UBS

UBS Investment Research

Puma Biotechnology

Multiple Paths To Success In Cancer

■ We initiate Puma at Buy with a $27 PT

We believe neratinib, Puma's key asset which it acquired from Pfizer, for HER2+ metastatic breast cancer (mBC) is better than existing chemotherapy alone or Tykerb and see multiple paths to upside from data in the neoadjuvant setting, activity in CNS disease (~30% of all mBC patients) and HER2 lung cancer. We believe mgt. understands how to develop new agents and is shareholder friendly.

■ Key model assumptions: mBC core; potential in neoadjuvant and lung

We believe neratinib has the greatest probability of success in 3rd/4th line mBC where it can achieve longer durations than Tykerb (based on PhII combo with Xeloda) coupled with sig. penetration to yield ~$300M in peak US sales. While the diarrhea AE is an issue, we believe it will be accepted in an advanced setting. Further, we see potential from neoadjuvant (Tykerb + trastuzumab has interesting data) and in HER2 mutated lung cancer. We probability adj. those indications at 50%/40%. In BC, CNS activity and 2nd line mBC penetration present add'l upside.

■ Our near-term stance: 2013 key year to drive upside

We see two near-term drivers for Puma. First, we believe key trials in the neoadjuvant setting, lung cancer and CNS disease due to release data in 2013 will help to expand the potential indications for neratinib and thus valuation. Second, we believe the increased liquidity from the recent follow-on offering will allow more investors with interest in the story to participate driving demand for shares.

■ Valuation: Our $27 PT is based on SOTP

Our blended target includes $19 ($5 cash) for fundamentals and $8 for M&A.

Highlights (US$m)	-	12/11	12/12E	12/13E	12/14E
Revenues	-	0	0	0	0
EBIT (UBS)	-	(10)	(47)	(31)	(50)
Net Income (UBS)	-	(10)	(47)	(30)	(48)
EPS (UBS, US$)	-	(1.32)	(2.21)	(1.03)	(1.58)
Net DPS (UBS, US$)	-	0.00	0.00	0.00	0.00

Profitability & Valuation	5-yr hist av.	12/11	12/12E	12/13E	12/14E
EBIT margin %	-	-	-	-	-
ROIC (EBIT) %	-	-	<-500	<-500	<-500
EV/EBITDA (core) x	-	-	-10.7	-15.8	-10.3
PE (UBS) x	-	-	NM	NM	NM
Net dividend yield %	-	-	0.0	0.0	0.0

Source: Company accounts, Thomson Reuters, UBS estimates. (UBS) valuations are stated before goodwill-related charges and other adjustments for abnormal and economic items at the analysts' judgement.

Valuations: based on an average share price that year, (E): based on a share price of US$21.45 on 26 Oct 2012 16:12 EDT

Matthew Harrison
Analyst
matthew.harrison@ubs.com
+1-212-713 2429

Matthew Roden, PhD
Analyst
matthew.roden@ubs.com
+1-212-713 2491

Global Equity Research

Americas

Biotechnology

12-month rating	Buy
	Prior: Not Rated
12m price target	US$27.00
	-
Price	US$21.45

RIC: PBYI.N BBG: PBYI US

29 October 2012

Trading data	
52-wk range	US$22.60-11.00
Market cap.	US$0.59bn
Shares o/s	27.5m (COM)
Free float	95%
Avg. daily volume ('000)	42
Avg. daily value (m)	US$0.8

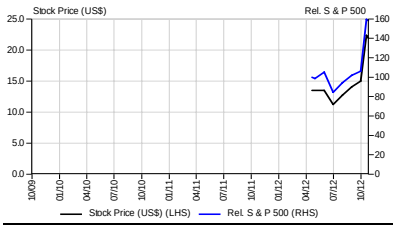
Balance sheet data 12/12E	
Shareholders' equity	US$0.14bn
P/BV (UBS)	3.3x
Net Cash (debt)	US$0.14bn

Forecast returns	
Forecast price appreciation	+25.9%
Forecast dividend yield	0.0%
Forecast stock return	+25.9%
Market return assumption	5.3%
Forecast excess return	+20.6%

EPS (UBS, US$)

	12/12E			12/11
	From	To	Cons.	Actual
Q1	-	(0.59)	-	-
Q2	-	(0.73)	-	-
Q3E	-	(0.65)	-	-
Q4E	-	(0.30)	-	-
12/12E	-	(2.21)	-	
12/13E	-	(1.03)	-	

Performance (US$)



Source: UBS

www.ubs.com/investmentresearch

Overview

Portfolio manager's summary

We are initiating coverage of Puma at Buy with a $27 Price Target. Puma is developing its lead compound, neratinib, for HER2-positive breast cancer with potential follow on indications in lung cancer. We believe the data generated from former owner Pfizer allows Puma to pursue pivotal studies beginning in late 2012 / early 2013 accelerating the time to market as well as derisking the lead indication. Further, given the pedigree of management, we see an acquisition as possible, potentially limiting commercial risk.

