COWEN AND COMPANY

Endocyte

Initiating With Outperform (1)

Real Benefit With Benign Safety: Making Truly Personalized Cancer Treatments

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Conclusion: Endocyte's lead asset, EC145, is a tumor-targeted, small molecule drug conjugate, which is currently in the Phase III PROCEED trial in platinum-resistant ovarian cancer (PROC). EC145 has shown very promising efficacy (85% improvement in PFS, 21.7 vs. 11.7 weeks) and benign safety in the randomized Phase IIb PRECEDENT trial in 149 ovarian cancer patients; its efficacy was even more pronounced (263% improvement in PFS, 24 vs. 6.6 weeks) in the 38-patient group whose every tumor overexpressed the folate receptor (FR).

- **Strong efficacy not a fluke: companion diagnostic helps pick the right patients, providing personalized treatment.** We believe EC145's efficacy is not due to chance; EC145 was specifically designed to be delivered only to tumors that overexpress FR. Before treatment, patients are selected by using EC20, a companion diagnostic, which tests whether the patients overexpress FR and could benefit from treatment.

- **Overall Survival data (1Q12) a significant catalyst.** Despite PRECEDENT not being powered for Overall Survival, we expect release of these data to be an important catalyst for ECYT, since they would provide more evidence of EC145's clinical benefit and its approvability.

- **EU conditional approval application (1Q12); EC145 could be on the market in 2013.** On the basis of the strong PFS benefit seen in PRECEDENT and after discussions with the EMA, Endocyte is planning on submitting a conditional approval application in EU in 1Q12, including the Overall Survival data, which if approved, could result in EU sales in 2013.

- **Despite strength post-IPO (2/11), we see room for upside.** Even by conservative assumptions, EC145 could be a >$500M drug in WW sales in PROC and potential upside from other indications. Trading at an EV ~$300M, we see room for significant upside in ECYT in the next 12-18 months.

ECYT (08/15)	**$11.93**
Mkt cap	**$462.9MM**
Dil shares out	38.8MM
Avg daily vol	164.0K
52-wk range	$6.2-14.8
Dividend	Nil
Dividend yield	Nil
BV/sh	NA
Net cash/sh	$3.49
Debt/cap	NA
ROA (LTM)	NA
5-yr fwd EPS growth (Norm)	NA
S&P 500	**1204.5**

Revenue $MM

FY Dec	2010 Actual	2011E Prior	2011E Current	2012E Prior	2012E Current
Q1	—	—	—	—	—
Q2	—	—	—	—	—
Q3	—	—	—	—	—
Q4	—	—	—	—	—
Year	**0.0**	**—**	**0.0**	**—**	**10.0**
CY	—	—	—	—	—
EV/S	—	—	—	—	32.2x

EPS $

FY Dec	2010 Actual	2011E Prior	2011E Current	2012E Prior	2012E Current
Q1	(6.16)	—	(0.43)A	—	—
Q2	(5.93)	—	(0.35)A	—	—
Q3	0.00	—	(0.33)	—	—
Q4	0.00	—	(0.33)	—	—
Year	**(21.77)**	**—**	**(1.40)**	**—**	**(0.79)**
P/E	—	—	—	—	—

Company Description

Endocyte, Inc. is a biotech company developing therapeutics for the treatment of cancer and inflammatory diseases. The company uses its proprietary technology to create novel small molecule drug conjugates (SMDCs) and companion imaging diagnostics for personalized targeted therapies. Endocyte's lead development candidate is EC145, a modular compound comprised of a highly cytotoxic anti-cancer drug, DAVLBH, joined by a linker system to the targeting ligand, folate. EC145 has demonstrated strong efficacy in the randomized Phase IIb PRECEDENT trial in patients with advanced ovarian cancer and is currently in the Phase III PROCEED trial for the treatment of women diagnosed with platinum-resistant ovarian cancer (PROC). Endocyte is currently planning on filing an application for conditional approval in Europe in 1Q12 based on the Phase IIb data from PRECEDENT. EC145 has also been tested in a Phase IIa trial in third-line non-small cell lung cancer (NSCLC), and the company plans to initiate a randomized Phase IIb trial in second-line NSCLC in 1Q 2012. In addition to its lead compound EC145, Endocyte has used its SMDC technology to develop a number of other, earlier stage compounds in oncology and inflammation, mixing and matching different chemotherapeutic agents with different targeting ligands. Endocyte, Inc. was founded in 1995, is headquartered in West Lafayette, Indiana, and currently has 57 employees.

Endocyte: Clinical and Preclinical Pipeline

Candidate name	Indication	P-C	I	II	III	FILING	MKT	Comments
EC145	PROC				•			O/S data from Phase IIb trial expected in 1Q 2012
EC145	NSCLC			•				Planning to initiate Phase IIb trial in 2nd-line NSCLC
EC0489	Solid tumors		•					Folate Receptor with DAVLBH as payload
EC0225	Solid tumors		•					Folate Receptor with DAVLBH/Mitomycin-c as payload
EC017	Solid tumors		•					Folate Receptor with Hapten as payload
EC0531	Solid tumors	•						Folate Receptor with Tubulysin-B as payload
EC20	PROC				•			Imaging agent studies in Phase III with EC145
EC1069	Prostate cancer	•						PSMA with Tubulysin-B as payload
EC0652	PSMA	•						Imaging agent to be used with EC1069
EC0746	Inflammation	•						Folate Receptor with Aminopterin as payload
EC0565	Inflammation	•						Folate Receptor with mTor as payload
Total Drugs in Development		**5**	**3**	**1**	**2**	**0**	**0**	
West Lafayette, IN	**Investor Relations Contact: Stephanie Ascher - 212.362.1200**							

Source: Cowen and Company, Endocyte

Endocyte: Upcoming Milestones

Milestones	Timing
Overall Survival data from the PRECEDENT trial	1Q 2012
Submit application in the EU for EC145 for the treatment of PROC	1Q 2012
Initiate a Phase IIb trial of EC145 in NSCLC (n=200)	1Q 2012
Partnership for EC145	2012
EU conditional approval for EC145 in PROC	1H 2013
PFS data from the PROCEED trial	mid 2013
Launch EC145 in EU	2H 2013
Data from the Phase IIb trial of EC145 in NSCLC	2H 2013
Overall Survival data from the PROCEED trial	Late 2015/early 2016

Source: Cowen and Company, Endocyte

Investment Thesis

Endocyte's lead asset, EC145, is a tumor-targeted, small molecule drug conjugate (SMDC) that is currently in the Phase III PROCEED trial in patients with platinum-resistant ovarian cancer (PROC). The compound has shown very promising efficacy (85% improvement in PFS, 21.7 vs. 11.7 weeks) and benign safety in the randomized Phase IIb PRECEDENT trial in ovarian cancer. EC145's efficacy is even more pronounced (263% improvement in PFS, 24 vs. 6.6 weeks) in patients whose every tumor overexpressed the folate receptor (FR). The scientific rationale behind this impressive efficacy is that this compound was specifically designed to be delivered only to tumor cells that overexpress the folate receptor. This tumor-specific targeting is accomplished by the compound's modular design, which pairs up a ligand (*in this case, folate*) with a chemotherapeutic (*in this case, DAVLBH*), with the goal of having the compound delivered to the specific cell type (*in this case, ovarian cancer cell*) that overexpresses the ligand's receptor (*in this case, folate and folate receptor*).

EC20 companion diagnostic selects the right (FR+) patients for treatment: In addition to the well-constructed, tumor-targeted compound, the second and just as important part to the Endocyte story is the companion diagnostic the company has designed to be used along with this compound. EC20 is a companion diagnostic that helps clinicians select patients and categorize them on the basis of whether their tumors overexpress the compound's target, the folate receptor. The idea is that if a patient's tumors indeed overexpress the folate receptor, these patients have a better chance of benefiting from treatment with this specific drug, since EC145 will only enter (and eventually kill) cells that have the folate receptor present on their membrane and would thus allow EC145 to enter these cells. Indeed, the clinical data thus far show a strong correlation between the expression of the folate receptor in patients' tumors and improved outcomes for these patients following treatment with EC145.

Mature Overall Survival data from the Phase IIb PRECEDENT trial expected in 1Q12 will be a significant catalyst for ECYT shares. In addition to the PFS data that has been released thus far, the company expects to announce mature Overall Survival data from the Phase IIb PRECEDENT trial around 1Q12. Despite the fact that PRECEDENT was not powered for Overall Survival, we expect release of these data to be an important catalyst for ECYT shares, since they would provide additional evidence regarding EC145's potential clinical benefit and its eventual approvability. Despite the fact that ovarian cancer is one of the few solid tumor settings in which PFS is an acceptable endpoint for approval, Overall Survival remains the gold standard for the FDA. If EC145 were to couple its impressive PFS benefit with a clinically significant improvement in Overall Survival, this would go a long way towards de-risking its profile and providing investors with more evidence of its approvability. On the other hand, if the mature data from the PRECEDENT trial do not show that the compound can improve Overall Survival (and depending, of course, on the magnitude of the effect), investors may have considerable doubts about whether the compound can indeed be eventually approved in the US. In such case, EC145 would probably have to demonstrate extraordinary benefits in terms of PFS in the PROCEED Phase III trial, probably close to what was seen in the PRECEDENT trial, in order to be approved without evidence of an improvement in Overall Survival.

Overall Survival data to be filed as part of EMA conditional approval application in 1Q12; EC145 could be in the market in mid-2013: On the basis of the strong PFS benefit seen in the Phase IIb PRECEDENT trial, and after discussions with the EMA (European Medicines Agency), Endocyte plans to submit a MAA (Marketing Authorization Application) to the EMA in 1Q12, which, if approved, could result in EU sales of EC145 in 2013. In the meantime, the Phase III PROCEED trial is enrolling patients, and data on the primary endpoint of PFS is expected in the middle of 2013; if positive, these data could support an NDA for accelerated approval in the US, with Overall Survival data expected approximately two years later, in 2015-2016.

The folate: folate receptor pair can also target chemo to NSCLC cells. In addition to the promising data from the ovarian cancer trials, EC145 has also shown promising efficacy in a small (n=28) Phase IIa trial in 3rd-line NSCLC patients, with significant differences in both PFS and Overall Survival between groups of patients based on their expression levels of the folate receptor. The company is planning on testing EC145 in a randomized, three-arm (EC145+docetaxel, EC145 alone, docetaxel alone), 200-patient Phase IIb trial in 2nd-line NSCLC. This trial is expected to start in 1Q12, with topline PFS data expected in the second half of 2013.

Despite strength since the February 2011 IPO, we see room for upside in ECYT shares. Even by using conservative assumptions, we project EC145 can be a >$500M drug WW in PROC sales alone; we see potential upside from other indications and use of the technology to build new molecules that combine folate and other ligands with different chemotherapies. With the stock trading at an EV ~$300M, and despite the strong performance since the company's IPO on February 4, 2011 (at $6/share), we see room for significant upside in ECYT shares in the next 12-18 months, even on the basis of the PROC opportunity alone.

What are the main risks to our positive thesis on ECYT?

In addition to the typical risks inherent with investing in biotech stocks, which are particularly high in **A)** in small cap biotech, and especially **B)** in oncology, investors should focus additional attention to the following fives areas, two near-term (1Q12) and three long-term, where we have assumed and modeled a positive outcome for Endocyte:

1) the outcome of the Overall Survival data from the Phase IIb PRECEDENT trial, which are expected around 1Q12,

2) the EMA's decision on whether to accept for review the company's MAA, which is expected to be filed in 1Q12,

3) the EMA's final decision on the approval of EC145 (we expect it in 1H 2013),

4) the PFS data from the PROCEED trial (we expect it in mid 2013), and

5) the Overall Survival data from the PROCEED trial, which we expect in the 2015-2016 window.

Valuation: We still see room for upside in ECYT shares despite strength post-IPO

Despite the strength in ECYT shares this year, jumping to an all-time high of $14.80 on July 1, 2011 from the low of $6.15 on February 4, 2011, the day of the IPO, we believe there is room for upside in the shares, based on **A)** sum-of-the-parts, **B)** P/E multiple and **C)** comparables analyses.

A) Sum-of-the-parts analysis

In our sum-of-the-parts analysis, we valued the estimated risk-adjusted NPV of EC145's free cash flow in PROC and added our conservative estimate for ECYT's pipeline of early clinical and preclinical compounds and its SMDC platform technology, and the company's net cash. We describe each of these three components of our valuation in detail in the sections below, while the summary table that follows suggests that ECYT shares are undervalued.

ECYT: Sum-of-the-parts analysis summary table

NPV of risk-adjusted EC145 free cash flow	$13.44
Pipeline and technology value	$1.29
Net Cash	$3.49
Sum-of-the-parts total value for ECYT	**$18.22**

Source: Cowen and Company

1) EC145 profit, royalties and milestones payments *($13.44/share)*: For modeling purposes and in our NPV calculations, we have assumed that the company will market the drug in US by itself by building its own oncology sales force and will partner the drug in the EU and ROW and have modeled a 20% royalty rate for ex-US sales. We have also assumed that a partner will pay $50M in upfront payments and another $30M and $20M in 2013 and 2014, respectively, upon achievement of certain regulatory and first-sales milestones. We have also estimated that the development expenses on EC145 through US and ROW approval will be $100M.

WW EC145 sales and royalties: We have modeled that EC145 could reach peak sales in the US, EU, and ROW of ~$130M, ~$190M, and ~$220M, respectively, for total WW peak sales of $535M in 2020. As stated above, we have assumed Endocyte would market the drug in US and will receive royalties on ex-US sales of 20%. Based on these assumptions net revenue on EC145 sales will start coming in 2013 ($4.8M in the first year of launch), and rise to ~$210M by 2020.

