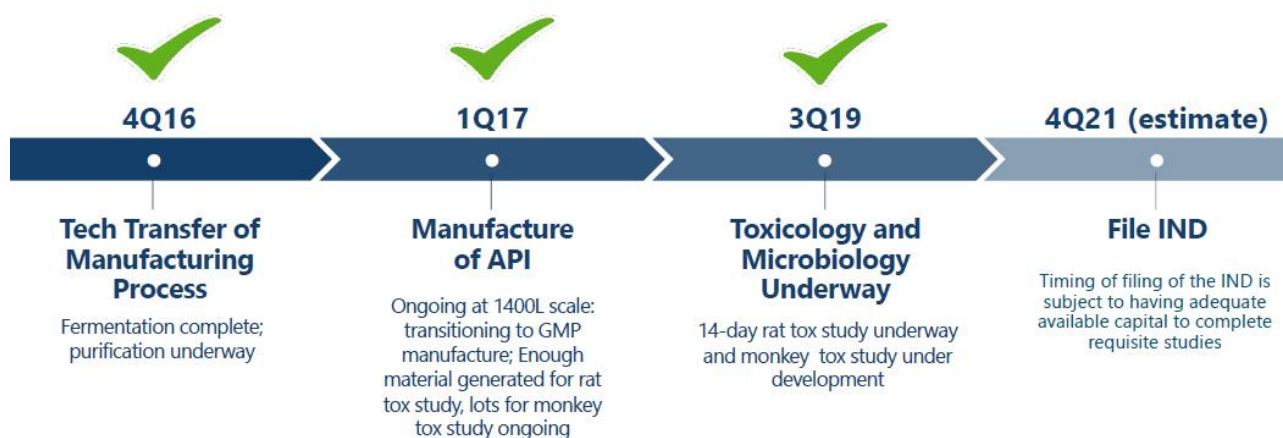
Lantibiotics: Novel Platform of Antibiotics to Treat Serious Life-Threatening Infections

- Lantibiotics are a novel class of peptide antibacterial compounds naturally produced by a variety of Gram-positive bacterial strains to attack competing bacterial strains
- Platform: >700 lantibiotic structures created, potentially generating a pipeline of new compounds
- Platform provides potential for development in multidrug resistant infections:
 - Methicillin Resistant *Staphylococcus aureus* (MRSA)
 - Vancomycin Resistant Enterococci (VRE)
 - Virulent *Clostridium difficile*
 - Gram(-) infections



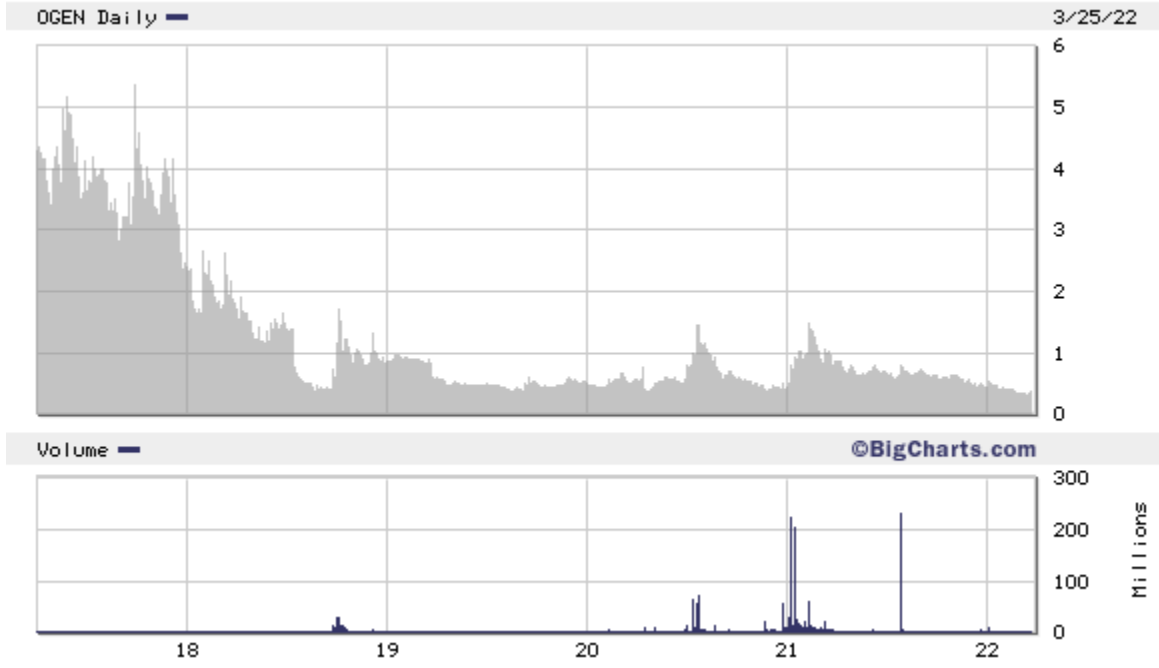
Mutacin 1140: a lantibiotic produced by *Streptococcus mutans*

Lantibiotics: OG716 *C. difficile* Program Milestones



Source: Company reports.

