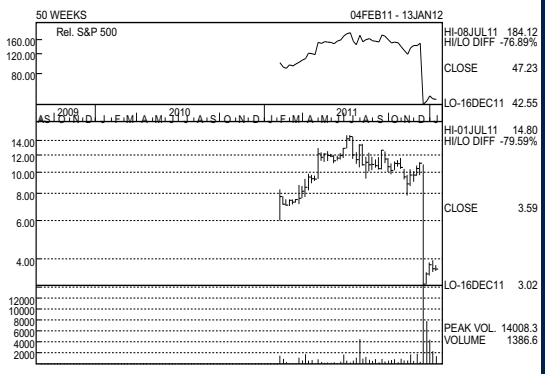

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FY Dec	2010A	2011E	2012E	2013E
Rpt EPS - Basic	(21.77)	(1.43)	(1.33)	(0.90)
Prev.			(0.93)	
Revenue (MM)	0.0	0.0	0.0	22.5
Prev.			14.3	
P/Rpt EPS	NM	NM	NM	NM

Revenue (MM)	Q1	Q2	Q3	Q4
2010	0.0A	0.0A	0.0A	0.0A
2011	0.0A	0.0A	0.0A	0.0E
2012	0.0E	0.0E	0.0E	0.0E
Prev.	4.5E	3.3E	3.3E	3.3E
Rpt EPS - Basic				
2010	(6.37)A	(5.79)A	(6.10)A	(3.57)A
2011	(0.43)A	(0.35)A	(0.36)A	(0.32)E
2012	(0.32)E	(0.33)E	(0.34)E	(0.34)E
Prev.	(0.20)E	(0.24)E	(0.25)E	(0.25)E

All values in USD unless otherwise noted.

PRICE TARGET REVISION | COMMENT

JANUARY 17, 2012

Endocyte, Inc. (NASDAQ: ECYT)

Down But Not Out - Mapping the Path Forward for EC145

Outperform
Speculative Risk

Price:	3.59	**Price Target:**	8.00 ↓ 14.00
		Implied All-In Return:	123%
Shares O/S (MM):	35.6	**Market Cap (MM):**	128
Dividend:	0.00	**Yield:**	0.0%

Event

We continue to believe EC145 is active in ovarian cancer; Cutting target to $8 from $14.

Investment Opinion

After two meetings last week with ECYT management, we remain convinced that EC145 is a highly active drug in ovarian cancer, though the path forward has become more complex and higher risk. Upcoming meetings with FDA and EMA should provide clear guidance on the clinical and regulatory path forward, and Phase III could resume in Q2:12 if all goes well. We believe at its current valuation, ECYT remains compelling, and clinical and regulatory advances through mid-2012 could provide modest upside. Our new target is $8.

- **Switching to Taxol.** ECYT no longer believes it can rely on Doxil supply for its Phase III trial, and plans to modify the Phase III trial to test EC145 with Taxol. This switch has both clinical and regulatory risks, but may be the best option given the lack of Doxil. Preclinical data supports the combination, but an initial Phase I/II run in ahead of the Phase III is being proposed to ensure safety. Getting buy in from regulators on this approach is a risk, though ECYT is confident it will get a green light.
- **Focus on FR(++) patients.** The recent validation of the EC20 assay, particularly the FR(++) designation, was a major advance that was not well appreciated. Both FDA and EMA are most interested in this population, and the Phase III will be amended to only address these patients. Focusing on patients most likely to benefit is a winning strategy, and may actually lower clinical risk.
- **Trial size will be smaller.** With only FR(++) patients, ECYT believes it can run a 200 patient trial rather than a 600 patient trial and still maintain its power to detect a HR of 0.6. The smaller trial will still need to screen the same number of patients, but the overall cost will be much smaller ($15M vs. $45M).
- **Time line for news events.** Following a Q1 meeting with regulators, we expect (1) restart of Phase III trial in Q2, (2) initiation of lung cancer trial in Q2, and (3) potential regulatory filing in EU in mid-2012. Data from the Phase IIb lung trial could come in late 2013, and data in ovarian cancer could come in H1:14.

Priced as of prior trading day's market close, EST (unless otherwise noted).

For Required Conflicts Disclosures, see Page 8.

Details

Still Think EC145 Is Active Despite The Disappointing Phase II Analysis

In December, ECYT announced several major findings.