Discount rate and probability of success: In calculating the Net Present Value of the EC145 free cash flows, we have used a 10% discount rate and have risk-adjusted the revenues to ECYT, by assigning a 70% probability that the PROCEED trial is successful and that EC145 is approved and gets to the market in the EU, US and ROW. Using these assumptions, as described in the table below, we arrive at a risk-adjusted NPV for ECYT's EC145 of $13.44/share.

EC145 NPV analysis

Tuesday, August 16, 2011

($MM)	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E
Total US Sales ($MM)	-	-	-	-	19.7	63.6	119.9	122.4	126.0	131.2	130.1	131.2
Royalties on EU Net Sales	-	-	4.8	14.8	21.0	29.2	35.1	35.8	36.6	37.3	37.2	37.3
Royalties on ROW Net Sales	-	-	-	-	-	8.0	34.6	37.4	42.5	43.4	43.3	43.2
Total WW revenues to ECYT	**0.0**	**0.0**	**4.8**	**14.8**	**40.7**	**100.8**	**189.6**	**195.7**	**205.0**	**211.9**	**210.5**	**211.6**
COGS	0.0	0.0	0.0	0.0	2.9	9.5	18.0	18.4	18.9	19.7	19.5	19.7
SG&A	0.0	0.0	0.0	0.0	22.0	27.1	29.6	30.2	30.9	31.7	31.1	29.6
R&D expenses	25.0	25.0	25.0	25.0	2.9	9.5	10.8	9.8	8.8	9.2	9.1	9.2
Milestone payments received from partner	-	50.0	30.0	20.0	-	-	-	-	-	-	-	-
Tax adjusted EBIT	(25.0)	25.0	9.8	9.8	12.8	51.9	118.1	116.7	117.1	118.1	113.1	114.9
Tax rate		*0%*	*0%*	*0%*	*0%*	*5%*	*10%*	*15%*	*20%*	*22%*	*25%*	*25%*
EC145 free cash flow	**(25.0)**	**25.0**	**9.8**	**9.8**	**12.8**	**51.9**	**118.1**	**116.7**	**117.1**	**118.1**	**113.1**	**114.9**
% y/y growth							*128%*	*-1%*	*0%*	*1%*	*-4%*	*2%*
Discount Period	*0.38*	*1.38*	*2.38*	*3.38*	*4.38*	*5.38*	*6.38*	*7.38*	*8.38*	*9.38*	*10.38*	*11.38*
Discount Factor	*0.96*	*0.88*	*0.80*	*0.72*	*0.66*	*0.60*	*0.54*	*0.50*	*0.45*	*0.41*	*0.37*	*0.34*
PV of EC145 Free Cash Flow	**(24.1)**	**21.9**	**7.8**	**7.1**	**8.5**	**31.1**	**64.3**	**57.8**	**52.7**	**48.3**	**42.1**	**38.8**

Source: Cowen and Company

EC145 NPV analysis

Discount Rate	10%
Perpetual Growth Rate	0%
Final year FCF	$115
Terminal Value	$1,149
Discount Factor	0.34
Present Value of Terminal Value	**$388**
Present Value of Cash Flows	**$356**
Present Value of Total Cash Flows	**$745**
Fully Diluted Shares Outstanding	39
Present Value of Cash Flows Per Share/Assuming Succes	**$19.19**
Probability of Success	*70%*
NPV of EC145 (risk adjusted)	**$13.44**

Source: Cowen and Company

EC145 NPV Sensitivity Analysis: The sensitivity analysis table below provides a range of values per share for EC145's NPV, assuming different peak EC145 sales and different probabilities of success. Our base case scenario assumes that there is a 70% chance of achieving our projected WW peak sales of $535M in 2020.

EC145 NPV sensitivity analysis

Probability of success	WW Peak Sales ($MM) of EC145						
	$235	$335	$435	$535	$635	$735	$835
50%	$2.55	$4.90	$7.25	$9.60	$11.95	$14.30	$16.65
55%	$2.80	$5.39	$7.97	$10.56	$13.14	$15.73	$18.31
60%	$3.05	$5.88	$8.70	$11.52	$14.34	$17.16	$19.98
65%	$3.31	$6.36	$9.42	$12.48	$15.53	$18.59	$21.64
70%	$3.56	$6.85	$10.15	**$13.44**	$16.73	$20.02	$23.31
75%	$3.82	$7.34	$10.87	$14.40	$17.92	$21.45	$24.97
80%	$4.07	$7.83	$11.59	$15.36	$19.12	$22.88	$26.64
85%	$4.33	$8.32	$12.32	$16.31	$20.31	$24.31	$28.30
90%	$4.58	$8.81	$13.04	$17.27	$21.51	$25.74	$29.97
95%	$4.84	$9.30	$13.77	$18.23	$22.70	$27.17	$31.63
100%	$5.09	$9.79	$14.49	$19.19	$23.89	$28.60	$33.30

Source: Cowen and Company

2) Early-stage pipeline and technology value (*$1.29/share*): Finally, we added $50M as the estimated value of Endocyte's early clinical and preclinical compounds and the company' know-how and IP around their SMDC platform technology. We believe that our estimate for the value of the company's pipeline and the tech value is very conservative. Despite the fact that public market investors are nowadays very reluctant to assign significant value to (oncology and non-oncology) compounds that are in early stages of development, we believe that this particular group of assets could be worth significantly more than the $50M we are currently assigning to it.

3) Net Cash (*$3.49/share*): The company ended 2Q11 with $83.9M in cash and raised $66.8M net in a July 2011 secondary offering of 5.8M shares at $12.26/share, bringing its pro-form cash position to approximately $151M. Subtracting from that the $15M in debt the company has on its balance sheet, we get to the $136M or $3.49/share in net cash.

B) Forward P/E multiple analysis

Forward P/E multiple (35x): We are using a 35x forward P/E multiple, which we view as a relatively modest multiple given EC145's potential for growth in its second year of launch in the US (2017), given the compound's efficacy and safety in the Phase II trials in ovarian and lung cancer, and the promise the compound holds as a novel, effective, and safe treatment for both PROC and other cancer indications.

Discount Rate (25%): We are using a 25% discount rate, which we view as appropriate to reflect the risk and uncertainty associated with a drug in Phase III trials, coupled with the fact that Endocyte's EC145 has shown promising efficacy in the randomized Phase IIb PRECEDENT trial and the probability of showing similar efficacy in the Phase III PROCEED trial. We believe that this discount rate reflects the appropriate amount of risk associated with ECYT shares at this stage of development of its lead compound.

Year of Valuation (2017): We are using 2017's projected EPS of $1.71 as the basis of our valuation, which we model would be the second full year of US sales and we estimate that by then it will be approved for the treatment of PROC worldwide. We view 2017 as an appropriate benchmark for our valuation, as, by then, the compound will have given enough of an indication of its ability to find a place in the

treatment of ovarian cancer and its potential for revenue generation in other solid tumors.

Forward P/E multiple sensitivity analysis

P/E multiple	Discount Rate 10%	15%	20%	25%	30%	35%	40%	45%	50%
15 X	$15.40	$12.12	$9.64	$7.74	$6.27	$5.12	$4.21	$3.48	$2.90
20 X	$20.53	$16.17	$12.86	$10.32	$8.36	$6.82	$5.61	$4.64	$3.87
25 X	$25.67	$20.21	$16.07	$12.90	$10.45	$8.53	$7.01	$5.80	$4.84
30 X	$30.80	$24.25	$19.28	$15.48	$12.54	$10.23	$8.41	$6.97	$5.80
35 X	$35.93	$28.29	$22.50	**$18.06**	$14.63	$11.94	$9.82	$8.13	$6.77
40 X	$41.07	$32.33	$25.71	$20.64	$16.71	$13.64	$11.22	$9.29	$7.74
45 X	$46.20	$36.37	$28.93	$23.22	$18.80	$15.35	$12.62	$10.45	$8.71
50 X	$51.33	$40.41	$32.14	$25.80	$20.89	$17.05	$14.02	$11.61	$9.67

EPS	**$1.71**
Year	2017
Periods	5.4

Endocyte (ECYT)

2017: second full year of US sales

Source: Cowen and Company

C) Comparables analysis

In addition to our sum-of-the-parts analysis, we compared Endocyte's current valuation to that of a number of small-cap biotech companies whose lead compounds are in Phase III testing in oncology indications. As seen in the table below, ECYT shares are trading at a significant discount to this group of companies, both in terms of its market capitalization ($463M versus a mean of $720M), and enterprise value ($327M versus a mean of $535M). We believe that there are number of potential milestones expected in the next 9-12 months, including the Overall Survival Phase IIb data in 1Q12, the filing of the MAA for conditional approval in the EU and a potential partnership for EC145, that could provide significant upside from current levels. Finally, we believe that if the Overall Survival data from PROCEED that are expected in early 2012 are positive, and confirm the compound's strong efficacy in terms of PFS, we would not be surprised to see a large pharma or biotech step in and acquire Endocyte for a significant premium, given what we see as **1)** ECYT's current modest valuation of approximately $300M in EV, **2)** EC145's potential to work in other solid tumors, notably NSCLC, and **3)** the potential of the company's technology to produce other drugs for large markets in oncology and inflammation.

Endocyte comparables – Phase III Oncology companies. Priced as of 8/15/2011.

Company	Ticker	Enterprise Value ($MM)	Price ($/share)	Shares Out (MM)	Market Cap ($MM)	Cash ($MM)	Debt ($MM)
AVEO PHARMACEUTICALS, INC.	AVEO	$490	$16.94	43.1	$730	$264	$24
EXELIXIS, INC.	EXEL	$657	$7.13	129.0	$920	$263	$0
MEDIVATION, INC.	MDVN	$420	$17.25	34.9	$602	$182	$0
PHARMACYCLICS, INC.	PCYC	$574	$10.42	60.3	$628	$54	$0
Average		**$535**			**$720**	**$191**	**$6**
ENDOCYTE INC	**ECYT**	**$327**	**$11.93**	**38.8**	**$463**	**$151**	**$15**

IMPLIED ECYT PRICE BASED ON AVERAGE OF COMPARABLES *$17.28*

Source: Cowen and Company

Sensitivity analysis of the US Market Opportunity in *Platinum-Resistant Ovarian Cancer* (*PROC*)

In addition to our revenue model, where we've used *set numbers* and assumptions for all the variables involved, we also performed a sensitivity analysis just for the US market opportunity for EC145 in PROC, where we have plugged in a wide range of values for patient population, penetration and pricing, in order to get an idea of what the size of the opportunity for a successful ovarian cancer treatment could be in the US.

We started off with the 21,880 new cases of ovarian cancer in the US in 2010 as estimated by the NCI, and used a wide range of values for a number of variables based on different peer-reviewed literature sources and our own assumptions:

1) *% of all newly diagnosed ovarian cancer patients that are diagnosed with advanced disease (stage II-IV) and treated with chemotherapy (70-80%),*
2) *% of those patients that progress/relapse after first-line treatment with chemotherapy (70-80%),*
3) *% of those patients that are treated with 2nd-line therapies (60-80%),*
4) *% of those patients whose every tumor overexpresses the folate receptor, i.e. would be classified EC20++ (30-70%), and*
5) *Pricing per year of treatment ($50,000-$100,000)*

Based on these assumptions (*and acknowledging that our approach of using the wide range of values available in the literature results a very wide range of outcomes*) we estimate that the number of patients eligible for treatment with EC145 if it were approved, i.e. the number of platinum-resistant ovarian cancer patients eligible for treatment with EC145 in the US, could range from ~1,900-7,800 per year. At an estimated average cost of treatment ranging between *$50,000-$100,000/year*, the total potential US market for platinum-resistant ovarian cancer could therefore range anywhere from $100M-$800M (see table below). In the next section, we will outline the (deliberately conservative) set of assumptions that we have used in our model, which estimate peak US sales to be $131M with WW peak sales of $535M.

The platinum-resistant ovarian cancer market opportunity in the US: How big could this market be?

Platinum-resistant Ovarian Cancer Market Opportunity (US)	**Low**	**Medium**	**High**
# of Ovarian cancer patients (US 2010 incidence)	21,880	21,880	21,880
% of patients diagnosed with advanced disease (Stage II-IV) and treated with chemotherapy	*70%*	*75%*	*80%*
# of patients diagnosed with advanced disease (Stage II-IV) and treated with chemotherapy	15,316	16,410	17,504
% of patients progressing/relapsing after treatment with chemotherapy	*70%*	*75%*	*80%*
# of patients progressing/relapsing after treatment with chemotherapy	10,721	12,308	14,003
% of PROC patients being treated with 2nd-line therapies	*60%*	*70%*	*80%*
# of PROC patients being treated with 2nd-line therapies	6,433	8,615	11,203
% of PROC patients overexpressing the folate receptor (EC20++)	*30%*	*50%*	*70%*
# of PROC patients overexpressing the folate receptor (EC20++)	1,930	4,308	7,842
Cost of therapy per year of treatment	*$50,000*	*$75,000*	*$100,000*
Total US Market (100% penetration) ($MM)	**$96**	**$323**	**$784**

EC145 US sales ($MM)			
@ 10% market penetration	$10	$32	$78
@ 20% market penetration	$19	$65	$157
@ 30% market penetration	$29	$97	$235
@ 40% market penetration	$39	$129	$314
@ 50% market penetration	$48	$162	$392

Source: Cowen and Company

EC145 Revenue Model: using *conservative* assumptions we project >$500M in WW sales in just the PROC setting

Endocyte owns WW rights to EC145, but we expect ex-US (if not WW) partnership(s): Endocyte currently owns worldwide rights to EC145. For modeling and valuation purposes we have assumed that the company will market the drug on its own in the US by building an oncology sales force and will partner the drug in the EU and ROW; we have modeled a conservative 20% royalty rate ex-US. We have also assumed that a partnership would materialize at some point in 2012, and the company would receive $50M in upfront payments and another $30M and $20M in 2013 and 2014, respectively, upon achievement of certain regulatory and first sales milestones.