Exhibit 8: Orogenics, Inc. Stock Price (5-years)



Source: <https://bigcharts.marketwatch.com/>

FINANCIAL MODEL

Orogenics, Inc.

Income Statement (\$ mils)	Mar-20	Jun-20	Sep-20	Dec-20	2020	Mar-21	Jun-21	Sep-21	Dec-21	2021	Mar-22	Jun-22	Sep-22	Dec-22	2022	Mar-23	Jun-23	Sep-23	Dec-23	2023
Fiscal Year End: December 31	Q1A	Q2A	Q3A	Q4A	FY-A	Q1A	Q2A	Q3A	Q4A	FY-A	Q1E	Q2E	Q3E	Q4E	FY-E	Q1E	Q2E	Q3E	Q4E	FY-E
Total Revenue	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cost of Revenues	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gross Profit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Research and development	3.7	11.5	3.5	3.4	22.1	3.3	2.5	3.5	1.3	10.6	1.5	1.6	3.0	3.5	9.6	3.5	3.5	3.5	3.5	14.0
General and administrative	1.5	0.8	1.0	1.2	4.5	2.0	1.4	0.8	1.1	5.3	1.2	1.2	1.6	1.6	5.6	1.6	1.6	1.6	1.6	6.4
Restructuring and other					0.0					0.0					0.0					0.0
Total operating expenses	5.2	12.4	4.5	4.5	26.6	5.2	3.8	4.4	2.4	15.9	2.7	2.8	4.6	5.1	15.2	5.1	5.1	5.1	5.1	20.4
Operating income (loss)	(5.2)	(12.4)	(4.5)	(4.5)	(26.6)	(5.2)	(3.8)	(4.4)	(2.3)	(15.8)	(2.7)	(2.8)	(4.6)	(5.1)	(15.2)	(5.1)	(5.1)	(5.1)	(5.1)	(20.4)
Interest income (expense)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
Other income (expense)	0.0	(0.0)	(0.0)	0.1	0.1	0.0	(0.0)	0.0	(0.0)	(0.0)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Income before income taxes	(5.2)	(12.3)	(4.5)	(4.4)	(26.4)	(5.2)	(3.8)	(4.4)	(2.3)	(15.7)	(2.7)	(2.8)	(4.6)	(5.1)	(15.2)	(5.1)	(5.1)	(5.1)	(5.1)	(20.4)
Income taxes					0.0					0.0					0.0					0.0
Net income (loss)	(5.2)	(12.3)	(4.5)	(4.4)	(26.4)	(5.2)	(3.8)	(4.4)	(2.3)	(15.7)	(2.7)	(2.8)	(4.6)	(5.1)	(15.2)	(5.1)	(5.1)	(5.1)	(5.1)	(20.4)
Nonrecurring/noncash adjustments					0.0					0.0					0.0					0.0
Net income (pro forma)	(5.2)	(12.3)	(4.5)	(4.4)	(26.4)	(5.2)	(3.8)	(4.4)	(2.3)	(15.7)	(2.7)	(2.8)	(4.6)	(5.1)	(15.2)	(5.1)	(5.1)	(5.1)	(5.1)	(20.4)
EBITDA																				
Shares, Basic	46.1	52.2	59.7	69.0	56.5	103.0	115.9	116.3	116.4	112.9	116.4	116.5	116.6	116.7	116.6	116.7	116.8	116.9	117.0	116.9
Shares, Diluted	46.1	52.2	59.7	69.0	56.5	103.0	115.9	116.3	116.4	112.9	116.4	116.5	116.6	116.7	116.6	116.7	116.8	116.9	117.0	116.9
EPS Basic (pro forma)	(\$0.11)	(\$0.24)	(\$0.08)	(\$0.06)	(\$0.47)	(\$0.05)	(\$0.03)	(\$0.04)	(\$0.02)	(\$0.14)	(\$0.02)	(\$0.02)	(\$0.04)	(\$0.04)	(\$0.13)	(\$0.04)	(\$0.04)	(\$0.04)	(\$0.04)	(\$0.17)
EPS Diluted (pro forma)	(\$0.11)	(\$0.24)	(\$0.08)	(\$0.06)	(\$0.47)	(\$0.05)	(\$0.03)	(\$0.04)	(\$0.02)	(\$0.14)	(\$0.02)	(\$0.02)	(\$0.04)	(\$0.04)	(\$0.13)	(\$0.04)	(\$0.04)	(\$0.04)	(\$0.04)	(\$0.17)
Margins																				
Gross margin																				
Research and development																				
General and administrative																				
Operating margin	NM	NM	NM	NM	NM	NM	NM	NM	-2645%	-18130%	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Tax rate, GAAP	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Net margin	NM	NM	NM	NM	NM	NM	NM	NM	-2636%	-18062%	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Y/Y % change																				
Total Revenue																				
Gross margin																				
Research and development	54%	198%	14%	21%	82%	-12%	-79%	1%	-61%	-52%	-54%	-35%	-15%	167%	-9%	133%	119%	17%	0%	46%
General and administrative	55%	-21%	18%	33%	21%	30%	70%	-16%	-10%	16%	-39%	-12%	89%	48%	6%	33%	33%	0%	0%	14%
Operating income (loss)	54%	152%	15%	24%	68%	0%	-69%	-3%	-49%	-41%	-48%	-27%	5%	122%	-4%	89%	82%	11%	0%	34%
Net income (loss)	56%	157%	17%	23%	70%	1%	-69%	-3%	-48%	-41%	-48%	-26%	5%	123%	-3%	89%	82%	11%	0%	34%
EPS Diluted (pro forma)	3%	127%	-9%	-18%	27%	-55%	-86%	-50%	-69%	-70%	-54%	-27%	5%	122%	-6%	88%	81%	11%	0%	34%