1. The updated overall survival data showed a further deterioration of the result and in fact the median OS was longer in the Doxil control arm.
2. The retrospective independent evaluation of the PFS results directionally confirmed the findings of the investigators, but the magnitude and statistical significance of the results deteriorated.
3. The EC20 diagnostic scans were validated both inter reader and intra reader.

Our take on these results after much consideration is as follows.

- **Overall survival.** We do not believe that EC145 has a survival detriment. We believe that the OS curve for the control arm is unusual in both shape and in its median and is likely due to small patient numbers. The comparison to historic controls shows this data set to be a substantial outlier. ECYT has conducted several post-hoc analyses, which provide some possible explanation for the results, but the patient numbers only get smaller and we see the exercise as being further inconclusive. The mixed OS results over time raise our view of the regulatory risk, especially in Europe where an early filing is expected.
- **PFS results.** The company has explained the deterioration in the PFS results as being highly biased toward "compressing" the results. This is because the independent review was done retrospectively. If the independent reviewer decided a progression occurred earlier, the data could change for the worse, but there was no opportunity for the independent reviewer to call the progression later, because there would be no further scans after the investigator determined that the progression had occurred. The key for us is that the result remains directionally the same, robust in magnitude, and continues to show a better outcome with increasing FR positivity. For this reason, we continue to view EC145 as a highly active agent in platinum resistant ovarian cancer.
- **EC20 diagnostic.** The ability to reliably determine FR positivity using the EC20 diagnostic was critical for the future clinical and commercial development of EC145. Importantly, the ability to reliably distinguish between FR(+) and FR(++) was crucial for identifying the patients most likely to respond. The high concordance between readers will likely lead to FDA and EMA buy in on the plans to focus future development on the FR(++) patients only.

Phase II EC145 Median PFS Results

	Investigator					IRC				
Patients	**EC145+PLD**	**PLD**	**Delta**	**HR**	**P value**	**EC145+PLD**	**PLD**	**Delta**	**HR**	**P value**
ITT	5.0	2.7	2.3	0.626	0.031	4.2	2.0	2.2	0.768	0.2235
FR+	5.7	1.7	4.0	0.547	0.0406	4.0	1.5	2.5	0.652	0.1449
Fr++	5.5	1.5	4.0	0.381	0.0134	4.0	1.5	2.5	0.465	0.0498

Source: Company reports and RBC Capital Markets.

Phase II EC145 Median OS Results

	ITT			FR(++) patients		
	EC145+PLD	**PLD**	**HR**	**EC145+PLD**	**PLD**	**HR**
OS (m)	14.1	16.9	1.099	14	16.4	1.42
6m survival	81%	70%		73%	60%	
12m months	62%	63%		64%	53%	

Source: Company reports and RBC Capital Markets.

EC20 Validation by Reader Agreement

	Inter-reader Agreement	Intra-reader Agreement 1	Intra-reader Agreement 2
FR(+) >= 1 positive lesion	87%	90%	95%
FR(++) all lesions positive	85%	100%	95%
Targeted	>70% agreement		

Source: Company reports and RBC Capital Markets.

Mapping the Path Forward and Evaluating the Points of Risk

The current Phase III design was to test EC145 + Doxil to Doxil alone in patients with platinum resistant ovarian cancer. The lack of availability of Doxil and the uncertain timeline for supply to become readily available has forced ECYT to look for alternative Phase III approaches.

Proposed changes to the Phase III design:

- **Switch out Doxil with Taxol in the treatment regimen.** Taxol is a standard first and second line agent in ovarian cancer and its use in this treatment setting is non-controvercial as a control arm. It is also expected that the control arm with Taxol would behave similarly to Doxil. ECYT could also have chosen topotecan (another commonly used drug in ovarian cancer). However, the toxicity of topotecan makes it less preferred.
- **Focus on FR(++) patients.** The validation of the EC20 assay and the continued strong benefit seen in this population provides the rationale for moving forward in this population which is most likely to derive benefit from EC145 treatment.
- **Smaller trial size.** By focusing on a population with a higher expected clinical benefit, the same statistical power can be achieved with a small number of patients. ECYT estimates that it can achieve the same statistical power with 200 patients as it did with the original 600 patient trial design.
- **Safety assessment**. Because EC145 has never been combined with Taxol in human trials, ECYT hopes to run a small dose escalation or de-escalation run in to assess the safety prior to initiating full enrollment in the trial. One strategy would be to start several patients at a lower dose of taxol, and if it is well tolerated, move to full dose taxol.