WW EC145 revenue model: As per the latest estimates by the National Cancer Institute, approximately 22,000 patients were diagnosed with Ovarian Cancer in 2010. According to different literature sources approximately 70-80% of all ovarian cancer patients are diagnosed with advanced disease (stage II-IV) and treated with chemotherapy *(we used 75%)*, approximately 70-80% of these patients progress/relapse after first-line treatment with chemotherapy *(we used 75%)*, approximately 60-80% of these patients are treated with 2nd-line therapies *(we used 70%)*. We have estimated that approximately 80% of ovarian cancer patients have tumors that overexpress the folate receptor. However, we have assumed that the compound will be used only in patients whose every tumor overexpresses the folate receptor, i.e. in the ones that would currently be categorized as EC20++ *(we have assumed that this is 40% of all ovarian cancer patients)*. Based on these assumptions we estimated that approximately 3,500 patients will be eligible for treatment with EC145 in the US in 2013.

Using the same assumptions, we estimated that approximately another 7,100 and 25,000 patients will be eligible for treatment in the EU and ROW, respectively. In terms of pricing, we have estimated that EC145 would be launched at an average yearly cost of $75,000 in the US, at a 25% discount to the US pricing in the EU and at a 50% discount to the US pricing in the ROW. We have assumed that EC145 will be launched in the EU in the second half of 2013, in 2015 in the US and in 2016 in the ROW. We have estimated that WW EC145 sales could top ~$470M in 2017 and that at 40%, 40%, and 20% penetration in the US, EU, and ROW, respectively, EC145 could reach peak WW sales of $535M in 2020 in the treatment of platinum-resistant ovarian cancer.

The bottom line: (*With the obvious caveat that in the end, it will, as it almost always is, be all about the data, and more specifically, about the size of the potential PFS and survival benefit*): We believe that there is room for significant upside to our EC145 revenue estimates, since we have used fairly conservative assumptions for

1) the number of patients eligible for treatment with EC145,

2) its penetration in the ovarian cancer market, including the potential to be used in earlier stage patients, and

3) its pricing, which could be significantly higher than our assumptions, especially if the Phase III PROCEED trial ends up replicating the strong efficacy and benign safety profile shown in the Phase IIb PRECEDENT trial.

EC145 WW PROC revenue model ($MM)

US EC145 Ovarian Cancer Revenue Model	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
# of newly-diagnosed Ovarian Cancer (OC) patients	21,880	22,073	22,267	22,463	22,660	22,860	23,061	23,264	23,469	23,675	23,884	24,094	24,306
Population growth	*0.88%*	*0.88%*	*0.88%*	*0.88%*	*0.88%*	*0.88%*	*0.88%*	*0.88%*	*0.88%*	*0.88%*	*0.88%*	*0.88%*	*0.88%*
% of OC patients diagnosed with advanced disease (Stage II-IV) and treated with chemotherapy	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*
# of OC patients diagnosed with advanced disease (Stage II-IV) and treated with chemotherapy	16,410	16,554	16,700	16,847	16,995	17,145	17,296	17,448	17,601	17,756	17,913	18,070	18,229
% of patients progressing/relapsing after treatment with chemotherapy	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*
# of patients progressing/relapsing after treatment with chemotherapy	12,308	12,416	12,525	12,635	12,746	12,859	12,972	13,086	13,201	13,317	13,434	13,553	13,672
% of PROC patients being treated with 2nd-line therapies	*70%*	*70%*	*70%*	*70%*	*70%*	*70%*	*70%*	*70%*	*70%*	*70%*	*70%*	*70%*	*70%*
# of PROC patients being treated with 2nd-line therapies	8,615	8,691	8,768	8,845	8,923	9,001	9,080	9,160	9,241	9,322	9,404	9,487	9,570
% of PROC patients overexpressing the folate receptor (EC20++)	*40%*	*40%*	*40%*	*40%*	*40%*	*40%*	*40%*	*40%*	*40%*	*40%*	*40%*	*40%*	*40%*
# of PROC overexpressing the folate receptor (EC20++)	3,446	3,476	3,507	3,538	3,569	3,600	3,632	3,664	3,696	3,729	3,762	3,795	3,828
EC145 Penetration						*7%*	*22%*	*40%*	*40%*	*40%*	*40%*	*39%*	*38%*
# of PROC patients treated						252	799	1,477	1,479	1,492	1,523	1,480	1,464
Cost of therapy per year						$78,030	$79,591	$81,182	$82,806	$84,462	$86,151	$87,874	$89,632
% price increase						*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*
Total US Sales ($MM)	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$19.7**	**$63.6**	**$119.9**	**$122.4**	**$126.0**	**$131.2**	**$130.1**	**$131.2**

EU EC145 Ovarian Cancer Revenue Model	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
# of newly-diagnosed Ovarian Cancer patients	45,390	45,435	45,480	45,526	45,571	45,617	45,663	45,708	45,754	45,800	45,846	45,891	45,937
Population growth	*0.10%*	*0.10%*	*0.10%*	*0.10%*	*0.10%*	*0.10%*	*0.10%*	*0.10%*	*0.10%*	*0.10%*	*0.10%*	*0.10%*	*0.10%*
% of OC patients diagnosed with advanced disease (Stage II-IV) and treated with chemotherapy	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*
# of OC patients diagnosed with advanced disease (Stage II-IV) and treated with chemotherapy	34,042	34,076	34,110	34,144	34,179	34,213	34,247	34,281	34,316	34,350	34,384	34,419	34,453
% of patients progressing/relapsing after treatment with chemotherapy	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*
# of patients progressing/relapsing after treatment with chemotherapy	25,532	25,557	25,583	25,608	25,634	25,660	25,685	25,711	25,737	25,762	25,788	25,814	25,840
% of PROC patients being treated with 2nd-line therapies	*70%*	*70%*	*70%*	*70%*	*70%*	*70%*	*70%*	*70%*	*70%*	*70%*	*70%*	*70%*	*70%*
# of PROC patients being treated with 2nd-line therapies	17,872	17,890	17,908	17,926	17,944	17,962	17,980	17,998	18,016	18,034	18,052	18,070	18,088
% of PROC patients overexpressing the folate receptor (EC20++)	*40%*	*40%*	*40%*	*40%*	*40%*	*40%*	*40%*	*40%*	*40%*	*40%*	*40%*	*40%*	*40%*
# of PROC overexpressing the folate receptor (EC20++)	7,149	7,156	7,163	7,170	7,178	7,185	7,192	7,199	7,206	7,213	7,221	7,228	7,235
EC145 Penetration				*6%*	*18%*	*25%*	*34%*	*40%*	*40%*	*40%*	*40%*	*39%*	*38%*
# of PROC patients treated				430	1,292	1,796	2,445	2,880	2,883	2,885	2,888	2,819	2,771
Cost of therapy per year				$56,250	$57,375	$58,523	$59,693	$60,887	$62,105	$63,347	$64,614	$65,906	$67,224
% price increase				*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*
Total EU Sales ($MM)	**$0.0**	**$0.0**	**$0.0**	**$24.2**	**$74.1**	**$105.1**	**$146.0**	**$175.3**	**$179.0**	**$182.8**	**$186.6**	**$185.8**	**$186.3**

ROW EC145 Ovarian Cancer Revenue Model	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
# of newly-diagnosed Ovarian Cancer patients	158,230	158,389	158,547	158,706	158,864	159,023	159,182	159,341	159,501	159,660	159,820	159,980	160,140
Population growth	*0.10%*	*0.10%*	*0.10%*	*0.10%*	*0.10%*	*0.10%*	*0.10%*	*0.10%*	*0.10%*	*0.10%*	*0.10%*	*0.10%*	*0.10%*
% of OC patients diagnosed with advanced disease (Stage II-IV) and treated with chemotherapy	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*
# of OC patients diagnosed with advanced disease (Stage II-IV) and treated with chemotherapy	118,673	118,791	118,910	119,029	119,148	119,267	119,387	119,506	119,625	119,745	119,865	119,985	120,105
% of patients progressing/relapsing after treatment with chemotherapy	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*
# of patients progressing/relapsing after treatment with chemotherapy	89,005	89,094	89,183	89,272	89,361	89,450	89,540	89,629	89,719	89,809	89,899	89,989	90,079
% of PROC patients being treated with 2nd-line therapies	*70%*	*70%*	*70%*	*70%*	*70%*	*70%*	*70%*	*70%*	*70%*	*70%*	*70%*	*70%*	*70%*
# of PROC patients being treated with 2nd-line therapies	62,303	62,366	62,428	62,490	62,553	62,615	62,678	62,741	62,803	62,866	62,929	62,992	63,055
% of PROC patients overexpressing the folate receptor (EC20++)	*40%*	*40%*	*40%*	*40%*	*40%*	*40%*	*40%*	*40%*	*40%*	*40%*	*40%*	*40%*	*40%*
# of PROC overexpressing the folate receptor (EC20++)	24,921	24,946	24,971	24,996	25,021	25,046	25,071	25,096	25,121	25,146	25,172	25,197	25,222
EC145 Penetration							*4%*	*17%*	*18%*	*20%*	*20%*	*20%*	*19%*
# of PROC patients treated							1,003	4,266	4,522	5,029	5,034	4,926	4,817
Cost of therapy per year							$39,795	$40,591	$41,403	$42,231	$43,076	$43,937	$44,816
% price increase							*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*
Total ROW Sales ($MM)	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$39.9**	**$173.2**	**$187.2**	**$212.4**	**$216.9**	**$216.4**	**$215.9**

Total WW Sales ($MM)	$0.0	$0.0	$0.0	$24.2	$74.1	$124.8	$249.5	$468.4	$488.7	$521.2	$534.7	$532.3	$533.4

Source: Cowen and Company

Endocyte: P&L and Balance Sheet

Income Statement: (*The company went public through an IPO on February 4, 2011.*) For the FY ending December 31, 2010, Endocyte reported a net loss of $20.1M, or ($21.77) per share, compared to a loss of $17M, or ($18.67) per share in 2009. In 2Q11, the most recently reported quarter, Endocyte reported a net loss of $10.5M, or ($0.35) per share, compared to a net loss of $5.4M, or ($5.93) per share in 2Q10. Total operating expenses in 2010 were $20.6M, while total operating expenses for 2Q11 were $10.1M, compared to the $5.2M spent in 2Q10. R&D expenses in 2010 were $14.6M, and $7.7M in 2Q11, compared to the $3.7M spent in 2Q10. SG&A expenses in 2010 were $6M and $2.3M in 2Q11, compared to the $1.5M spent in 2Q10.

Balance Sheet: Endocyte ended 2Q11 with $83.9M in cash, raised $66.8M in net proceeds on 07/28/2011, by issuing 5.8M shares at $12.26/share, so we estimate that the company's current cash position is approximately $150.6M or ~$3.88/share. The company also has debt outstanding of $15M on which it pays a fixed interest rate of 9.75%, and starting in April 2011 and through September 2013, the company makes a monthly payment of $566,612 (principal and interest). As of August 2, 2011, the company had 35.6M common shares and 3.2M options and warrants outstanding.

Endocyte P&L ($MM)

($MM)	2010A	Q1:11A	Q2:11A	Q3:11E	Q4:11E	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E
Total EC145 US Sales ($MM)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.7	63.6	119.9	122.4	126.0	131.2	130.1	131.2
Royalties on EC145 EU sales ($MM)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	14.8	21.0	29.2	35.1	35.8	36.6	37.3	37.2	37.3
Royalties on EC145 ROW sales ($MM)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	34.6	37.4	42.5	43.4	43.3	43.2
Total revenue from EC145	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**4.8**	**14.8**	**40.7**	**100.8**	**189.6**	**195.7**	**205.0**	**211.9**	**210.5**	**211.6**
Upfront and milestone payments	0.0	0.0	0.0	0.0	0.0	0.0	10.0	16.0	20.0	20.0	20.0	10.0	4.0	0.0	0.0	0.0	0.0
Collaboration revenue	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
Total revenue	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**10.0**	**20.8**	**34.8**	**60.7**	**120.8**	**199.6**	**199.7**	**205.0**	**211.9**	**210.5**	**211.6**
COGS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	9.5	18.0	18.4	18.9	19.7	19.5	19.7
Gross margin on US sales										*85%*	*85%*	*85%*	*85%*	*85%*	*85%*	*85%*	*85%*
R&D	14.6	4.4	7.7	8.3	8.7	29.2	33.0	35.0	36.8	38.6	40.5	42.5	44.7	46.9	49.2	54.2	59.6
SG&A	6.0	2.1	2.3	2.5	2.7	9.6	11.0	12.1	13.3	34.0	36.7	37.8	39.1	40.3	41.7	43.0	44.0
Total Operating expenses	**20.6**	**6.5**	**10.1**	**10.8**	**11.4**	**38.8**	**44.0**	**47.1**	**50.1**	**75.5**	**86.7**	**98.4**	**102.1**	**106.1**	**110.6**	**116.6**	**123.3**
Operating Income/Loss	**(20.6)**	**(6.5)**	**(10.1)**	**(10.8)**	**(11.4)**	**(38.8)**	**(34.0)**	**(26.3)**	**(15.2)**	**(14.8)**	**34.0**	**101.2**	**97.6**	**98.9**	**101.3**	**93.9**	**88.4**
Interest income	0.0	0.0	0.0	0.0	0.0	0.1	1.0	1.1	1.2	1.3	1.5	1.6	1.8	1.9	2.1	2.4	2.6
Interest expense	(1.1)	(0.7)	(0.5)	(0.5)	(0.5)	(2.2)	(1.0)	(0.5)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other income	1.6	0.0	(0.0)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pretax income	(20.1)	(7.2)	(10.5)	(11.2)	(11.8)	(40.8)	(34.0)	(25.6)	(14.0)	(13.5)	35.5	102.8	99.3	100.8	103.5	96.2	91.0
Income tax expense	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	10.3	14.9	20.2	22.8	24.1	22.7
Tax rate	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*5%*	*10%*	*15%*	*20%*	*22%*	*25%*	*25%*
Net Income (Loss)	**(20.1)**	**(7.2)**	**(10.5)**	**(11.2)**	**(11.8)**	**(40.8)**	**(34.0)**	**(25.6)**	**(14.0)**	**(13.5)**	**33.7**	**92.5**	**84.4**	**80.7**	**80.7**	**72.2**	**68.2**
GAAP EPS																	
Basic	**($21.77)**	**($0.43)**	**($0.35)**	**($0.33)**	**($0.33)**	**($1.40)**	**($0.79)**	**($0.58)**	**($0.31)**	**($0.29)**	**$0.70**	**$1.87**	**$1.65**	**$1.53**	**$1.49**	**$1.29**	**$1.19**
Diluted	**($21.77)**	**($0.43)**	**($0.35)**	**($0.33)**	**($0.33)**	**($1.40)**	**($0.79)**	**($0.58)**	**($0.31)**	**($0.29)**	**$0.64**	**$1.71**	**$1.52**	**$1.41**	**$1.37**	**$1.19**	**$1.09**
Basic shares	0.92	16.91	29.69	33.88	35.83	29.1	42.8	44.0	45.4	46.7	48.1	49.6	51.0	52.6	54.2	55.8	57.5
Diluted shares	0.92	31.93	32.96	39.13	39.52	35.9	46.6	48.0	49.4	50.9	52.4	54.0	55.6	57.3	59.0	60.7	62.6