Why we're Buy:

(1) **We believe neratinib can garner significant market share in 3rd/4th line HER2+ metastatic breast cancer and be bigger than Tykerb:** Tykerb currently has a median duration of ~4-6 months of treatment and generates ~$400M in global sales. We believe based on longer duration (6 months +), a higher price (~$75,000 annually for neratinib) and deeper penetration into the 3rd/4th line setting neratinib can generate ~$300M in annual US sales in HER2+ advanced metastatic breast cancer.

(2) **We see multiple paths to upside beyond the core 3rd/4th line HER2+ mBC indication, including greater duration, activity in brain metastasis, neoadjuvant HER2+ BC and HER2 lung cancer:** To us, there are multiple ways to win beyond the lead HER2+ mBC setting. With rationale in neoadjuvant BC, lung cancer and the potential for increased duration or greater market share in mBC (due potentially to activity in CNS disease) suggests to us there are multiple ways for consensus forecasts to rise as data mature in 2013.

(3) **Given management prior success, we believe the stock will carry an acquisition premium.** Given the success investors had with the CEO's former company, Cougar biotechnology, which was acquired by J&J, we believe investors will look for Puma to be an acquisition target and believe an M&A premium will remain in the stock. We value a potential takeout at $40 and use our M&A target as 20% of our overall valuation.

We initiate Puma at Buy with a $27 Price Target

Rating and Price Target Assumptions

Our Buy rating is based upon a risk-adjusted NPV analysis which underlies our sum-of-the-parts valuation.

Table 1: Puma Valuation matrix

Product	Implied Probability of Success	Value/Share	Sales at Expiration Year	Exclusivity Expiration Year
Neratinib - HER2 mBC	65%	$8.5	298	2030E
Neratinib - HER2 neoadjuvant	50%	$4.5	162	2030E
Neratinib - HER2 lung	40%	$4.8	258	2030E
Corporate		-$0.9		
NOLs		$3.2		
Cash		$4.0		
Total Sum of Parts		$24.1		

Valuation			
Metric	Allocation	Value/Share	Full Value
Sum of Parts	80%	$19.2	$24.1
M&A Valuation	20%	$8.0	$40.0
Total		$27.2	
Total Price Target		$27.0	
Current Price		21.2	
Implied Upside/Downside		27.1%	

Source: UBS estimates

Up and Downside Scenarios

Upside - $40

Our upside scenario is based on our risk-adjusted forecast for an acquisition. Our $40 acquisition valuation is based on 100% probability of success in the metastatic breast cancer setting and continued progress in the neoadjuvant and lung cancer settings. Full details of our acquisition valuation can be found later in this report.

Downside - $15

Our downside scenario assumes that neratinib continues in HER2+ metastatic breast cancer, but that Phase II trials in both the neoadjuvant setting and in lung cancer fail to demonstrate any benefit for neratinib. Removing those indications from our forecast reduces our fundamental valuation by ~$9 to $15. Further, in this scenario, we believe the majority of the acquisition premium would come out of the stock.

Risks to our thesis

There are three main risks to our Buy thesis.

- **(1) neratinib is not effective.** Given that Puma is a single pipeline story, a failure of its key drug would be a significant negative event.
- **(2) The acquisition premium comes out of the stock.** We believe Puma currently trades with an acquisition premium given management's prior successes. The removal of that premium would cause downside.
- **(3) Clinical development timelines increase.** We believe we are realistic on timelines in the metastatic breast cancer setting. However, significant increases in the timelines would have a negative effect on valuation.

Upcoming catalysts

Key upcoming catalysts include the initiation of Phase III studies of neratinib in metastatic breast cancer (2H12/1H13) and the read-out of the Phase II neratinib studies in the neoadjuvant setting, lung cancer and CNS disease all in 2013.