Regulatory and clinical timeline:

- ECYT expects to meet with FDA and EMA in Q1:12 to discuss proposed Phase III trial changes.
- Initiate redesigned Phase III trial in Q2:12 (ECYT also expects to start its Phase IIb trial in lung cancer in Q2)
- File for regulatory approval in EMA based on Phase II data in mid-2012. EU regulators wanted the Phase III up and running before considering a regulatory filing.
- An EU regulatory decision could come in 2013
- Data from Phase III could come in H1:14
- We assume EU launch in 2014 and US launch in 2015

Key risks

- **Buy in from regulators.** The timeline are clearly dependent on both US and EU regulators agreeing to the proposed Phase III trial changes. The issue of swapping out Taxol may be tricky, especially given the current lack of Phase I safety data. ECYT is proposing a run in period to evaluate safety, but either FDA or EMA may require a separate Phase I trial, which could substantially delay Phase III.
- **Safety with taxol.** ECYT's proposed timelines assume that there is no problem combining taxol with EC145. Both drugs target microtubules. While the preclinical data suggests the drugs can be easily combined, it is possible that even with the run in design proposed by ECYT that there could emerge a safety issue with this combination.
- **Statistical assumptions.** ECYT is basing its proposed clinical trial design on the assumption that EC145 will perform equally well with taxol as it did with Doxil in the Phase II. While this is supported by animal data, one of the major risk lowering features of ECYT was that the Phase III trial designed closely matched the Phase II design. That will no longer be the case, which raises clinical risk.

- **Regulatory risk in EU.** ECYT has an accelerated approval strategy in EU based on its Phase II results. The new overall survival data may make those results less compelling to regulators. It is also not 100% clear that EU regulators will accept the proposed taxol study as a confirmatory study for the Phase II. We assume they will, but the risk for approval in EU has increased.

Changes to Our Market Model and Estimates.

We are changing our EC145 market model and our estimates for 2013E-2018E. We are pushing out our US launch assumption by one year to 2014 and our EU launch assumption to 2014 from 2013. We now conservatively assume that only 40% of patients with platinum resistant ovarian cancer eligible (the FR++ population). Previously, we had used FR+ patients as the targeted patient population. Given that the refined PROC market is now better targeted, we have increased our penetration rate and price per month. The net impact are lowered revenues in the earlier years while in the outer years the revenue forecast is essentially unchanged. We also moved an assumed EU partnership from 2012 to 2013.

Changes to Our Estimates (2012E-2018E)

		2012E	2013E	2014E	2015E	2016E	2017E	2018E
U.S. Sales - PROC	Current	0.0	0.0	0.0	33.6	87.0	156.6	211.3
	Prior	0.0	0.0	24.5	63.5	114.3	154.3	200.0
	Difference	0.0	0.0	(24.5)	(29.9)	(27.3)	2.3	11.4
EU Royalty - PROC	Current	0.0	0.0	3.1	7.8	13.6	21.4	29.9
	Prior	0.0	2.3	5.8	10.2	16.1	22.5	29.4
	Difference	0.0	(2.3)	(2.8)	(2.4)	(2.5)	(1.1)	0.4
Total Revenues	Current	0.0	22.5	32.7	50.5	109.7	217.9	311.2
	Prior	14.3	27.7	49.5	82.9	148.7	207.6	299.4
	Difference	(14.3)	(5.2)	(16.8)	(32.4)	(39.0)	10.3	11.8
Research and Development Expenses	Current	36.0	40.0	46.0	55.0	55.0	60.0	65.0
	Prior	36.0	40.0	46.0	55.0	55.0	60.0	65.0
	Difference	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sales, General and Administrative Expenses	Current	11.0	15.0	25.0	35.0	37.0	40.0	50.0
	Prior	11.0	15.0	25.0	35.0	37.0	40.0	50.0
	Difference	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Costs and Expenses	Current	47.0	55.0	71.0	93.4	100.7	117.7	143.1
	Prior	47.0	55.0	73.5	96.4	103.4	117.4	142.0
	Difference	0.0	0.0	(2.5)	(3.0)	(2.7)	0.2	1.1
Operating Income (Loss)	Current	(47.0)	(32.5)	(38.3)	(42.9)	9.0	100.3	168.1
	Prior	(32.8)	(27.3)	(23.9)	(13.5)	45.3	90.2	157.4
	Difference	(14.3)	(5.2)	(14.4)	(29.4)	(36.2)	10.1	10.7
Net Income (Loss) - GAAP	Current	(47.8)	(32.6)	(38.0)	(42.6)	9.3	98.1	159.9
	Prior	(33.6)	(27.4)	(23.6)	(13.2)	45.6	88.2	149.8
	Difference	(14.3)	(5.2)	(14.4)	(29.4)	(36.2)	9.9	10.1
EPS, Basic (GAAP)	Current	($1.33)	($0.90)	($0.91)	($1.01)	$0.22	$2.28	$3.68
	Prior	($0.93)	($0.75)	($0.57)	($0.31)	$1.07	$2.05	$3.45
	Difference	($0.40)	($0.14)	($0.34)	($0.70)	($0.85)	$0.23	$0.23
EPS, Diluted (GAAP)	Current	($1.33)	($0.90)	($0.91)	($1.01)	$0.21	$2.17	$3.50
	Prior	($0.93)	($0.75)	($0.57)	($0.31)	$1.02	$1.95	$3.28
	Difference	($0.40)	($0.14)	($0.34)	($0.70)	($0.81)	$0.22	$0.22