Source: Cowen and Company

Small Molecule Drug Conjugates (SMDC): Endocyte's proprietary technology to develop cancer cell "*smart bombs*"

Endocyte's SMDC technology aims to produce compounds carrying highly active drug payloads that can be delivered in a targeted manner only to diseased cells (in the case of cancer, tumor cells). The modular nature of this technology aims to enable the company to develop multiple new SMDCs for multiple disease indications.

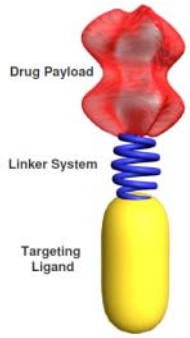
Each SMDC is comprised of three modules:

Module #1) The Targeting Ligand (*or the "smart" part of the smart bomb*): The main idea behind Endocyte's technology is to link ligands that bind to their overexpressed receptors *only* on target (diseased) cells with high affinity, while not entering (the majority of) normal cells. The folate ligand /folate receptor pair is the most advanced result of this idea/technology, and the company is also working on other ligand/receptor pairs that can be used in both oncology and inflammatory diseases.

Module #2) The Drug Payload or "Warhead" (*or the "bomb" part of the smart bomb*): This is the "business end" of the SMDC, the part that the molecule is designed to deliver only to the diseased target cell. The trait shared among the majority of the drug payloads used by Endocyte is that they would be too toxic to the patient if they were to be delivered in an untargeted form at therapeutic dose levels.

Module #3) The Linker System: The linker system designed by Endocyte is the part of the compound that connects the targeted ligand to the drug payload or the imaging agent. The linker is designed to be stable in the bloodstream and to release the active drug from the targeting ligand when the SMDC is taken up by the target cell.

Schematic of a Small Molecule Drug Conjugate (SMDC)



Source: Company Presentation

Same simple idea used in the companion imaging diagnostic. Endocyte uses the same modular structure to design its companion imaging diagnostic agents. To create an imaging agent a drug payload can be replaced with a radioisotope imaging agent, such as technetium-99m, or Tc-99m, as is the case for EC20, which is a three-part molecule connecting a ligand (folate) to Tc-99m through a linker, and can serve as the companion imaging agent that would be used to image folate receptor expression in patients to be treated with EC145.

EC145 (ECYT's lead asset): What is it and how does it work?

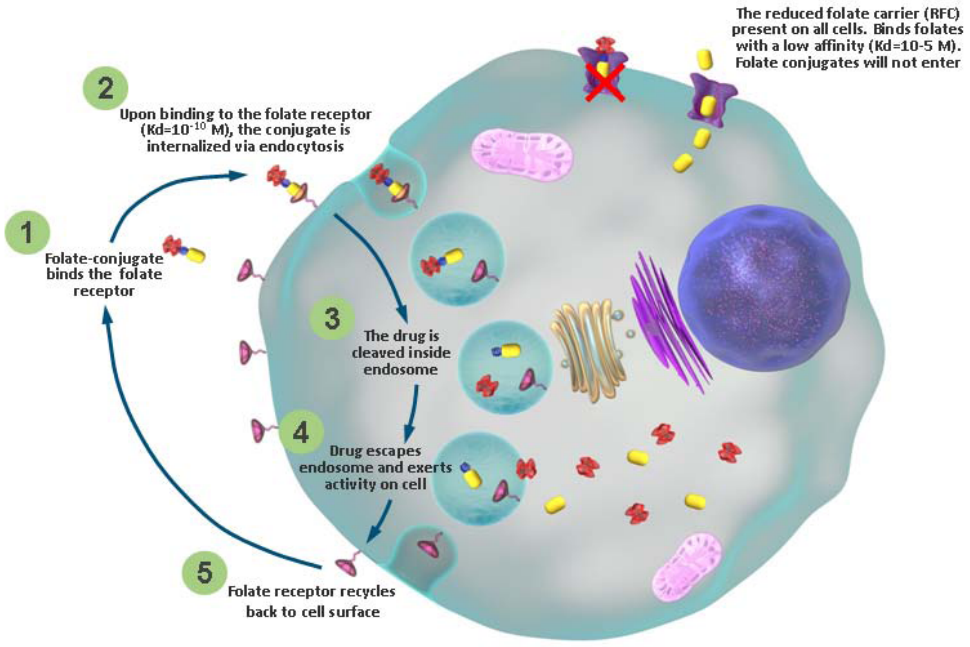
EC145 is designed as a three-part compound composed of **1)** the targeting part: *folate*, the ligand that targets the molecule to the folate receptor (FR), linked to **2)** the "warhead": *DAVLBH*, a highly cytotoxic vinka alkaloid, via **3)** a *linker*.

DAVLBH, or desacetylvinblastine monohydrazide, is a very potent chemotherapeutic agent that works by interfering with microtubule assembly. Its use is not appropriate for humans as a chemotherapeutic, however, given its very strong potency. And this is where the three-part, targeted nature of this molecule, that is designed to only enter cancer cells, comes in.

It has been shown that a number of cancer cell types, including ovarian, lung, and breast, among others, overexpress the folate receptor (a 38 kDa GPI-linked membrane protein with alpha and beta isoforms) since folate, its natural ligand, is required for cell division and is used up a lot in transformed, rapidly dividing cells. This observation has been confirmed in Endocyte's clinical trials using EC20, an imaging diagnostic agent developed by the company.

The proposed mechanism by which EC145 is hypothesized to work is that **1)** the compound binds with high affinity to the folate receptor (FR) only in cancer cells, since they are (with some exceptions) the only ones that overexpress the receptor, **2)** the receptor/ligand complex enters the cell via endocytosis, and once inside the cell, the three-part compound is cleaved to its three individual parts and the warhead (in this case, DAVLBH) is released and kills the cell by interfering with cell division. As shown in the cartoon below that describes this process, normal, non-transformed cells are not affected by the administration of EC145, since they use another mechanism to bring folate into the cell, called the Reduced Folate Carrier (RFC). In RFC, a channel-like receptor binds folate with low affinity, and does not allow for folate conjugated to other molecules to enter.

Proposed mechanism of action of EC145



Source: Endocyte ASCO 2011 poster

EC20: The Folate-Receptor Imaging Companion Diagnostic

Endocyte has complemented its efforts in developing targeted therapeutics with the development of a companion diagnostic for each therapeutic. In the case of lead compound EC145, the company has developed EC20, a conjugate of the targeting ligand, folate, and the radioisotope imaging agent, technetium-99m. EC20 was used to identify the presence of the folate receptor in the patients in the lung and ovarian cancer trials with EC145.

EC20 is administered to patients via an IV injection and is expected to bind to tumors that overexpress the folate receptor. This would allow physicians to distinguish between patients that overexpress the FR from the ones that don't. This is a non-invasive process that within 60 minutes allows for full-body imaging of tumors' expression status for the FR.

EC20 was used in the Phase IIa trials of EC145 in lung and ovarian cancer. In the PRECEDENT Phase IIb trial in ovarian cancer which we discuss in detail in our report, there was a strong correlation between favorable therapeutic outcomes and uptake of EC20; patients that overexpressed the receptor (EC20+ and EC20++) had significantly better clinical outcomes than patients that did not (EC20-). Endocyte is now using EC20 in the PROCEED Phase III trial in ovarian cancer trial (please see later sections in our report for more information on PROCEED), in which all patients will be dosed with EC20 prior to treatment with EC145 to determine whether their tumors overexpressed the folate receptor.

The company is planning to use the data from the PRECEDENT trial to file for a conditional approval of both EC145 and EC20 for use in women with PROC in 1Q 12. In addition, Endocyte will use the data from PRECEDENT and PROCEED to file an NDA with the FDA for the accelerated approval of EC145 and EC20 in PROC, when the PROCEED PFS data become available in mid-2013.

EC145 Clinical Data:

1) A Phase I dose-escalation trial in 32 solid tumor patients

EC145 was first tested as a monotherapy in humans in a safety and dose-finding Phase I trial in 32 patients with advanced solid tumors. The MTD was determined to be 2.5mg per day, on a three-times-a-week, every-two-weeks, schedule. Two of the ovarian cancer patients in the study responded to treatment with EC145, one with a partial response (PR) and one with a long-term disease stabilization (SD) in other tumor types. The compound was also well tolerated, with constipation/ileus being the primary dose-limiting toxicity (DLT), which was seen in doses above the MTD, with nausea, fatigue, vomiting, anemia and abdominal pain among the other observed toxicities.

Based on the responses seen in this study, the company decided to advance EC145 into Phase II development in ovarian and lung cancer patients.

2) A Phase IIa single-arm trial in 49 ovarian cancer patients

Study design: Endocyte completed a Phase IIa, single-arm trial of EC145 in 49 women with advanced epithelial ovarian, fallopian tube or primary peritoneal cancer. Patients entering the study must have had platinum resistant or refractory ovarian cancer, i.e. they must have either progressed or not responded to their most recent platinum-based treatment and at least one RECIST-measurable tumor. The trial enrolled 49 women, who had received a median of four prior treatments with chemotherapy and had a median age of 62. Patients received a bolus dose of EC145 three times a week on weeks 1 and 3 of a 4-week cycle.

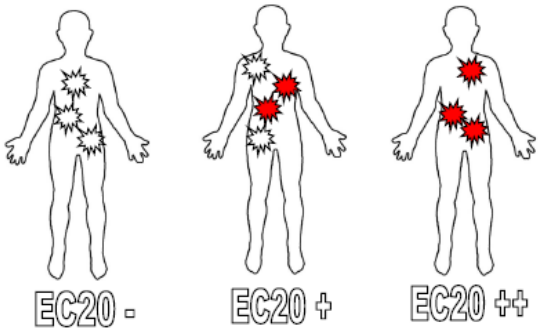
EC20 nomenclature: Prior to receiving therapy, patients were administered EC20 and then scanned to determine whether one or more of their tumors overexpressed the folate receptor (FR) and were characterized according to their EC20 status, as illustrated in the following figure. Each patient was assigned a score, derived by dividing the number of folate-receptor-positive tumors by the total number of tumors, i.e. a patient with a total of five tumors, three of which overexpressed the folate receptor, was assigned a score of 60%. Patients were split into three categories based on their EC20 scores:

EC20(++) patients are patients that had *all* of their tumors (a score of 100%) overexpress the folate receptor

EC20(+) patients were assigned a score between 1% and 99%, meaning that *at least one, but not all* of their tumors overexpressed the folate receptor, and

EC20(-) patients were assigned a score of 0%, if none of their tumors overexpressed the folate receptor.

Folate Receptor Nomenclature: EC20-, EC20+, EC20++



EC20(-)	This group was assigned a score of 0% because **none** of their tumors overexpressed the folate receptor
EC20(+)	This group was assigned a score between 1% to 99%, because **at least one, but not all** of their tumors overexpressed the folate receptor
EC20(++)	This group was assigned a score of 100% because **all** of their tumors overexpressed the folate receptor

Source: Endocyte Investor Presentation

Efficacy data: There were 45 patients eligible for the efficacy analysis, which resulted in a Disease Control Rate (DCR) of 42%, with two patients achieving a partial response (PR), while the ORR was 5%. In addition, the compound was more active in the subgroup of patients that had received less than 4 prior therapies, with a DCR of 60% and ORR of 13.3%. In addition, the drug was more effective in EC20(++), less effective in EC20(+) patients and least effective in EC20(-) patients. As seen in the table below, the DCR was highest in EC20(++) patients, especially in patients that had received three or less prior treatments.

