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Cancer Genetics (Nasdaq/CGIX)
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BUY
vivoPharm Acquisition, 25th I-O Contract
Cancer Genetics is an emerging leader in DNA-based cancer diagnostics
Investment Highlights

1) **Cancer Genetics has closed its 25th contract for testing and diagnostic services in the support of combination immunology (I-O) clinical trials.** The contract win, announced September 20th, marks a milestone for the Company, which now estimates that these 25 I-O combination clinical trials will enroll over 4,500 patients. Combination I-O trials now comprise one-half of the Company's total 50 trials in the oncology area, and the majority of these advanced contracts involve testing for multiple types of genetic markers, such as PD-1, PD-L1, and CTLA-4.

2) **The Company is also moving forward with the integration of its vivoPharm acquisition, now nearing the six-week milestone of combined operations since the deal was signed in mid-August.** vivoPharm, with operating facilities in Australia and Hershey, Pennsylvania, is expected to be immediately accretive for CGIX, and add approximately \$5 million in annual revenues (\$600,000 in Q3/2017) as well as bringing in 55 new projects with over 30 alone in Immuno-Oncology. The new acquisition brings special expertise to CGIX in human xenograft and syngeneic tumor models, including subcutaneous, orthotopic and metastatic models, as well as toxicology and pharmacology services and animal imaging capabilities. The new acquisition is also expected to bring CGIX a stronger international presence, as a majority of vivoPharm's roughly 40 clients are located outside of the US.

3) **Prior to the vivoPharm announcement, CGIX announced financial results for their Q2/17 ending June,** including revenues of \$6.6 million and a net loss of \$2.8 million or (\$0.16) per share. Highlights of the second quarter included 170 biopharma projects now underway, up from 111 in the same period last year, \$7.1 in new contract bookings for biopharma customers, a strategic partnership signed with mendel.ai in precision medicine, and the launch of new lung cancer liquid biopsy tests and immune-oncology panels.

Current Price \$2.75
Price Target \$11.00

Estimates	F2015A	F2016A	F2017E
Revenues(\$000s)	\$18,040	\$27,049	\$30,170
1Q March	4,370	6,068	6,966 A
2Q June	4,185	7,001	6,604 A
3Q September	4,001	6,750	7,600 E
4Q December	5,484	7,230	9,000 E

EPS (diluted)	F2015A	F2016A	F2017E
1Q March	(0.44)	(0.39)	(0.51) A
2Q June	(0.51)	(0.28)	(0.16) A
3Q September	(0.54)	(0.23)	(0.13) E
4Q December	(0.47)	(0.15)	(0.10) E

EBITDA/Share	F2015A	F2016A	F2017E
EV/EBITDA (x)	N/A	N/A	N/A

Stock Data	
52-Week Range	\$1.10-\$5.30
Shares Outstanding (mil.)	24.2
Market Capitalization (mil.)	\$66.6
Enterprise Value (mil.)	\$64.9
Debt to Capital (6/17)	20.6%
Book Value/Share (6/17)	\$0.77
Price/Book	3.6 x
Average Trading Volume (3-month)	108,400
Insider Ownership	20.2%
Institutional Ownership	16.2%
Short Interest (Millions)	1.8
Dividend / Yield	\$0.00/0.0%



Conclusion/Stock Valuation

Cancer Genetics has seen very positive news flow this fall, including a major new, accretive acquisition, several new product launches, a milestone contract signed in the Immuno-Oncology space, strong quarterly growth metrics, and a new equity financing agreement expected to strengthen the Company's balance sheet. Still, these shares continue to lag price/revenue valuation metrics of other companies in our nine-stock precision medicine and diagnostics comparison group, and therefore we are maintaining our BUY rating on CGIX shares and 12-18 month price target of \$11.00 per share.

Risk Factors

In addition to normal economic and market risk factors that impact most equities and the common risks shared by Cancer Genetics with other companies in the industry, we believe an investment in CGIX involves the following risks:

- **Reliance on key management** – At present, CGIX relies on several key members of its management team who either founded the Company or have been in key executive positions for an extended period of time. Should one or more of these key executives leave the Company, CGIX could find it difficult to replace their long-standing knowledge of operations and industry expertise.
- **Reliance on partnerships** – To date, CGIX has signed a number of development partnerships and joint ventures for its diagnostic tests and information services. Thus, in the future certain factors related to product marketing and/or new product development may be determined by third parties and out of the control of Company management.
- **Limited stock liquidity** – Trading volume in CGIX stock is comparatively light and these shares have a relatively limited history of trading compared with other healthcare stocks. As such, news regarding CGIX, its target market, partners and/or competitors could lead to significant volatility in the stock price.
- **Competitive markets** – The Company and its partners compete in its target diagnostic markets with a number of companies, many of which are considerably larger than the Company. There can be no assurance that the Company and its partners will be able to successfully compete and launch new products into these competitive markets in the future.
- **FDA and regulatory risks** – CGIX and its partners are subject to regulatory review for ongoing diagnostic tests and information products, principally the US Food and Drug Administration's approval and laboratory review processes. In addition, the quality assurance and manufacture of the Company's diagnostic products are subject to ongoing oversight and regulation, and any negative correspondence from the FDA or other regulatory agencies could have an adverse effect on the ongoing operations of the Company.
- **Lack of historic profitability** - CGIX has not achieved operating profitability since its founding, and according to our forecasts may not be expected to do so in the near future. Although the Company maintains adequate cash reserves at the present time, there can be no assurance the Company will not need to raise additional working capital in the future should operating losses continue.
- **Need to defend patents and other intellectual property** – CGIX currently holds approximately 49 US and 175 International patents on its products and information services, some of which expire in the near future. The Company may be required to defend its patents in the US and overseas in the future, and there can be no assurance these defenses will be successful.

Robert M. Wasserman

Cancer Genetics, Inc.
Consolidated Statements of Income
 (In 000s, except per share data)

FYE December	2014	2015	1Q16	2Q16	3Q16	4Q16	2016	1Q17	2Q17	3Q17E	4Q17E	2017E	2018E
			March	June	September	December		March	June	September	December		
Revenue	\$10,199	\$18,040	\$6,068	\$7,001	\$6,750	\$7,230	\$27,049	\$6,966	\$6,604	\$7,600	\$9,000	\$30,170	\$37,700
Cost of revenues	8,453	14,098	4,103	4,285	4,444	4,272	17,104	4,209	4,034	4,400	5,200	17,843	21,100
Gross profit	1,746	3,942	1,965	2,716	2,306	2,958	9,945	2,757	2,570	3,200	3,800	12,327	16,600
Operating Expenses													
Research and development	4,622	5,483	1,532	1,680	1,594	1,161	5,967	1,110	989	1,050	1,100	4,249	4,500
General and administrative	12,369	14,567	4,318	3,658	3,701	4,357	16,034	3,477	3,529	3,700	3,800	14,506	15,000
Sales and marketing	3,964	5,269	1,298	1,379	1,054	937	4,668	971	1,165	1,150	1,200	4,486	4,800
Total operating expenses	20,955	25,319	7,148	6,717	6,349	6,455	26,669	5,558	5,683	5,900	6,100	23,241	24,300
Income (loss) from operations	(19,209)	(21,377)	(5,183)	(4,001)	(4,043)	(3,497)	(16,724)	(2,801)	(3,113)	(2,700)	(2,300)	(10,914)	(7,700)
Other income (expense)													
Interest expense	(473)	(344)	(126)	(107)	(111)	(110)	(454)	(194)	(253)	(200)	(150)	(797)	(600)
Interest income	74	49	4	13	4	2	23	17	10	20	20	67	100
Change in fair value of acquisition note	417	35	34	67	18	1,406	1,525	(232)	13	10	10	(199)	100
Change in fair value of warrant liability	198	269	17	0	712	(577)	152	(7,294)	577	100	100	(6,517)	100
Other expense	0	0	0	0	(325)	0	(325)	(46)	0	(250)	(50)	(346)	(100)
Total other (expense)	216	2	(71)	(27)	298	721	921	(7,749)	347	(320)	(70)	(7,792)	(400)
Income (loss) before tax	(18,993)	(21,368)	(5,254)	(4,028)	(3,745)	(2,776)	(15,803)	(10,550)	(2,766)	(3,020)	(2,370)	(18,706)	(8,100)
Income tax (benefit)	(2,350)	(1,184)	0	0	0	0	0	(970)	0	0	0	0	0
Net income (loss)	(16,643)	(20,184)	(5,254)	(4,028)	(3,745)	(2,776)	(15,803)	(9,580)	(2,766)	(3,020)	(2,370)	(17,736)	(8,100)
Basic income per share	(\$1.76)	(\$1.96)	(\$0.39)	(\$0.28)	(\$0.23)	(\$0.15)	(\$1.00)	(\$0.51)	(\$0.14)	(\$0.14)	(\$0.10)	(\$0.85)	(\$0.34)
Diluted income per share	(\$1.76)	(\$1.96)	(\$0.39)	(\$0.28)	(\$0.23)	(\$0.15)	(\$1.00)	(\$0.51)	(\$0.16)	(\$0.13)	(\$0.10)	(\$0.85)	(\$0.33)
Basic shares outstanding	9,449	10,300	13,547	14,538	16,519	18,839	15,861	18,904	19,697	22,000	23,200	20,950	23,500
Diluted shares outstanding	9,462	10,300	13,547	14,538	16,519	18,839	15,861	18,904	20,663	23,000	24,200	20,950	24,500
Key ratios:													
Revenue growth	54.3%	76.9%	38.9%	67.3%	68.7%	31.8%	49.9%	14.8%	-5.7%	12.6%	24.5%	11.5%	25.0%
Gross margins	17.1%	21.9%	32.4%	38.8%	34.2%	40.9%	36.8%	39.6%	38.9%	42.0%	42.0%	40.9%	44.0%
R&D/revenue	45.3%	30.4%	25.2%	24.0%	23.6%	16.1%	22.1%	15.9%	15.0%	13.8%	12.2%	14.1%	11.9%
G & A/revenue	121.3%	80.7%	71.2%	52.2%	54.8%	60.3%	59.3%	49.9%	53.4%	48.7%	42.2%	48.1%	39.8%
Sales/revenue	38.9%	29.2%	21.4%	19.7%	15.6%	13.0%	17.3%	13.9%	17.6%	15.1%	13.3%	14.9%	12.7%
Tax Rate	-12.4%	-5.5%	0.0%	0.0%	0.0%	0.0%	0.0%	9.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Deprec, amort & non-cash comp.	4,500	4,500	1,031	1,185	1,069	1,106	4,391	1,031	1,070	1,200	1,250	4,551	4,500
Cash Flow/share	(\$1.35)	(\$1.55)	(\$0.32)	(\$0.20)	(\$0.21)	(\$0.13)	(\$0.83)	(\$0.05)	(\$0.11)	(\$0.08)	(\$0.05)	(\$0.31)	(\$0.16)
EBITDA/share	(\$1.55)	(\$1.63)	(\$0.31)	(\$0.19)	(\$0.20)	(\$0.13)	(\$0.80)	(\$0.10)	(\$0.10)	(\$0.08)	(\$0.04)	(\$0.32)	(\$0.13)