Table 2: Upcoming Catalysts

Date	Event
2H12/1H13	Begin neratinib Phase III trials in mBC in combination with chemotherapy
2H12/1H13	Report combination neratinib + Torisel PFS
2H12/1H13	Begin Phase II studies of neratinib in HER2 mutated and HER2- lung cancer
2013	Report data from the neratinib study in CNS disease
2013	Report data from HER2_ and HER2 mutated lung cancer Phase II
2013	Report data from the NSABP neoadjuvant study
2013	Report data from the NIH I-SPY 2 trial
2014	Report data from the Phase III of neratinib in mBC
2014	Potentially begin pivotals in lung cancer
2014	Potentially begin pivotals in neoadjuvant

Source: Puma, UBS estimates

Environmental, social, and governance issues

The primary social issue we see affecting biotechnology is that of drug pricing and global access. While providing access to life-saving drugs is a priority for all of the companies, realities of the market are often balanced against perceived/intended social obligations. All of the companies we cover employ compassionate use programs that enable patients who benefit from therapies that are either too costly to afford or are still in clinical development, but provide tremendous benefit to the patient, often life-saving. Please refer to the drug pricing section of our sector initiation (Nov 15, 2010) for further discussion of issues around drug pricing and access.

Our Take on the Key Debates

We see three important debates for Puma: **(1) The HER2+ breast cancer market has a lot of options, how can neratinib be successful?** With the recent success of Roche's follow-on transtuzumab strategy (Perjeta, T-DM1, Herceptin SC), clearly the HER2+ market is crowded. However, with likely better activity than Tykerb and longer duration in the refractory setting, neratinib can succeed. **(2) There are a lot of additional potential indications, how much are they worth and which ones have better chances than the others?** We listed three potential additional indications, including HER2 lung cancer, use in the neoadjuvant setting in HER2+ BC and activity in HER2+ brain metastasis. Given that these indications are the drivers of upside, we see detailing them as necessary. And **(3) What's Puma worth in a takeout?** Clearly given management's past success with Cougar, many want to understand the value in a takeout scenario.

1. How can neratinib be successful in HER2+ Breast Cancer given Roche's dominance?

Overview: The HER2+ breast cancer market is currently dominated by Roche products including Herceptin (trastuzumab) in the adjuvant and metastatic settings, Perjeta (pertuzumab) in the 1st line metastatic setting and soon, T-DM1 (trastuzumab-DM1) in the 2nd line metastatic setting. Further, GSK's Tykerb (lapatinib) has seen success in the 2nd line metastatic setting. However, given the sales disconnect between Roche products (~$6B in global sales) versus GSK (~$400M in global sales), the key question seems to be how can neratinib compete with Roche's dominance or for that matter even unseat GSK?

Consensus view: We believe consensus understands that the refractory market is the area in which neratinib can take the most share, however, we believe there is contention around the size of that market and the duration of therapy that neratinib can achieve in that setting. On the one hand, bulls point to the ~9 months of PFS neratinib demonstrated in combination with capecitabine as an indicator that neratinib can grow the 3rd/4th line market by ~3x from its current size with increased duration. On the other hand, bears point to the fact that neratinib's toxicities will likely be duration limiting in the real world and will likely only achieve Tykerb like durations limiting the opportunity.

Our take: We agree that 3rd/4th line mBC is the market in which neratinib can achieve the most success. While we see the potential for neratinib to also take some second line share as Perjeta moves into the adjuvant setting and T-DM1 moves to 1st line mBC, that process will take time and as we have seen with Herceptin, trastuzumab containing regimens will be used multiple times over the course of disease treatment. Ultimately, we believe neratinib can take 50%+ of the 3rd/4th line market with a modest increase in duration to ~6+ months. Together, we value neratinib in mBC at ~$9/share.

What we know from Phase II

Below we highlight the key Phase II studies which we believe provide insight into the opportunity in refractory HER2+ breast cancer. While many of the studies enrolled patients with and without prior trastuzumab, we have chosen to only display data from those patients in the more refractory population (i.e., post trastuzumab) since we believe this is the likely market opportunity for neratinib.