EC145: Efficacy data from a Phase IIa trial in ovarian cancer patients

Response rate	EC145 (n=45)		
DCR	42.2%		
ORR	5.0%		
DRC (less than four therapies)	60.0%		
ORR (less than four therapies)	13.3%		
Subset Analysis			
	EC20(++)	EC20(+)	EC20(-)
DCR	57%	36%	33%
DCR (three or fewer prior regimens)	86%	50%	0%
ORR	14%	13%	0%

Source: Cowen and Company, Endocyte SEC filings

Safety data: The compound was well-tolerated and did not result in overlapping toxicities with Hycamptin and Doxil, the second-line chemotherapies used in the trial. The table that follows describes the adverse events from this trial, along with the toxicities seen in the Phase I trial and an additional Phase IIa trial in lung cancer, which is discussed later on in our report. In this trial, fatigue and constipation, both present in 8.2% of the patients in the trial, were the most common Grade 3 drug-related toxicities, and there were no Grade 4 drug-related toxicities.

Phase I and Phase IIa safety data: Grade 3/4 adverse events

	Grade 3	Grade 4
	n=124	
Anemia	2% (3)	0% (0)
Abdominal pain	2% (3)	0% (0)
Constipation	5% (6)	0% (0)
Nausea	2% (2)	0% (0)
Vomiting	1% (1)	0% (0)
Fatigue	6% (7)	0% (0)
Anorexia	1% (1)	0% (0)
Neuropathy	1% (1)	0% (0)
Neuropathy peripheral	1% (1)	0% (0)
Peripheral sensory neuropathy	2% (2)	0% (0)

Source: Endocyte Investor Presentation

Study summary: This study demonstrated that EC145 had encouraging efficacy in women with ovarian cancer. The compound's efficacy was especially promising in women whose tumors overexpressed with folate receptor. This study formed the basis to advance the compound further in development and into the Phase IIb PRECEDENT study as a treatment of platinum-resistant ovarian cancer (PROC).

3) PRECEDENT: a Phase IIb trial of EC145 in combination with Doxil in 145 PROC patients

- *Enrollment started: February 2009*
- *Interim analysis: February 2010*
- *Enrollment completed: June 2010*
- *Interim PFS analysis reported: ASCO 2010*
- *Final PFS analysis reported: ASCO 2011*
- *Final O/S analysis expected: 1Q 2012*

In February 2009, following the promising data seen in the Phase IIa trial in ovarian cancer patients, the company initiated PRECEDENT, a Phase IIb trial evaluating EC145 in combination with Pegylated Liposomal Doxorubicin (PLD) (Doxil) in approximately 150 ovarian cancer patients who had progressed following treatment with front-line platinum therapy. The company released interim PFS data from the study at the 2010 ASCO, with the final PFS data presented at the 2011 ASCO.

Study design: This was an international, multicenter (65 sites), open-label, randomized (2:1), placebo-controlled, Phase IIb trial which enrolled approximately 150 patients with platinum-resistant ovarian cancer (PROC). All patients were administered the company's companion imaging candidate EC20 and scanned, to determine their folate receptor status. Patients were randomized to receive either EC145 (n=100) (2.5mg IV, 3 times a week in weeks 1 and 3, on a 28-day cycle) in combination with PLD or PLD and placebo (n=49). There was a slight imbalance in the patients enrolled in the treatment arm compared to placebo arm, patients with hepatic and pulmonary metastases were greater in the treatment arm (38% vs. 22.4%). The median length of tumor was 9.3cm in the treatment arm versus 5.6cm in the placebo arm.

Endpoints: The primary endpoint of the trial was PFS with Overall Survival (O/S), Overall Response Rate (ORR), safety and tolerability as secondary endpoints. The trial also explored the correlation between therapeutic response and EC20 imaging results.

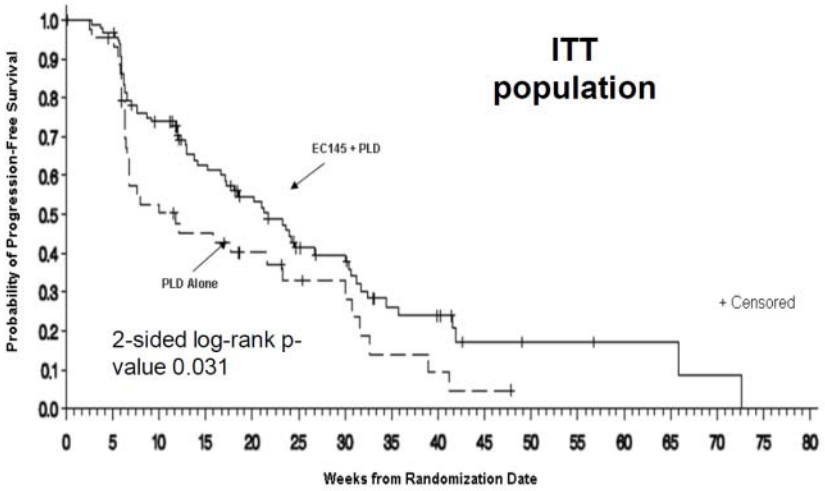
PRECEDENT: Baseline patient characteristics and demographics

	EC145 + PLD (n=100)	PLD alone (n=49)
Type of Cancer		
Ovarian	90% (90)	93.9% (46)
Primary Peritoneal	8% (8)	6.1% (3)
Fallopian tube	2% (2)	0% (0)
Age in years (median)	60.4	62.6
Geographic area		
North America	80% (80)	83.6% (41)
Poland	20% (20)	16.3% (8)
Tumor sum $_{LD}$ mm (median)	93	56
CA-125 at baseline U/ml		
<200	59% (59)	65.3% (32)
>= 200	40% (40)	32.7% (16)
Platinum resistance		
Primary	65% (65)	61.2% (30)
Secondary	35% (35)	38.8% (19)
Platinum free interval months (median)	4.9	4.8
ECOG at screening (PS)		
0-1	96% (96)	98% (48)
2	4% (4)	2% (1)
Hepatic or pulmonary metastasis	38% (38)	22.4% (11)

Source: Endocyte ASCO 2011 poster

Efficacy data: The final analysis of the PFS data was performed when 95 PFS events had occurred in the trial. There was a 10-week or 85% improvement in the median progression free survival for patients in the trial that received EC145 and PLD (21.7 weeks vs. 11.7 weeks), which was statistically significant (p=0.031) with a hazard ratio of 0.626.

PRECEDENT: Treatment with EC145 + Doxil results in an 85% increase in PFS in the ITT population

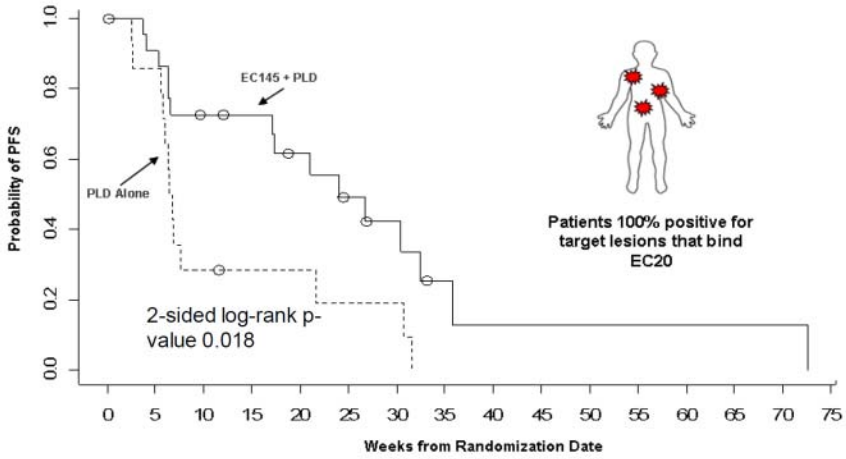


Source: Endocyte ASCO 2011 poster

The maximum therapeutic benefit was observed in the subset of the patient population with at least one folate receptor positive lesion, EC20(+) and in patients with 100% positive lesions, EC20(++). In the EC20 (++) subset of patients (n=38) the

median PFS improved from 6.6 weeks in the PLD arm to a median of 24 weeks in the EC145+PLD arm, which corresponds to a 263% improvement, with a hazard ratio of 0.381.

PRECEDENT: Treatment with EC145 + Doxil results in a 263% increase in PFS in folate-receptor positive (EC20++) patients



Source: Endocyte ASCO 2011 poster

PRECEDENT: PFS results by EC20

	EC145 + PLD		PLD alone		HR (95% CI)
	n	Median (wks)	n	Median (wks)	
ITT population	100	21.7	49	11.7	0.626 (0.409-0.959)
≥ 1% EC20 positive	48	24.6	26	7.6	0.547 (0.304-0.983)
≥ 50% EC20 positive	37	24.6	22	7.6	0.514 (0.265-0.999)
100% EC20 positive	23	24	15	6.6	0.381 (0.172-0.845)

Source: Endocyte ASCO 2011 poster

PRECEDENT: Response Rate data

	EC145 + PLD	PLD alone
Objective tumor response	n=100	n=49
CR + PR	28% (28)	16.2% (8)
CR + PR + SD	73% (73)	53.1% (26)
CA-125	n=60	n=26
CR + PR	38.3% (23)	19.2% (5)
CR + PR + SD	75% (45)	61.5% (16)

Source: Endocyte ASCO 2011 poster

The PRECEDENT trial was not powered to show an improvement in Overall Survival. However, at the time of the final PFS analysis a positive trend in O/S was observed: 81% of the patients receiving EC145+PLD were alive for at least six months compared to 72% receiving PLD alone. We expect the final O/S data to be available in 1Q 2012.

Safety data: EC145 was well tolerated in this study with no major treatment-related adverse events observed. In the analysis of the safety data from 157 patients in the study, a higher grade 3 and 4 neutropenia was observed in the treatment arm. Neutropenia and stomatitis was observed in 12.1% and 5.6% of the patients receiving EC145+PLD compared to 4% and 4% receiving PLD alone, respectively. Treatment-

emergent drug-related serious adverse event resulting in discontinuation from the trial was 2.8% (n=3) for the EC145+PLD arm versus 4% (n=2) for the PLD only arm.

PRECEDENT: Grade 3/4 adverse events

	EC145 + PLD n=107	PLD n=50
Cumulative PLD dose (median)	275 mg	170 mg
Hematological Toxicities		
Neutropenia < 1,000/mm^3	12.1% (13)	4.0% (2)
Febrile neutropenia	0.9% (1)	2.0% (1)
Anemia < 8 g/dL	6.5% (7)	4.0% (2)
Thrombocytopenia< 50,000/mm^3	1.9% (2)	2.0% (1)
Leukopenia < 2,000/mm^3	16.8% (18)	4.0% (2)
Lymphopenia < 500/mm^3	17.8% (19)	18.0% (9)
Non-Hematological Toxicities in 5% or more subjects		
Stomatitis	5.6% (6)	4.0% (2)
PPE syndrome	11.2% (12)	2.0% (1)

Source: Endocyte Investor Presentation

PRECEDENT: % AE and drug-related discontinuations

	EC145 + PLD (n=107)	PLD alone (n=50)
Adverse event regardless of attribution	97.2% (104)	92% (46)
Drug-related AE resulting in discontinuation	10.3% (11)	4% (2)
Drug-related SAE resulting in discontinuation	2.8% (3)	4% (2)

Source: Endocyte ASCO 2011 poster

PROCEED: A Phase III trial in women with PROC

- *Enrollment started: May 2011*
- *PFS data expected: mid 2013*
- *O/S data expected: 2015-2016*

Based on the data from the Phase IIb PRECEDENT study, Endocyte advanced EC145 in Phase III clinical development and in May 2011 initiated PROCEED, a Phase III clinical trial testing EC145 in combination with Doxil in platinum-resistant ovarian cancer (PROC).

Study design: PROCEED is an international, multicenter (~150 sites), 2:1 randomized, double-blind, placebo-controlled Phase III trial designed to enroll up to a maximum of 640 patients with platinum-resistant ovarian cancer (PROC). Patients will be randomized to receive either EC145 (2.5mg IV, 3 times a week in weeks 1 and 3, on a 28-day cycle) in combination with Doxil (Pegylated Liposomal Doxorubicin (PLD)) or PLD and placebo.

All patients entering the study will be administered EC20 and scanned prior to the beginning of treatment to determine whether their tumor(s) overexpressed the folate receptor (FR), and if yes, how many of their tumors overexpressed the receptor (EC20 status). The trial is expected to enroll up to a maximum of 640 patients, including approximately 512 patients that are folate receptor positive (EC20+ and EC20++). In addition to the roughly 512 FR+ patients, the trial will enroll and randomize a number of patients whose tumors do not overexpress FR, i.e. EC20-. These patients will not be included in the primary efficacy analysis and the data from this portion of the study will be used partially as way to validate the EC20 companion imaging diagnostic.

PROCEED: Trial design

PROCEED **: A Phase III study of EC145 in combination with Doxil in Platinum Resistant Ovarian Cancer (PROC)**	
Phase	III
Title	A multicenter, randomized, double-blind, placebo-controlled, Phase III study of EC145 in patients with platinum-resistant ovarian cancer (PROC)
Study Type	Double-blind; Placebo-Controlled; Randomized (2:1); Parallel Assignment
Patient Type	Patients with platinum-resistant ovarian cancer (PROC)
Drug	EC145 + Pegylated Liposomal Doxorubicin (PLD) vs. PLD alone
Experimental arm	EC145 2.5mg (IV bolus on days 1,3,5 and 15,17,19 of a 4-week cycle) **and** Pegylated Liposomal Doxorubicin (PLD) (50 mg/m^2 every 4 weeks)
Placebo comparator	Pegylated Liposomal Doxorubicin (PLD) (50 mg/m^2 every 4 weeks) **and** Placebo
Enrollment	512 folate receptor positive patients (up to a max of 640, to include FR negative patients)
Primary endpoint	Progression-free survival in **1)** the combined FR patient population (EC20+ and EC20++) and **2)** in the EC20 (++) patient popultion
Secondary endpoints	Overall Survival (O/S analysis will occur when 384 deaths have occurred); safety and adverse events
PFS data expected	mid 2013
O/S data expected	2015-2016

Source: Cowen and Company and www.clinicaltrials.gov

Study Endpoints: The trial has two co-primary PFS endpoints: **1)** PFS for the full study population, which will include both EC20(+) and EC20(++) patients, and **2)** PFS for the subgroup of patients who are EC20(++), i.e. patients who have 100 percent positive lesions based on an EC20 scan. The trial's secondary endpoints include Overall Survival, safety and adverse events.