Source: Company reports and Ascendant Capital Markets estimates.

Orogenics, Inc.

Balance Sheet (\$ mils)	Mar-20	Jun-20	Sep-20	Dec-20	Mar-21	Jun-21	Sep-21	Dec-21	Mar-22	Jun-22	Sep-22	Dec-22	Mar-23	Jun-23	Sep-23	Dec-23
Fiscal Year End: December 31	Q1A	Q2A	Q3A	Q4A	Q1A	Q2A	Q3A	Q4A	Q1E	Q2E	Q3E	Q4E	Q1E	Q2E	Q3E	Q4E
Assets																
Cash and cash equivalents	14.4	9.6	10.0	17.6	36.5	34.6	29.9	27.3	24.8	22.2	17.8	12.9	8.0	3.1	(1.9)	(6.8)
Short term investments									0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deferred income taxes									0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prepaid expenses and other	0.3	0.3	0.5	0.3	0.2	0.1	0.6	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Total current assets	14.7	9.9	10.5	18.0	36.7	34.7	30.5	27.7	25.2	22.6	18.2	13.3	8.4	3.5	(1.5)	(6.4)
Property and equipment, net	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3
Intangibles, net									0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deferred income tax									0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.8	0.7	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Total assets	15.6	10.7	11.3	18.7	37.4	35.2	31.1	28.2	25.8	23.2	18.8	13.9	9.1	4.2	(0.7)	(5.6)
Liabilities and stockholders' equity																
Accounts payable	1.8	1.1	0.5	0.9	0.6	1.9	1.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Accrued expenses									0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deferred income tax									0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Short term debt	0.1	0.1	0.5	0.2	0.1		0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Total current liabilities	2.0	1.4	1.1	1.3	0.9	2.1	2.2	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Deferred income taxes									0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Warrant liabilities									0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other long term liabilities	0.6	0.6	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Long term debt									0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total other liabilities	0.6	0.6	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Preferred stock	7.2	7.2	7.2	7.2	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
Common stock	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.6	0.8	1.0	1.3	1.5	1.7	2.0
Additional paid-in capital	138.9	147.1	152.4	164.0	194.1	194.6	194.8	195.0	195.0	195.0	195.0	195.0	195.0	195.0	195.0	195.0
Retained earnings	(133.2)	(145.5)	(150.0)	(154.4)	(160.8)	(164.6)	(169.0)	(171.3)	(174.0)	(176.8)	(181.4)	(186.5)	(191.6)	(196.7)	(201.8)	(206.9)
Accumulated other comprehensive income									0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Minority Interest									0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total stockholders' equity	12.9	8.8	9.6	16.8	36.1	32.7	28.5	26.5	24.0	21.4	17.1	12.2	7.3	2.4	(2.4)	(7.3)
Total stockholders' equity and liabilities	15.6	10.7	11.3	18.7	37.4	35.2	31.1	28.2	25.8	23.2	18.8	13.9	9.1	4.2	(0.7)	(5.6)