Table 3: Key prior neratinib Phase II studies

Setting	N	Response rate	PFS	Data disclosure
2nd/3rd line HER2+ BC, single agent	136 (66 prior trastuzumab)	24%	22.3 weeks	Published, JCO 2010
2nd/3rd line HER2+ BC; combination with capecitabine	68 (7 prior lapatinib)	64%	40.3 weeks	Presented, SABCS 2011
3rd/4th line HER2+ BC; combination with Torisel	65	60%	due 4Q12/1Q13	Presented, SABCS 2011

Source: clinicaltrials.gov, Puma, UBS research

The Good

Mechanistic rationale

Neratinib has a solid mechanistic rationale in HER2+ metastatic disease. HER2 over-expression is already a validated target (Herceptin, Perjeta, Tykerb) which we know from clinical and pre-clinical studies neratinib effectively inhibits. Pre-clinical studies point to HER2 enzyme inhibition with an IC_{50} of ~60nM and IC_{50}s in various cell lines of 2-3nM suggesting potent activity against the target.[1] Further, neratinib targets HER2 at a different site than both Herceptin and Tykerb, suggesting that it has activity outside of both those agents (this dimerization strategy has been proven with Perjeta which inhibits HER2 at a different site from Herceptin). Thus, we see solid rationale for neratinib in metastatic disease.

Single agent activity

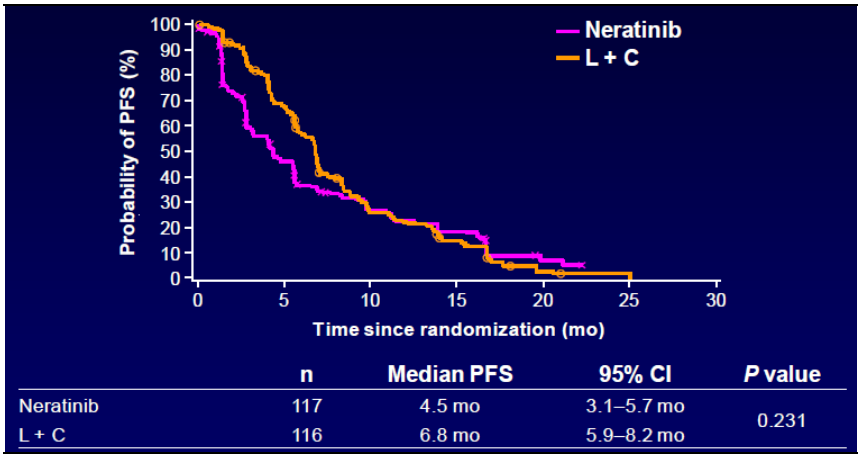
One key item we always look for with new cancer medicines is single agent activity. Specifically, a lot of new agents tend to be studied in combination with existing treatments, making the benefit hard to judge (is it just trial variability or does the new agent really add something?). Pfizer ran a study of neratinib as a single agent versus Tykerb + capecitabine in 2nd/3rd line HER2+ patients. While single agent neratinib was not better than Tykerb + chemo, it did demonstrate potent single agent activity. Further, given that we know Tykerb's single agent activity is single digits response rates (5-7%) and <10 weeks PFS, neratinib single agent activity looks impressive in light of those data.

- **Right patient population** – All patients had been treated with prior Herceptin, taxanes and anthracyclines, suggesting the patient population was truly 2nd/3rd line.
- **Response rate much better than Tykerb** – Neratinib had a single agent ORR of 29% (21-38% 95% CI).

[1] Rabindran et al. Cancer Res 2004;64:3958-3965.

- **PFS and OS demonstrate solid single agent activity** – Neratinib achieved median PFS of 4.5 months and median OS of 19.4 months. While neither were deemed non-inferior to Tykerb + chemo, the fact that single agent neratinib has high activity bodes well for combination development with chemotherapy.

Chart 1: PFS for single agent neratinib



	n	Median PFS	95% CI	*P* value
Neratinib	117	4.5 mo	3.1–5.7 mo	0.231
L + C	116	6.8 mo	5.9–8.2 mo	

Source: Martin M, et al. *Cancer Res.* 2011;71(24 Suppl):Abstract S5-7.

Combinations with chemotherapy present a clear path forward

Given the solid single agent data and the clear effectiveness of Tykerb + chemo, we believe the right path forward for neratinib is in combination with chemotherapy. We point to two datasets which give us confidence that neratinib can demonstrate a benefit as a combination agent in 2nd/3rd/4th line mBC.