PROCEED: Trial assumption and statistics

1) Co-primary endpoints: Progression Free Survival in two patient groups

a) PFS in the Combined EC20(+) and EC20(++) patient group: The final PFS analysis will be performed after 334 PFS events have occurred in the combined EC20(+) and EC20(++) patient group. The PFS assumptions are 10 weeks in the PLD alone arm vs. 14.3 weeks in the PLD + EC145 arm in the combined EC20(+) and EC20(++) patient group. The trial is 85% powered to detect a 0.70 or lower hazard ratio or 43% improvement in median PFS in the EC20(+) and EC20(++) patient group, with a p value of 0.04. This compares to a 225% improvement in median PFS and a hazard ratio 0.547 observed in EC20(+) and EC20(++) patients in the PRECEDENT trial.

b) PFS in the EC20(++) patient group: The PFS analysis for the EC20(++) patient group will take place after 167 PFS events have occurred. The PFS assumptions are 7 weeks in the PLD alone arm vs. 12.5 weeks in the PLD + EC145 arm in the EC20(++) patient group. The trial is 85% powered to detect a 0.56 or lower hazard ratio or 78% improvement in the EC20(++) patient group, with a p value of 0.01. This compares to a 263% improvement in median PFS and a hazard ratio 0.381 observed in EC20(++) patients in the PRECEDENT trial.

PROCEED trial statistical assumptions on PFS co-primary endpoints

	Actual Results from PRECEDENT	PROCEED trial statistical assumptions
Folate Receptor Positive (EC20+ and EC20++)		
Increase in PFS	225%	43%
Hazard Ratio	0.547	0.7
EC20(++) Only		
Increase in PFS	263%	79%
Hazard Ratio	0.381	0.56

Source: Cowen and Company, Endocyte SEC filings

2) Secondary Endpoint: Overall Survival

The assumptions are for a median O/S of 12 months in the PLD alone arm versus 16.6 months in the PLD + EC145 arm. At the planned enrollment of 512 folate receptor positive patients, PROCEED is 85% powered to detect a hazard ratio of 0.72 or lower or approximately a 38% improvement in median O/S in the combined EC20(+) and EC20(++) patient group. The Overall Survival analysis will occur after 384 deaths have occurred in the trial.

Next up for EC145 in PROC:

1) Phase IIb O/S data (1Q12)

Based on the positive data from the Phase IIb PRECEDENT study, in April 2011, the company announced its plans to submit an MAA (Marketing Authorization Application) with the EMA for conditional approval of EC145 for the treatment of PROC and its companion imaging agent, EC20. The company expects the final O/S data from the PRECEDENT study to be available in 1Q 2012.

2) EMA MAA submission (1Q12)

Endocyte is currently preparing the MAA application and has guided it expects it to be submitted, along with the O/S data and two additional analyses from the PRECEDENT trial, in 1Q 2012.

3) Phase III PFS data (mid 2013)

The Phase III PROCEED trial was initiated in May 2011, testing EC145 plus Doxil vs. Doxil plus placebo in women with PROC, with PFS data from the trial anticipated in mid 2013.

4) Phase III O/S data (late 2015- early 2016)

Approximately two years after the release of the PFS data, we expect the release of the Overall Survival data from PROCEED, possibly in late 2015 or early 2016.

EC145 in NSCLC

Phase IIa trial of EC145 as monotherapy in NSCLC: promising efficacy in Disease Control Rate, PFS and Overall Survival

- *Started: August 2007*
- *Data reported: August 2009*

Study design: This was an open-label, non-randomized, single-arm, Phase IIa trial of EC145 which enrolled 43 heavily pre-treated NSCLC patients. The median age was 62 and patients had a median of three prior chemotherapeutic treatments (range 2-9, while the median cumulative tumor length was 7.9 cm. Patients entering the trial received IV EC20 and were then scanned to determine whether their tumors overexpressed the folate receptor. Only patients whose tumors overexpressed the folate receptor [EC20(+) and EC20(++)] were eligible to enter the trial.

Patients received EC145 1mg IV qd, 5 days a week, during weeks 1 through 3 and 5 through 7 of the 8-week induction period followed by a maintenance dose of 2.5mg qd, 3 days a week every other week. The primary endpoint of the trial was percentage of patients deriving clinical benefit, including disease control rate (DCR) and Overall response rate (ORR). Secondary endpoints included PFS, O/S, safety and tolerability.

Efficacy and safety data:

Disease control rate (DCR): Promising efficacy in the EC20++ subset. The trial met its primary endpoint of clinical benefit, defined as more than 20% of the patients completing 4 months of treatment without progressing. The disease control rate (DCR) observed in the Overall population was 35%, while in patients who received three or fewer prior therapies the DCR was 43%.

The compound showed significantly greater benefit in the subset of patients who were characterized as (EC20++), i.e. patients whose every tumor present overexpressed the folate receptor, versus patients who were characterized as (EC20+), i.e. patients in which one or more, but not every single tumor present overexpressed the folate receptor.

The DCR observed in the Overall EC20(++) patient population was 57% and 70% in EC20(++) patients who received three or fewer prior therapies. We view these data as promising, especially given the potential to pre-screen and treat only patients whose every tumor overexpresses the folate receptor. The obvious caveat here, of course, is that this is a very small, open-label, single-arm, non-randomized study, and the very impressive efficacy data in EC20(++) subsets are derived from very small numbers of patients.

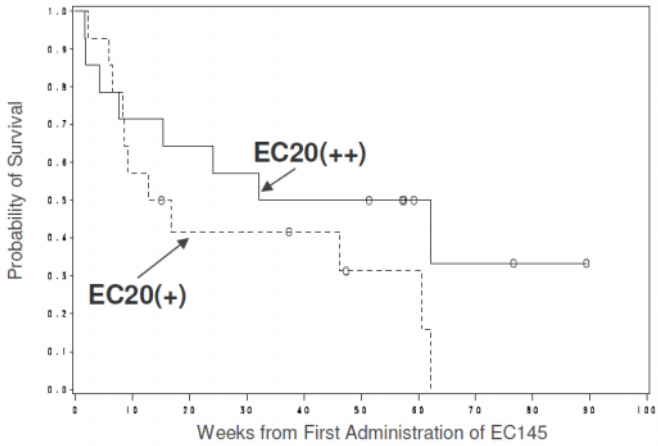
Phase IIa trial of EC145 monotherapy in NSCLC: Disease control rate (DCR) data

	All Patients	EC20(++)	EC20(+)
EC145 (all patients)	35%	57%	14%
EC145 (three or fewer prior therapies)	43%	70%	20%
Historical benchmark (two or three prior therapies)	21% to 30%	-	-

Source: Cowen and Company, Endocyte SEC filings

Overall Survival: EC145 provides promising O/S benefit in EC20++ patients. Similar to the data for DCR, EC145 seems to have a significant benefit in Overall Survival in patients whose every tumor overexpresses the folate receptor. The median O/S in the EC20(+) patients (n=14) was 14.9 weeks versus 47.2 weeks for the EC20(++) patients (n=14), with a hazard ratio of 0.539 (p=0.203).

Phase IIa trial of EC145 monotherapy in NSCLC: Overall Survival data

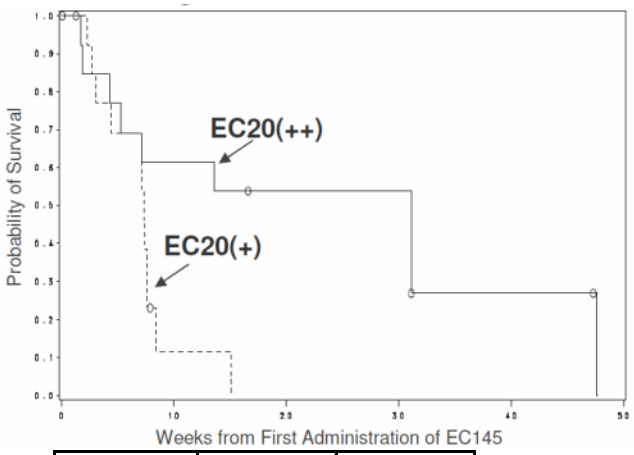


O/S	EC20(++) n=14	EC20(+) n=14
Median O/S	47.2 weeks	14.9 weeks
Hazard Ratio	0.539 (p=0.203)	

Source: Endocyte Presentation

Progression free survival: consistent data, here, too. The compound provided a significant benefit in EC20++ in terms of PFS, as well. The median PFS for EC20(+) patients (n=14) was 7.3 weeks versus 31.1 weeks for EC20(++) patients (n=14), with a hazard ratio of 0.326 (p=0.034).

Phase IIa trial of EC145 monotherapy in NSCLC: Progression Free Survival data



PFS	EC20(++) n=14	EC20(+) n=14
Median PFS	31.1 weeks	7.3 weeks
Hazard Ratio	0.326 (p=0.034)	

Source: Endocyte Presentation

Safety: The compound exhibited a benign safety profile, was well tolerated with no Grade 4 treatment-related adverse events. The most frequent treatment-related Grade 3 adverse events observed in the study was fatigue, observed in 4.7% of patients.

Next up for EC145 in NSCLC: A randomized 200-patient Phase IIb trial

Based on the encouraging data observed in the single-arm, monotherapy, Phase IIa clinical trial of EC145 in heavily pre-treated, folate-receptor-positive NSCLC patients, the company recently announced its plans to use a portion of the proceeds from the July 2011 financing (approximately $15M) to fund a randomized, 200-patient, Phase IIb trial of EC145 in NSCLC. The trial is expected to start in 1Q 2012.

Trial design: The current plan is for this trial to be a randomized, multicenter, active-control, Phase IIb trial which is expected to enroll approximately 200 patients who have failed one prior line of therapy. The trial will evaluate EC145 as a second-line treatment of NSCLC as a single agent and in combination with docetaxel. The trial will have three arms: **1)** docetaxel alone, **2)** EC145 alone, and **3)** EC145 + docetaxel.

Patients in the trial will be scanned prior to enrollment to determine the expression level of the folate receptor. The trial will enroll only EC20++ patients, since this was the patient group that demonstrated the most significant response in the Phase IIa trial. The primary endpoint of the trial will be PFS, with O/S, tumor response and duration of response as secondary endpoints. The company is currently finalizing the protocol of the trial, expects to start enrollment in 1Q 2012 and the current estimate is for PFS data to be reported in the second half of 2013.

The Ovarian Cancer Space: A Quick Summary

Ovarian cancer is the fifth most common cancer among women in the US, and it causes more deaths than any other type of female reproductive cancer. Approximately 22,000 women were diagnosed with ovarian cancer and ~14,000 women died of the disease in 2010. Abnormal menstrual cycles, sense of pelvic heaviness, and vaginal bleeding are the most common symptoms of ovarian cancer; by the time the cancer is diagnosed, tumors have often spread beyond the ovaries. Approximately 70-80% of all ovarian cancer patients are diagnosed with advanced disease (stage II-IV). According to the American Cancer Society the five-year survival rate for women diagnosed with OC is only 34.8%. The following two tables discuss how ovarian cancer is staged and survival rate statistics.

Staging of Ovarian Cancer

Stages of Ovarian Cancer	
Stage I	The cancer is still contained within the ovary (or ovaries). It has not spread outside the ovary.
Stage II	The cancer is in one or both ovaries **and** has involved other organs *(such as the uterus, fallopian tubes, bladder, the sigmoid colon, or the rectum)* within the pelvis. It has **not** spread to lymph nodes, the lining of the abdomen (called the peritoneum), or distant sites.
Stage III	The cancer involves one or both ovaries, **and** one or both of the following are present: **(1)** cancer has spread beyond the pelvis to the lining of the abdomen; **(2)** cancer has spread to lymph nodes.
Stage IV	This is the most advanced stage of ovarian cancer. In this stage the cancer has spread to the inside of the liver, the lungs, or other organs located outside of the peritoneal cavity. *(The peritoneal cavity, or abdominal cavity is the area enclosed by the peritoneum, a membrane that lines the inner abdomen and covers most of its organs)*. Finding ovarian cancer cells in the fluid around the lungs (called pleural fluid) is also evidence of stage IV disease.

Source: www.cancer.org

Survival rate and diagnosis for various stages of OC (1999-2005)

Stage at diagnosis	Five-year Relative Survival Rate	% of Total Women Diagnosed
Localized (cancer is limited to organ from which it originated)	94%	15%
Regional (cancer has spread to nearby lymph nodes or organs and tissue)	73%	17%
Distant (cancer has spread to distant organs or lymph nodes)	28%	62%
Unstaged (not enough information to identify a stage)	27%	7%

Source: www.seer.cancer.gov

Treatment of ovarian cancer patients depends on the stage of the disease at presentation and on the histological subtype. In general, patients are initially treated with a combination of debulking surgery and platinum-based chemotherapy. The current standard of care first-line chemotherapy regimen used for the treatment of ovarian cancer is a platinum based drug (carboplatin or cisplatin) combined with a taxane, usually paclitaxel. Except in very early disease, this treatment is rarely curative but it provides patients with symptom relief and modest increase in survival.