Balance Sheet Drivers

	Mar-20	Jun-20	Sep-20	Dec-20	Mar-21	Jun-21	Sep-21	Dec-21	Mar-22	Jun-22	Sep-22	Dec-22	Mar-23	Jun-23	Sep-23	Dec-23
	Q1A	Q2A	Q3A	Q4A	Q1A	Q2A	Q3A	Q4A	Q1E	Q2E	Q3E	Q4E	Q1E	Q2E	Q3E	Q4E
Book & Cash Value (per share)																
Book Value per Share (diluted)	0.28	0.17	0.16	0.24	0.35	0.28	0.25	0.23	0.21	0.18	0.15	0.10	0.06	0.02	(0.02)	(0.06)
Cash per Share (diluted)	0.31	0.18	0.17	0.26	0.35	0.30	0.26	0.23	0.21	0.19	0.15	0.11	0.07	0.03	(0.02)	(0.06)
Net cash per Share (diluted)	0.31	0.18	0.16	0.25	0.35	0.30	0.25	0.23	0.21	0.19	0.15	0.11	0.07	0.02	(0.02)	(0.06)

Source: Company reports and Ascendant Capital Markets estimates

Oragenics, Inc.

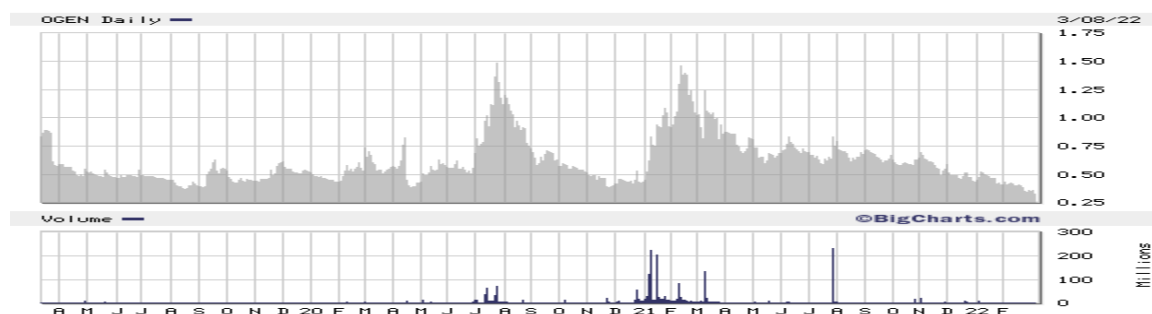
Cash Flow Statement (\$ mils)	Mar-20	Jun-20	Sep-20	Dec-20	2020	Mar-21	Jun-21	Sep-21	Dec-21	2021	Mar-22	Jun-22	Sep-22	Dec-22	2022	Mar-23	Jun-23	Sep-23	Dec-23	2023	
Fiscal Year End: December 31	Q1A	Q2A	Q3A	Q4A	FY-A	Q1A	Q2A	Q3A	Q4A	FY-A	Q1E	Q2E	Q3E	Q4E	FY-E	Q1E	Q2E	Q3E	Q4E	FY-E	
Cash flow from operating activities																					
Net income	(5.2)	(12.3)	(4.5)	(4.4)	(26.4)	(5.2)	(3.8)	(4.4)	(2.3)	(15.7)	(2.7)	(2.8)	(4.6)	(5.1)	(15.2)	(5.1)	(5.1)	(5.1)	(5.1)	(5.1)	(20.4)
Depreciation	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Amortization					0.0					0.0					0.0					0.0	0.0
Debt related amortization expense					(0.1)	(0.1)				0.0					0.0					0.0	0.0
Stock comp	0.9	0.2	0.2	0.3	1.5	1.1	0.2	0.1	0.2	1.7	0.2	0.2	0.2	0.2	0.9	0.2	0.2	0.2	0.2	0.2	0.9
Deferred income taxes					0.0					0.0					0.0					0.0	0.0
Change in fair value of warrant liability					0.0					0.0					0.0					0.0	0.0
Writedowns and impairments					0.0					0.0					0.0					0.0	0.0
Other gains/losses					8.0					0.0					0.0					0.0	0.0
Other		8.0		0.0	0.0					0.0					0.0					0.0	0.0
Changes in operating assets and liabilities:																					
Prepaid expenses & other curre	0.2	0.0	0.2	0.1	0.6	0.1	0.1	(0.5)	0.7	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other assets					0.0					0.0					0.0					0.0	0.0
Accounts payable	0.2	(0.7)	(0.6)	0.5	(0.6)	(0.4)	1.4	(0.4)	(0.6)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Accrued expenses					0.0					0.0					0.0					0.0	0.0
Other liabilities					0.0					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net cash (used in) provided by	(3.8)	(4.8)	(4.7)	(3.6)	(17.0)	(4.3)	(2.1)	(5.2)	(1.9)	(13.5)	(2.5)	(2.6)	(4.4)	(4.9)	(14.3)	(4.9)	(4.9)	(4.9)	(4.9)	(4.9)	(19.5)
Cash flow from investing activities																					
Purchases of property and equipment					0.0			(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.1)	(0.0)	(0.0)	(0.1)	(0.0)	(0.0)	(0.2)
Purchases of short-term investments					0.0					0.0					0.0					0.0	0.0
Acquisitions					0.0					0.0					0.0					0.0	0.0
Other					0.0					0.0					0.0					0.0	0.0