Source: RBC Capital Markets estimates.

Key News Flow

Timing	Expected News Flow	Program
Q2:12	Initiate Phase II trial in NSCLC	EC145
Q2:12	Initiate Phase III trial in PROC	EC145
Mid-2012	MAA filing for ovarian cancer	EC145 / EC20
H1:13	Initiate new clinical program	Pipeline
YE:13	Final PFS data in NSCLC	EC145
H1:14	Final Phase III PFS results; interim OS results	EC145
2014	Approval and launch in EU	EC145 / EC20
2015	Approval and launch in the US	EC145 / EC20
Late 2015/early 2016	Final Phase III OS results	EC145

Source: Company reports and RBC Capital Markets estimates.

Products And Pipeline

Product	Indication	Target	Payload	Status
Cancer				
EC145	Platinum resistant ovarian cancer	FR	DAVLBH	Phase III
	Non-small cell lung cancer		DAVLBH	Phase II
EC0489	Solid tumors	FR	DAVLBH	Phase I
EC0225	Solid tumors	FR	DAVLBH / Mitomycin-C	Phase I
EC17	Solid tumors	FR	Hapten	Phase I
EC0531	Solid tumors	FR	Tubulysin-B	Preclinical
EC1069	Prostate cancer	PSMA	Tubulysin-B	Preclinical
Inflammation				
ECO746	Inflammation	FR	Aminopterin	Preclinical
ECO565	Inflammation	FR	mTor inhibitor	Preclinical
Companion Imaging Diagnostics				
EC20	Diagnostic (folate receptor)	FR	Tc-99m	Phase III
EC0652	Diagnostic (prostate)	PSMA	Tc-99m	Phase I

Source: Company reports and RBC Capital Markets.

Valuation

We are lowering our price target to $8 ($14 previously) using our sum-of-the-parts based valuation methodology.

Our new valuation reflects a one-year delay in launch in the US (2015) and EU (2014) vs. previous estimates. We have also lowered our probability of success for EC145 to 50% for ovarian cancer (60-65% previously) and to 25% in NSCLC (35% previously). We believe the clinical and regulatory risk has increased because: 1) a change in protocol (to Taxol from Doxil), 2) efficacy measures that deteriorated upon an independent assessment, and 3) upcoming discussion with regulators in the US and EU, which could lead to further trial adjustments. Our sum-of-the parts DCF analysis of ~$8/share includes EC145 for PROC ($5.94/share) and NSCLC ($2.81/share). The DCF of its financial assets including net cash and NOLs net of next 4 year burn is ($0.71)/share. We assume that EC145's patent life extends through 2026.

Our P/E and company level DCF valuations model a success scenario (not probability adjusted) and arrive at a higher value in the mid-to-high teens. However, we do not expect any visibility on the likelihood of success over the next 12-months and expect ECYT shares to continue to trade on a probability adjusted basis vs. the upside scenarios.

Price Target Impediment

Our price target is dependent primarily on the regulatory and commercial success of EC145 in platinum resistant ovarian cancer as well as in non-small cell lung cancer. Any setbacks in clinical development, delay in launch, increased competition or other limitations to the market potential of EC145 could negatively impact our valuation. Upside could come from pricing, better than anticipated market penetration, new partnerships, clinical success of earlier-stage programs that are not included in our valuation and/or setbacks for potential competitors.