Based on their response to first-line platinum-based chemotherapy, patients are classified as platinum-sensitive, platinum-resistant or platinum-refractory:

- Patients are considered ***platinum-sensitive*** if relapse occurs >6 months after initial platinum-based therapy
- Patients are considered ***platinum-resistant*** if relapse occurs ≤6 months after platinum-based therapy
- Patients are considered ***platinum-refractory*** if no response or disease regression occurs during platinum-based therapy

The following table details the chemotherapy agents used in the treatment of ovarian cancer following treatment with 1st-line platinum chemotherapy.

2nd-line ovarian cancer treatment paradigm

Combination used if patients are platinum sensitive
–Carboplatin/paclitaxel
–Carboplatin/gemcitabine
–Carboplatin/liposomal doxarubicin
Single-agent if patients are platinum sensitive
–Carboplatin
–Cisplatin
Single-agent non-platinum based if patients are platinum-resistant
–Etoposide oral
–Gemcitabine
–Lioposomal doxorubicin
–Paclitaxel
–Topotecan

Source: Cowen and Company and NCCN guidelines

Hycamptin (topotecan) and Doxil (pegylated liposomal doxorubicin): the only two approved second-line treatments for Ovarian Cancer

GSK's Hycamptin (topotecan) became the first approved agent for the treatment of women who had progressed after treatment with front line platinum-based chemotherapy in 1996, while JNJ's Doxil (pegylated liposomal doxorubicin) was approved in 1999, after being tested in a head-to-head non-inferiority trial against Hycamptin. The trial was a multicenter, open-label, randomized study which enrolled 474 patients with epithelial ovarian cancer who had received platinum-based chemotherapy.

Patients were randomized to receive either Doxil (50 mg/m^2 infused over one hour every 4 weeks) or Hycamptin (1.5 mg/m^2 infused daily for 5 consecutive days every 3 weeks). The primary endpoint of the study was time to progression (TTP) with Overall Survival, objective response rate, and safety as secondary endpoints.

Doxil was shown to be non-inferior to Hycamptin in terms of the primary endpoint, with time to progression for patients treated with Doxil being 4.1months and 4.2 months for patients treated with Hycamptin. Patients in the Doxil arm lived a median of 14.4 months, while patients in the Hycamptin arm lived a median of 13.7 months, a difference which was statistically significant (p=0.05). In addition, patients on Doxil did at least as well as patients on Hycamptin in terms of ORR (19.7% vs. 17%) and median duration of response (6.9 vs. 5.9 months, respectively).

The following table sums up the two drugs' efficacy data as observed in this head-to-head study.

Doxil vs. Hycamptin: Efficacy data

	Doxil (n=239)	Hycamptin (n=235)
Median TTP (months)	4.1	4.2
p-value	0.617	
Hazard Ratio	0.955	
95% CI for Hazard Ratio	(0.762, 1.196)	
Median Overall Survival (months)	14.4	13.7
p-value	0.05	
Hazard Ratio	0.822	
95% CI for Hazard Ratio	(0.676, 1.000)	
Response Rate		
Overall Response n (%)	47 (19.7)	40 (17.0)
Complete Response n (%)	9 (3.8)	11 (4.7)
Partial Response n (%)	38 (15.9)	29 (12.3)
Median Duration of Response (Months)	6.9	5.9

Source: Doxil product label

The two drugs thus demonstrated very comparable efficacy in this trial. The main difference, however, was in terms of safety and tolerability, where Doxil was shown to be much better tolerated and with a milder side effect profile. Specifically, treatment with Doxil resulted in significantly lower rates of hematologic adverse events, in terms of neutropenia, anemia and thrombocytopenia.

The next two tables describe the two drugs' safety, broken down in hematologic and non-hematologic adverse events observed in the study.

Doxil vs. Hycamptin: Hematologic adverse events

	Doxil (n=239)	Hycamptin (n=235)
Neutropenia		
500 - <1000/mm^3	19 (7.9%)	33 (14.0%)
<500/mm3	10 (4.2%)	146 (62.1%)
Anemia		
6.5 - <8 g/dL	13 (5.4%)	59 (25.1%)
<6.5 g/dL	1 (0.4%)	10 (4.3%)
Thrombocytopenia		
10,000 - <50,000/mm^3	3 (1.3%)	40 (17.0%)
<10,000/mm3	0 (0.0%)	40 (17.0%)

Source: Doxil product label

Non-Hematologic adverse events observed in 10% or more of the patients

	Doxil (n=239)		Hycamptin (n=235)	
	All grades	Grade 3-4	All grades	Grade 3-4
Body as a Whole				
Asthenia	40.2	7.1	51.5	8.1
Fever	21.3	0.8	30.6	5.5
Mucous Membrane Disorder	14.2	3.8	3.4	0
Back Pain	11.7	1.7	10.2	0.9
Infection	11.7	2.1	6.4	0.9
Headache	10.5	0.8	14.9	0
Digestive				
Nausea	46	5.4	63	8.1
Stomatitis	41.4	8.3	15.3	0.4
Vomiting	32.6	7.9	43.8	9.8
Diarrhea	20.9	2.5	34.9	4.2
Anorexia	20.1	2.5	21.7	1.3
Dyspepsia	12.1	0.8	14	0
Nervous				
Dizziness	4.2	0	10.2	0
Respiratory				
Pharyngitis	15.9	0	17.9	0.4
Dyspnea	15.1	4.1	23.4	4.3
Cough increased	9.6	0	11.5	0
Skin and Appendages				
Hand-foot syndrome	50.6	23.8	0.9	0
Rash	28.5	4.2	12.3	0.4
Alopecia	19.2	N/A	52.3	N/A

Source: Doxil product label

Potential Competition for EC145: a number of compounds in Phase III trials.

Despite its small size in terms of number of patients, ovarian cancer remains an area of significant interest for biopharma, given the significant unmet medical need. Both big pharma and a number of biotech companies are investing in the development of a number of new agents, including Roche's Avastin, Amgen's Angiopoietin 1/2 inhibitor AMG386, Morphotek/Eisai's MORab-003 (ferletuzumab) and Nektar's NKTR-102.

Avastin (bevacizumab): Avastin was tested and was successful in the Phase III OCEANS trial in platinum-sensitive ovarian cancer patients (*see the next section for a summary of the data from this study*). Roche is studying its blockbuster oncology agent in multiple other Phase III trials in different settings for the treatment of ovarian cancer. The table below gives details of the four Phase III trials which are currently ongoing in OC. Two Phase III trials are designed to test the efficacy of bevacizumab as a first-line treatment for ovarian cancer, one trial is designed to test its efficacy in platinum-resistant patients and another Phase III trial is designed to test it in platinum-sensitive ovarian cancer patients.

AMG 386: Amgen is studying its Angiopoietin 1/2 inhibitor, AMG 386, in two Phase III trials as a treatment for ovarian cancer patients who are recurrent partially platinum sensitive or resistant. In the first trial patients will be randomized to receive either paclitaxel plus AMG 386 or paclitaxel plus placebo, while in the second trial patients will receive Doxil plus AMG 386 or Doxil plus placebo. Both trials are randomized and double-blind and will enroll a total of approximately 1400 patients with PFS as the primary endpoint.

MORab-003 (ferletuzumab): Morphotek and Eisai are studying this Folate receptor alpha antibody in a Phase III trial for the treatment of platinum-sensitive ovarian cancer patients. The study was initiated in March 2009 and is expected to enroll ~900 patients randomized to receive Paclitaxel with or without MORab-003.

NKTR-102: Nektar is developing NKTR-102, a PEGylated conjugate of irinotecan. The compound has been tested in a number of solid tumors, including a Phase II trial in ovarian cancer. We discuss the recently presented (ASCO 2011) data of NKTR-102 in the next section.

The following table summarizes currently ongoing Phase III trials in ovarian cancer involving a number of compounds.

Compounds in Phase III trials in Ovarian Cancer

Drug	Target	Company	Drug	Trial initiated	Patient population	n	Primary Endpoint	Details
First-line								
BIBF 1120	VEGF	Boehringer Ingelheim Pharmaceuticals	Paclitaxel and carboplatin +/- BIBF 1120	Nov-09	First-line	n=1300	PFS	Randomized; double-blind
Bevacizumab (GOG-0241 study)	VEGF	Roche	Paclitaxel and carboplatin or oxaliplatin and capecitabine +/- bevacizumab	Jan-10	First-line	n=332	Overall Survival	Randomized; open-label
Bevacizumab (GOG-0262 study)	VEGF	Roche	Paclitaxel and carboplatin +/- bevacizumab	Oct-10	First-line	n=625	Overall Survival	Randomized; open-label
Platinum-sensitive patients								
Bevacizumab (GOG-0213 study)	VEGF	Roche	paclitaxel/docetaxel/carboplatin	Dec-07	Platinum-Sensitive, Recurrent Ovarian	n=600	Overall Survival	Randomized
MORAb-003 (farletuzumab)	Folate Receptor Alpha	Morphotek/Eisai	Paclitaxel +/- MORAb-003	Mar-09	Platinum-sensitive patients	n=900	PFS	Randomized; double-blind
AMG 386 (TRINOVA-1 study)	Ang1 and Ang2 inhibitor	Amgen	Paclitaxel +/- AMG 386	Oct-10	Partly platinum sensitive or resistant patients	n=900	PFS	Randomized; double-blind
AMG 386 (TRINOVA-2 study)	Ang1 and Ang2 inhibitor	Amgen	PLD +/- AMG 386	Mar-11	Partly platinum sensitive or resistant patients	n=380	PFS	Randomized; double-blind
Platinum-resistant patients								
Karenitecin	Camptothecin class of chemotherapy	BioNumerik Pharmaceuticals, Inc.	Topotecan +/- Karenitecin	Aug-07	Platinum/taxane-resistant patients	n=500	PFS	Randomized; open-label
Bevacizumab (AURELIA study)	VEGF	Roche	paclitaxel or topotecan or Lioposomal doxorubicin +/- bevacizumab	Oct-09	Platinum-resistant patients	n=300	PFS	Randomized; open-label
Saracatinib (AZD0530)	Src inhibitor	AstraZeneca	Paclitaxel +/- AZD0530	Apr-11	Platinum-resistant patients	n=102	PFS	Randomized; double-blind

Source: Cowen and Company and www.clinicaltrials.gov

NKTR-102: Promising data, albeit from a small, open-label study

At the 2011 ASCO, Nektar presented new data from the subpopulation analysis of the ongoing Phase II (open label) trial of NKTR-102 in patients with platinum resistant/refractory ovarian cancer. The analysis selected the 33 women in the trial (of 71 total) receiving prior treatment with pegylated liposomal doxorubicin (PLD or JNJ's Doxil) after front-line platinum therapy. PLD or Doxil currently is the most frequently used agent for platinum resistant/refractory ovarian cancer.

In the 33 patients with prior PLD therapy, NKTR-102 achieved RECIST confirmed objective response rates (ORR) of 19% in the q14d arm and 21% in the q21d arm. The confirmed plus unconfirmed RECIST objective response rates for NKTR-102 were 25% and 29% for the q14d and q21d arms, respectively. The complete response rate data are presented in the table below.

The presentation included median progression-free survival and Overall Survival data for the total PLD-treated ovarian cancer subpopulation. Median PFS for the 33 women receiving prior PLD therapy was 5.4 months and median O/S in this subpopulation was 13.9 months as of the latest data update. The median duration of confirmed response in the PLD therapy subpopulation was 4.2 months in the q14d arm and 4.4 months in the q21d arm.

NKTR-102's efficacy in platinum-resistant/refractory patients with prior PLD therapy compares favorably to the two agents commonly used for platinum-resistant/refractory ovarian cancer: Doxil's label shows a RECIST ORR of 12.3% and a median Overall Survival of 6.5 months and GSK's Hycamtin (topotecan) label shows a RECIST ORR of 8.2% and a median O/S of 9.5 months.

The subpopulation safety data was consistent with the previous reports of NKTR-102's safety profile in ovarian and breast cancer patients. The most common Grade 3 and 4 treatment-related adverse events were diarrhea, hypokalemia, and nausea.

NKTR-102 Phase II trial in Ovarian Cancer: Efficacy and safety data

NKTR-102 PHASE II PLATINUM-RESISTANT OVARIAN CANCER PLD TREATMENT SUBPOPULATION DATA SUMMARY

	Phase II Results		
	NKTR-102 145 mg/m^2 q14d	NKTR-102 145 mg/m^2 q21d	pooled data
Patient Characteristics In Subpopulation Receiving PLD Treatment	n=16	n=17	n=33
median prior lines of treatment	4	4	4
% on 1 prior platinum regimen	13%	35%	24%
% on 2 prior platinum regimens	56%	24%	39%
% on 3 prior platinum regimens	25%	18%	21%
% on 4+ prior platinum regimens	6%	24%	15%
% on prior bevacizumab (Avastin)	6%	24%	15%
% on prior gemcitabine (Gemzar)	56%	59%	58%
% on prior taxane (paclitaxel or docetaxel)	100%	100%	100%
Key Efficacy Response Rates	NKTR-102 145 mg/m^2 q14d	NKTR-102 145 mg/m^2 q21d	
RECIST Responder Rates (n=evaluable patient population)	n=16	n=14	
confirmed + unconfirmed	25%	29%	
confirmed	19%	21%	
median duration of confirmed response (months)	**4.2 months (3-14 months)**	**4.4 months (3-9 months)**	
GCIG Responder Rates (n=evaluable patient population)	n=16	n=17	
confirmed + unconfirmed	50%	35%	
confirmed	38%	35%	
CA-125 evaluable patient population	n=15	n=14	
CA-125 Confirmed Responder Rates	40%	36%	
Subpopulation Median Progression Free Survival (PFS)	**5.4 Months**		
Subpopulation Median Overall Survival (OS)	**13.9 months**		
Common Adverse Events (Grade 3/Grade 4)**	NKTR-102 145 mg/m^2 q14d	NKTR-102 145 mg/m^2 q21d	
	n=16	n=17	
diarrhea	31%/0%	18%/0%	
hypokalemia	31%/6%	0%/0%	
nausea	31%/0%	6%/0%	
dehydration	19%/0%	6%/0%	
fatigue	6%/0%	18%/0%	
vomiting	25%/0%	0%/0%	
neutropenia	6%/0%	6%/6%	
anemia	12.5%/0%	0%/0%	
decreased appetite	6%/0%	6%/0%	
hyponatraemia	13%/0%	0%/0%	
lymphophenia	6%/0%	6%/0%	

Source: *ASCO 2011 Presentation; Cowen and Company*

Avastin in Ovarian Cancer: The OCEANS study, a Phase III trial of bevacizumab in platinum-sensitive ovarian cancer patients

In June 2011, Roche announced data from the Phase III OCEANS study of bevacizumab in platinum-sensitive ovarian cancer. The randomized (1:1), double-blind, placebo-controlled, Phase III trial enrolled 484 patients who had recurrent, platinum-sensitive, ovarian cancer. Patients were randomized to receive carboplatin and gemcitabine plus bevacizumab (n=242) or carboplatin and gemcitabine plus placebo (n=242). The primary endpoint of the trial was Progression Free Survival, with objective response, Overall Survival, duration of response and safety as secondary endpoints.