- **Neratinib + capecitabine** – This data is most compelling to us. Neratinib has demonstrated a ~60% response rate and median PFS of ~40 weeks, or an approximate doubling of its single agent activity in combination with capecitabine. We see the most recent comparator to this data as the activity of Tykerb + capecitabine in the EMILIA study in which it demonstrated PFS of 6.4 months, suggesting a 3-4 month improvement for neratinib.

Table 4: Phase II Efficacy data from Neratinib (N) + capecitabine (C)

	N +C (no prior Tykerb) n=61	N + C (prior Tykerb) n=7
ORR	64%	57%
Complete response	11%	14%
Partial response	52%	43%
Disease control rate	72%	71%

Source: Saura et al. SABCS 2011 (Abs # P1-12-09)

- **Neratinib + vinorelbine** – Neratinib has also demonstrated activity in trastuzumab treated patients in combination with vinorelbine, another salvage chemotherapy with ORR rates of 41% and ~48 weeks of PFS (data from Awada et al. Annals of Oncology 00: 1-8, 2012).

Data indicate an efficacy profile that is likely superior to Tykerb

While the data are far from conclusive given that most are in open-label studies without comparator arms, we believe that taken together they indicate that neratinib has a strong profile compared to Tykerb. Further, given that duration appears to be much longer than Tykerb, we believe the ultimate market opportunity will come from longer duration, increased pricing and strong penetration into the 3rd/4th line market.

The Questions

Does the adverse event profile curtail duration?

Because neratinib is an irreversible inhibitor of EGFR, it comes with all the GI baggage associated with irreversible inhibition. Neratinib's main AE is diarrhea which over the course of multiple clinical studies has occurred in ~80% of treated patients. We however, see a few important points as it relates to diarrhea.

- **Diarrhea isn't a new AE** – In a majority of HER2+ patients with metastatic disease diarrhea is a common side effect either due to Tykerb or chemotherapy. Thus, physicians are already equipped to handle the AE.

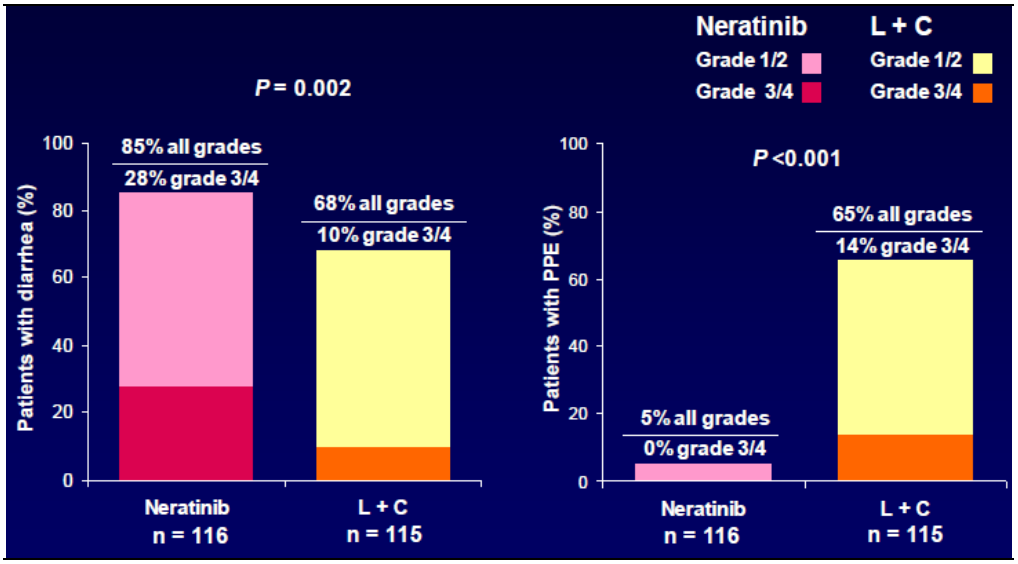
Table 5: Tykerb diarrhea rates

	All grades	Grade 3	Grade 4
Diarrhea	65%	13%	1%

Source: US package insert (Drugs @ FDA)

- **The rate of grade 3+ diarrhea is manageable, but not great** – Grade 3+ diarrhea occurred in 28% of treated patients while it only occurred in 10% of Tykerb treated patients in the neratinib monotherapy study. Thus, ultimately diarrhea is a concern and will ultimately lead to lower duration in the real world than in the clinical trial setting; however, we don't see it as hurting the use of neratinib, just keeping it in the refractory setting.