Net cash used in investing activ	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.1)	(0.0)	(0.0)	(0.1)	(0.0)	(0.0)	(0.2)
Cash flow from financing activities																					
Issuance of debt		0.1			0.1			0.6	(0.6)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Repayment of debt	(0.1)	(0.1)	(0.1)	(0.1)	(0.3)	(5.7)	(0.1)	(0.1)	(0.2)	(6.2)					0.0					0.0	0.0
Issuance of stock			5.2	11.3	16.5	26.7				26.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proceeds from stock option exercises		0.0	(0.0)	0.0	0.0	2.3	0.3	0.1	0.0	2.6					0.0					0.0	0.0
Other					0.0					0.0					0.0					0.0	0.0
Dividends and distributions					0.0					0.0					0.0					0.0	0.0
Cash provided by (used in) fina	(0.1)	0.1	5.1	11.2	16.3	23.2	0.2	0.6	(0.8)	23.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Effect of exchange rate on cash					0.0					0.0					0.0					0.0	0.0
Net increase (decrease) in cash	(3.9)	(4.7)	0.4	7.6	(0.6)	18.9	(1.9)	(4.6)	(2.7)	9.6	(2.5)	(2.6)	(4.4)	(4.9)	(14.4)	(4.9)	(4.9)	(5.0)	(4.9)	(4.9)	(19.7)
Beginning cash and equivalents	18.3	14.4	9.6	10.0	18.3	17.6	36.5	34.6	29.9	17.6	27.3	24.8	22.2	17.8	27.3	12.9	8.0	3.1	(1.9)	(1.9)	12.9
Ending cash and equivalents	14.4	9.6	10.0	17.6	17.6	36.5	34.6	29.9	27.3	27.3	24.8	22.2	17.8	12.9	12.9	8.0	3.1	(1.9)	(6.8)	(6.8)	(6.8)

Source: Company reports and Ascendant Capital Markets estimates

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Oragenics, Inc.



Source: <https://bigcharts.marketwatch.com/>

	Report Date		Price
Report	Date	Rating	Target
1	3/11/2019	Buy	2.50
2	5/2/2019	Buy	2.50
3	9/5/2019	Buy	2.50
4	2/5/2020	Buy	2.50
5	3/24/2021	Buy	2.75
6	5/16/2021	Buy	2.00
7	8/25/2021	Buy	2.25
8	11/20/2021	Buy	2.50

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Ascendant Capital Markets, LLC Rating System

BUY: We expect the stock to provide a total return of 15% or more within a 12-month period.

HOLD: We expect the stock to provide a total return of negative 15% to positive 15% within a 12-month period.

SELL: We expect the stock to have a negative total return of more than 15% within a 12-month period.

Total return is defined as price appreciation plus dividend yield.

Ascendant Capital Markets, LLC Rating System

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Sell: We expect the stock to provide a total return of minus 10% or worse within a 12-month period.

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Total return is defined as price appreciation plus dividend yield.

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Rating	Count	Percent	Investment Banking Services Past 12 months	
			Count	Percent
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Hold	0	0%	0	0%
Sell	1	2%	0	0%
Total	41	100%	16	39%

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