OCEANS met the primary endpoint of PFS: The trial showed clinically and statistically significant improvement in the primary endpoint of PFS; patients in the carboplatin/gemcitabine alone arm had a median PFS of 8.4 months, while patients in the carboplatin/gemcitabine plus bevacizumab arm had a PFS of 12.4 months (HR=0.484, p<0.0001). The trial met the secondary endpoint of Objective Response Rate (ORR), with ORR for the patients receiving bevacizumab being 21% higher, 78.5% vs. 57.4% with a p value <0.0001. The Overall Survival data were still early, with only 29% of patients having had an event. The following table summarizes the efficacy data from the OCEANS study.

OCEANS study: Efficacy Data

	Arm A carboplatin/gemcitabine + pbo (n=242)	Arm B carboplatin/gemcitabine + Bev (n=242)
Median PFS (95% CI) (months)	**8.4** (8.31, 9.66)	**12.4** (11.40, 12.71)
PFS HR (95% CI)	0.484 (0.388, 0.605)	
p value	**p<0.0001**	
Median O/S (95% CI) (months)	29.9	35.5
O/S HR (95% CI)	0.751 (0.537, 1.052)	
p value	p=0.094	
ORR % (95% CI)	**57.4 (51.2, 63.7)**	**78.5 (73.3, 83.7)**
p value	**p<0.0001**	

Source: Roche ASCO 2011 poster

Endocyte's pipeline beyond EC145: more mixing and matching of ligands and potent chemotherapeutics

Even though most public market investors-understandably-don't pay much/any attention or assign much/any value to early-stage clinical and preclinical compounds, especially in oncology, we note that in addition to developing its lead candidate EC145 in PROC and NSCLC, Endocyte has a number of compounds in Phase I and preclinical testing.

The company has guided that a portion of the new funding received in the July 2011 financing (approximately $10M) will be invested in advancing its earlier-stage pipeline in oncology and inflammation.

Among the pipeline compounds, we view the following three among the most-worth-paying-attention-to:

1) EC0531, a folate-receptor targeted molecule conjugated to Tubulysin-B, one of the strongest chemotherapeutics the company is using. EC0531 will enter clinical testing in patients with solid tumors,

2) EC1069, a PSMA (prostate-specific membrane antigen) targeted molecule also conjugated to Tubulysin-B. EC1069 will enter clinical testing in men with prostate cancer, and

3) EC0746, a folate-receptor targeted molecule conjugated to aminopterin. EC0746 will enter clinical testing in inflammatory disease.

The table below lists the compounds and molecular diagnostics that compose Endocyte's current early clinical and preclinical oncology and inflammation pipeline.

Endocyte's early-stage clinical and preclinical pipeline

Candidate name	Indication	P-C	I	II	III	FILING	MKT	Comments
EC0489	Solid tumors		•					Folate Receptor with DAVLBH as payload
EC0225	Solid tumors		•					Folate Receptor with DAVLBH/ Mitomycin-c as payload
EC017	Solid tumors		•					Folate Receptor with Hapten as payload
EC0531	Solid tumors	•						Folate Receptor with Tubulysin-B as payload
EC1069	Prostate cancer	•						PSMA with Tubulysin-B as payload
EC0652	PSMA	•						Imaging agent to be used with EC1069
EC0746	Inflammation	•						Folate Receptor with Aminopterin as payload
EC0565	Inflammation	•						Folate Receptor with mTor as payload
Total Drugs in Development		**5**	**3**	**0**	**0**	**0**	**0**	
West Lafayette, IN	**Investor Relations Contact: Stephanie Ascher - 212.362.1200**							

Source: Cowen and Company, Endocyte

Endocyte's Partnerships: No further milestones or royalties owed for EC145 or EC20

Endocyte currently has two licensing agreements, one with Purdue Research Foundation (PRF) involving patents related to the folate receptor (FR) and one with R&D Biopharmaceuticals regarding FR conjugates with the chemotherapeutic Tubulysin. Endocyte has made modest milestone license payments to both PRF and R&D Biopharmaceuticals, but it does not owe any further milestones or royalties to either or any other licensor for EC145 and EC20.

Purdue Research Foundation (PRF)

In December 1995, Endocyte and Purdue Research Foundation (PRF) entered into an exclusive license agreement under which Endocyte received exclusive rights to certain PRF patents related to the folate receptor. Endocyte is obligated to pay an annual minimum royalty of $12,500 until a product is commercialized and is also required to pay single-digit royalty on product sales.

In December 2009, Endocyte and Purdue Research Foundation entered into a license agreement for a patent related to PSMA for prostate cancer. Endocyte is obligated to pay an annual minimum royalty of $15,000 until commercialization and is also required to pay single-digit royalty on product sales. Upon commercialization, Endocyte is required to make an annual milestone payment of $100,000 to PRF, and an additional $500,000 in certain clinical, regulatory, and sales-based milestone payments.

R&D Biopharmaceuticals

In October 2007, Endocyte and R&D Biopharmaceuticals entered into a worldwide license for the development and commercialization of compounds containing conjugates of folate receptor targeting compounds and tubulysin compounds. In February 2011, R&D Biopharmaceuticals assigned the agreement to Trientlgasse. Under the terms of the agreement Endocyte paid $300,000 in upfront fees and also required to pay $50,000 in annual maintenance fees. Endocyte is also required to pay up to a maximum of $6.3M in specific scientific, clinical, and regulatory milestones, which includes all milestones through regulatory approval in the US, EU and Japan for four different tubulysin drugs and royalties on net sales.

Endocyte's Intellectual Property Estate

Endocyte has built a strong IP portfolio around its SMDC technology, with over 80 patents issued or granted worldwide and another 200+ pending patent applications worldwide. The company has exclusive, worldwide licenses that encompass 31 issued patents and 71 patent applications for select folate-targeted technologies and for select technologies related to PSMA, owned by Purdue Research Foundation.

The company's IP portfolio has three main areas of focus: **1)** targeted molecules for use in oncology indications and their companion diagnostics, **2)** targeted molecules for use in inflammatory indications and their companion diagnostics, and **3)** cancer immunotherapy.

1) Targeted molecules for use in oncology indications and their companion diagnostics

Endocyte's two agents currently evaluated in the Phase III PROCEED trial, EC145 and EC20, have a long US patent life. The US patents covering EC145 expires in 2026 and patents covering the EC20 companion diagnostic expires in 2024. The next table describes the three currently issued US patents for EC145 and EC20 that expire in 2026 and 2024, respectively.

Issued US patents covering EC145 and EC20

US patent #	Title	Issued	Expiration	Comment
7,128,893	Vitamin-Targeted Imaging Agents	10/31/2006	2024	Patent includes claims covering EC20 and methods for targeting radionuclide-based imaging agents to cell having receptor for a vitamin, or vitamin receptor binding derivative by using such a vitamin as the targeting ligand for the imaging agent.
7,862,798	Vitamin-Targeted Imaging Agents	1/4/2011	2024	Patent includes claims covering EC20 and methods for targeting radionuclide-based imaging agents to cell having receptor for a vitamin, or vitamin receptor binding derivative by using such a vitamin as the targeting ligand for the imaging agent.
7,601,332	Vitamin Receptor Binding Drug Delivery Conjugates (Big Linkers)	10/13/2009	2026	Patent includes claims covering EC145 that describes a vitamin receptor binding drug delivery conjugate, and preparation therefor. The patent also describes methods and pharmaceutical composition for eliminating pathogenic cell population using the drug delivery conjugate.

Source: Cowen and Company and Endocyte SEC filings

EC145: Patent # 7,601,332 titled *"Vitamin Receptor Binding Drug Delivery Conjugates (Big Linkers)"* includes claims covering EC145 that describe a vitamin receptor binding drug delivery conjugate, and its preparation. The patent also describes methods and pharmaceutical composition for eliminating pathogenic cell populations using the drug delivery conjugate. This patent provides protection in the US through 2026. The patent has been granted in US, China, India, New Zealand with continuations filed in US and in China.

Endocyte is continuing to build its patent portfolio involving EC145 and has recently filed for additional patents for the compound including **1)** Using EC20 to predict

patient response to EC145, which could provide protection until 2030, **2)** for the combination of EC145 with Doxil with potential expiration in 2030-2031, and **3)** for the lyophilized formulation of EC145 with potential U.S. expiration of 2031.

Additional patent applications for EC145

Compound	Comments
EC145	Using EC20 to predict patient response to EC145; Provisional filing in July 2009; Potential U.S. Expiration of 2030
	Combination of EC145 with Doxil; Provisional filing in May of 2010; Potential U.S. Expiration of 2030 or 2031
	Lyophilized formulation of EC145; Potential U.S. Expiration of 2031

Source: Cowen and Company and Endocyte SEC filing

EC20: Patent # 7,128,893 titled "*Vitamin-Targeted Imaging Agents*" includes claims covering methods for targeting radionuclide-based imaging agents to cells expressing receptors for a vitamin, or vitamin receptor binding derivatives by using such a vitamin as the targeting ligand for the imaging agent. This patent provides protection through 2024. Claims covering the EC20 drug substance have been granted in Australia, China, India, New Zealand and South Africa.

In addition to the patents that have already been issued, the company has filed several patent applications for its anti-tumor product candidates. The table below contains a list of these oncology-focused patent applications.

Patent applications for other anti-tumor product candidates

Compound	Comments
EC0225 – Multi-Drug Ligand Conjugates	Covers >1 drug conjugated to folate; potential expiration date of 2026; Pending in Australia, Brazil, Canada, China, Europe, India, Japan, Korea, Mexico, Russia, and U.S.
EC0489 – Spacer Conjugates	Covers Conjugates with spacer moieties; Potential expiration date of 2028; Pending in Australia, Canada, Europe, Israel, India, Japan, New Zealand, Brazil, China, Russia, South Africa, and U.S.
EC0531 – Tubulysin Conjugates	Covers tubulysin conjugates; Potential expiration date of 2028; Pending in Australia, Canada, China, Europe, Israel, Japan, New Zealand, and the U.S.
EC0651 – Conjugates for PSMA	Covers Conjugates for treating and imaging Prostate tumors; Potential expiration date of 2028; Pending in Australia, Canada, China, Europe, Israel, India, Japan, New Zealand, South Africa
EC17 – Fluorescence Imaging with Conjugate Dyes	Covers Conjugates for imaging tumors with fluorescent dyes; Potential expiration date of 2023; Pending in U.S. only

Source: Cowen and Company and Endocyte SEC filings

2) Targeted molecules for use in inflammatory indications and their companion diagnostics

Under the anti-inflammation IP family Endocyte currently holds one issued US patent and has patent applications pending on activated macrophages and inflammation, while it is prosecuting general diagnostic and therapeutic methods in the US and worldwide.

3) Cancer immunotherapy

Under the cancer immunotherapy IP family Endocyte currently holds one exclusive issued US patent. The issued patent covers administering folate-receptor binding ligand conjugated to an immunogen and further administering a stimulant. The patent has been issued in Eurasia, Australia, India, Korea, Mexico, New Zealand, Singapore, and South Africa. Prosecution is ongoing in three separate patent families, two licensed from Purdue and one owned by Endocyte.

Addendum

STOCKS MENTIONED IN IMPORTANT DISCLOSURES

Ticker	Company Name
ECYT	Endocyte

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Rating	Definition
Outperform (1)	Stock expected to outperform the S&P 500
Neutral (2)	Stock expected to perform in line with the S&P 500
Underperform (3)	Stock expected to underperform the S&P 500

(a) Assumptions: Time horizon is 12 months; S&P 500 is flat over forecast period.

COWEN AND COMPANY RATING ALLOCATION (a)

Rating	Pct of companies under coverage with this rating	Pct for which Investment Banking services have been provided within the past 12 months
Buy (b)	51.1%	7.5%
Hold (c)	45.9%	2.1%
Sell (d)	3.0%	0.0%

(a) As of 06/30/2011. (b) Corresponds to "Outperform" rated stocks as defined in Cowen and Company, LLC's rating definitions (see above). (c) Corresponds to "Neutral" as defined in Cowen and Company, LLC's ratings definitions (see above). (d) Corresponds to "Underperform" as defined in Cowen and Company, LLC's ratings definitions (see above). Note: "Buy," "Hold" and "Sell" are not terms that Cowen and Company, LLC uses in its ratings system and should not be construed as investment options. Rather, these ratings terms are used illustratively to comply with NASD and NYSE regulations.