Company Description

Endocyte is a biopharmaceutical company developing targeted therapies for the treatment of cancer and other serious diseases. The company uses its proprietary technology to create novel small molecule drug conjugates (SMDCs) and companion imaging diagnostics. SMDCs actively target receptors that are over-expressed on diseased cells, relative to healthy cells, which enables the treatment of patients with highly active drugs at greater doses, delivered more frequently, and over longer periods of time than would be possible with the untargeted drug alone. The combination of an SMDC with its companion imaging diagnostic is designed to personalize the treatment of patients by delivering effective therapy, selectively to diseased cells, in patients most likely to benefit. The company’s lead SMDC, EC145, targets the folate receptor, which is frequently over-expressed in some of the most prevalent, and difficult to treat solid tumor indications, including ovarian, non-small cell lung, breast, colorectal, kidney, endometrial, and other cancers.

Endocyte

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Annual and Quarterly Income Statement

($ in MM; except per share)	2010A	Q1:11A	Q2:11A	Q3:11A	Q4:11E	2011E	Q1:12E	Q2:12E	Q3:12E	Q4:12E	2012E	2013E	2014E	2015E	2016E	2017E	2018E
EC145																	
U.S. Sales - PROC											0.0	0.0	0.0	33.6	87.0	156.6	211.3
EU Royalty - PROC											0.0	0.0	3.1	7.8	13.6	21.4	29.9
EC145 - NSCLC											0.0	0.0	0.0	0.0	0.0	20.0	70.0
EC0225											0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Product Revenues							0.0	0.0	0.0	0.0	0.0	0.0	3.1	41.3	100.6	197.9	311.2
Collaboration revenue	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.5	29.6	9.2	9.2	20.0	0.0
Total Revenues	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.5	32.7	50.5	109.7	217.9	311.2
COGS		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	8.7	17.7	28.1
Research and Development Expenses	14.6	4.4	7.7	8.9	8.5	29.6	8.7	8.9	9.1	9.3	36.0	40.0	46.0	55.0	55.0	60.0	65.0
Sales, General and Administrative Expenses	6.0	2.1	2.3	2.7	2.5	9.6	2.6	2.7	2.8	2.9	11.0	15.0	25.0	35.0	37.0	40.0	50.0
Total Costs and Expenses	20.6	6.5	10.1	11.6	11.0	39.2	11.3	11.6	11.9	12.2	47.0	55.0	71.0	93.4	100.7	117.7	143.1
Operating Income (Loss)	(20.6)	(6.5)	(10.1)	(11.6)	(11.0)	(39.2)	(11.3)	(11.6)	(11.9)	(12.2)	(47.0)	(32.5)	(38.3)	(42.9)	9.0	100.3	168.1
Other Income/(Expense), Net	0.5	(0.7)	(0.5)	(0.4)	(0.5)	(2.1)	(0.3)	(0.2)	(0.2)	(0.1)	(0.8)	(0.1)	0.3	0.3	0.3	0.3	0.3
Income (Loss) before Tax	(20.1)	(7.2)	(10.5)	(12.1)	(11.5)	(41.3)	(11.6)	(11.8)	(12.1)	(12.3)	(47.8)	(32.6)	(38.0)	(42.6)	9.3	100.6	168.3
Provision for Income Tax		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	2.5	8.4
Net Income (Loss) - GAAP	**(20.1)**	**(7.2)**	**(10.5)**	**(12.1)**	**(11.5)**	**(41.3)**	**(11.6)**	**(11.8)**	**(12.1)**	**(12.3)**	**(47.8)**	**(32.6)**	**(38.0)**	**(42.6)**	**9.3**	**98.1**	**159.9**
EPS, Basic (GAAP)	($21.77)	($0.43)	($0.35)	($0.36)	($0.32)	($1.43)	($0.32)	($0.33)	($0.34)	($0.34)	($1.33)	($0.90)	($0.91)	($1.01)	$0.22	$2.28	$3.68
EPS, Diluted (GAAP)	($21.77)	($0.43)	($0.35)	($0.36)	($0.32)	($1.43)	($0.32)	($0.33)	($0.34)	($0.34)	($1.33)	($0.90)	($0.91)	($1.01)	$0.21	$2.17	$3.50
Shares Outstanding, Basic	0.9	16.9	29.7	33.4	35.7	28.9	35.8	35.9	35.9	36.0	35.9	36.4	41.8	42.2	42.6	43.0	43.5
Shares Outstanding, Diluted	3.1	19.1	31.9	35.6	37.9	31.1	38.0	38.1	38.2	38.3	38.1	38.6	44.0	44.4	44.8	45.2	45.7