Balance Sheets

(\$000s)

Assets:	12/31/16	6/30/17
Current Assets		
Cash and equivalents	\$9,502	\$6,170
Accounts receivable, net	11,748	13,155
Other current assets	2,174	2,544
Total current	23,424	21,869
Fixed assets, net	4,738	4,724
Other long-term assets		
Restricted cash	300	300
Patents and other intangible assets, net	1,503	1,400
Investment in joint venture	268	249
Goodwill	12,029	12,029
Other noncurrent assets	172	378
Total non-current	14,272	14,356
TOTAL ASSETS	\$42,434	\$40,949

Quarterly Earnings Comparisons

	March	June	September	December	Total
Revenues (in \$Mill)					
2014					10,199
2015	4,370	4,185	4,001	5,484	18,040
2016	6,068	7,001	6,750	7,230	27,049
2017E	6,966	6,604	7,600	9,000	30,170
Earnings per Share (diluted)					
2014					(1.76)
2015	(0.44)	(0.51)	(0.54)	(0.47)	(1.96)
2016	(0.39)	(0.28)	(0.23)	(0.15)	(1.00)
2017E	(0.51)	(0.16)	(0.13)	(0.10)	(0.85)

Liabilities:

Current liabilities	2014	2015	2016	2017E	2018E
Accounts payable and accrued expenses	\$8,148	\$6,716			
Capital lease obligations, current	109	262			
Deferred revenue	789	133			
Term note/Line of Credit	2,000	2,000			
Total current	11,046	9,111			
Term note	2,654	4,838			
Capital lease obligations	374	687			
Deferred rent payable	290	207			
Warrant liability	2,018	7,043			
Deferred revenue, long-term	428	438			
Total liabilities	16,810	22,324			
Stockholders' equity	25,624	18,625			
TOTAL LIAB & EQ	\$42,434	\$40,949			

Revenues by Category (\$000s)	2014	2015	2016	2017E	2018E
Biopharma services	\$5,606	\$11,564	\$15,321	\$17,000	\$21,000
Clinical services	4,432	5,651	10,651	12,000	14,500
Discovery services	161	825	1,077	1,170	2,200
Total revenues	\$10,199	\$18,040	\$27,049	\$30,170	\$37,700
Other Revenue Metrics					
Biopharma projects: Total		103	125	150	200
Biopharma projects: Immuno-Oncology		3	18	40	60

Source: Dawson James Securities, Inc. estimates; Company documents

Important Disclosures:

Price Chart:



Price target and ratings changes over the past 3 years:

Initiated – Buy - June 27, 2017 – Price Target \$11.00

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	# of Companies	% of Total	# of Companies	% of Totals
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Market Perform (Neutral)	0	0%	0	0%
Market Underperform (Sell)	0	0%	0	0%
Ratings Suspension*	2	13%	2	100%
Total	16	100%	5	31%
*Suspensions are ratings under review for possible change due to unusual market-moving news, and/or analyst departure/change				

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