EC145 summary	2013E	2014E	2015E	2016E	2017E	2018E
US sales	0.0	0.0	33.6	87.0	156.6	211.3
EU sales	0.0	15.4	38.9	67.9	106.8	149.3
Total sales	0.0	15.4	72.4	154.9	263.4	360.6
Revenue to Endocyte	0.0	3.1	41.3	100.6	177.9	241.2

Expense analysis	2013E	2014E	2015E	2016E	2017E	2018E
Cost of goods (% of sales)		10%	10%	10%	10%	10%
R&D (% of revenues)		141%	109%	50%	28%	21%
SG&A (% of revenues)		77%	69%	34%	18%	16%
Operating Margin		-117%	-85%	8%	46%	54%

Source: Company reports and RBC Capital Markets estimates.

Required Disclosures

Conflicts Disclosures

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A member company of RBC Capital Markets or one of its affiliates received compensation for investment banking services from Endocyte, Inc. in the past 12 months.

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Ratings

Top Pick (TP): Represents analyst's best idea in the sector; expected to provide significant absolute total return over 12 months with a favorable risk-reward ratio.

Outperform (O): Expected to materially outperform sector average over 12 months.

Sector Perform (SP): Returns expected to be in line with sector average over 12 months.

Underperform (U): Returns expected to be materially below sector average over 12 months.

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Average Risk (Avg): Volatility and risk expected to be comparable to sector; average revenue and earnings predictability; no significant cash flow/financing concerns over coming 12-24 months; fairly liquid.

Above Average Risk (AA): Volatility and risk expected to be above sector; below average revenue and earnings predictability; may not be suitable for a significant class of individual equity investors; may have negative cash flow; low market cap or float.

Speculative (Spec): Risk consistent with venture capital; low public float; potential balance sheet concerns; risk of being delisted.

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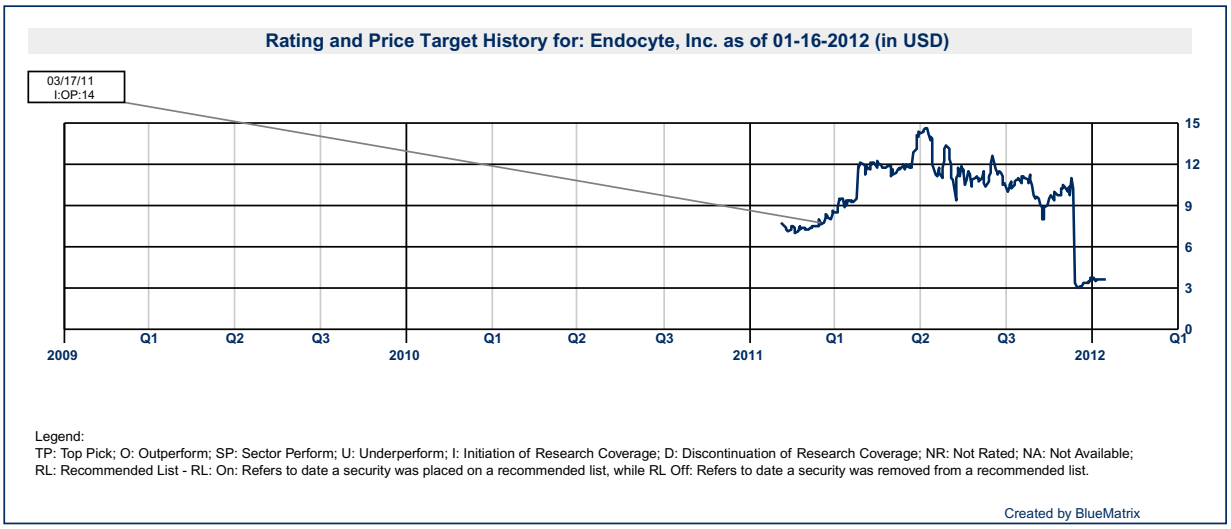
Distribution of Ratings
RBC Capital Markets, Equity Research

			Investment Banking Serv./Past 12 Mos.	
Rating	Count	Percent	Count	Percent
BUY[TP/O]	782	52.00	223	28.52
HOLD[SP]	652	43.30	139	21.32
SELL[U]	71	4.70	7	9.86



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