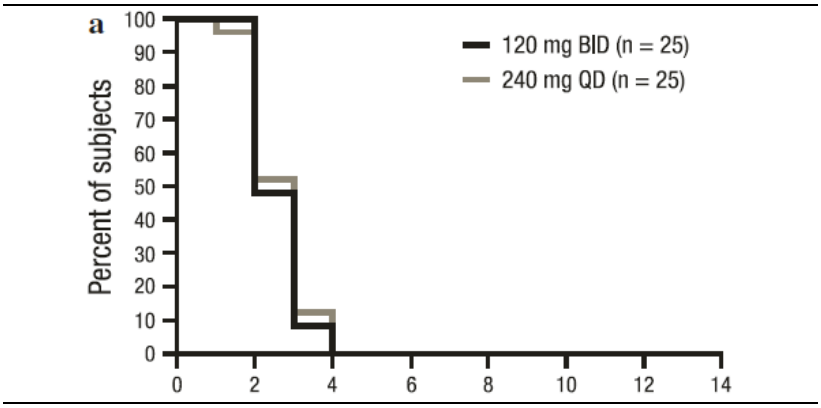
Chart 2: Key ARs in the neratinib monotherapy study



Source: Martin M, et al. *Cancer Res.* 2011;71(24 Suppl):Abstract S5-7.

- **Dose modification helps with grade 3+ diarrhea, but not diarrhea in general** – Pfizer looked at both 240mg QD and 120mg BID in an attempt to understand if it could mitigate the diarrhea signal. Unfortunately, the lower BID dosing regimen did not prove any better than the QD regimen. However, in clinical studies, dose modification has helped to reduce grade 3/4 diarrhea and we would expect this will be the primary choice in the clinical setting.

Figure 1: Proportion of subjects with diarrhea (any grade)



Source: Abbas et al. Cancer Chemother Pharmacol 2012 (70): 191-199

...And does diarrhea mean patients won't achieve the needed dose intensity?

To us, beyond the fact that diarrhea is a meaningful AE that could cause patients and physicians to choose an alternative treatment, the other concern is that patients will have so many dose interruptions that they won't achieve the necessary dose intensity to have full therapeutic benefit. To be sure, this is exactly what happened with neratinib in EGFRm lung cancer. However, **in the neratinib monotherapy study, median dose intensity was 100% suggesting that patients were able to take enough drug to derive a therapeutic benefit.**

Table 6: Dose reductions and interruptions on Neratinib (N) + capecitabine (C)

	N +C (no prior Tykerb) n=61	N + C (prior Tykerb) n=7	Total (n=72)
Dose reductions	34%	43%	35%
capecitabine	21	3	24
neratinib	8	1	9
Dose delays	48%	71%	50%
capecitabine	29	4	33
neratinib	20	3	23
Treatment discontinuations	11%	14%	11%

Source: Saura et al. SABCS 2011 (Abs # P1-12-09)

And does the changing market hurt the neratinib + chemo strategy?

Ultimately, no. Patients still progress on Perjeta, Herceptin and T-DM1. And in fact, because all of these products appear to extend the life of mBC patients, their presence in the market, while likely pushing neratinib to later lines of

therapy, will actually grow the size of the neratinib market through longer durations.

Next Steps

Puma management has stated that it will initiate Phase III studies of neratinib in late 2012 or early 2013. We believe the first trial will be a combination trial of neratinib with capecitabine focused on the more refractive mBC market. As we have outlined we see this as the clearest path to market for neratinib as its AE profile will likely be tolerated in the advanced setting and we see the least competition in the advanced setting. Thus, as long as neratinib can demonstrate median durations at or above 6 months, we believe it can double or potentially triple the size of the 3rd/4th line market.

How we value the refractory opportunity in HER2+ mBC

Tykerb as a base case

Given that GSK has been successful in growing Tykerb's market share in the metastatic setting, we believe we can look at Tykerb as a base case for our neratinib forecast. Ultimately, we believe neratinib can achieve longer duration than Tykerb and this will contribute to greater sales, but we see Tykerb as a good proxy for the market.

Table 7: Tykerb Sales

$ in millions	2009	2010	2011	YTD2012
Sales	$264	$352	$372	
Constant Currency growth	*45%*	*34%*	*2%*	*10%*
US	$84	$108	$103	
EU	$117	$146	$156	
ROW	$63	$98	$113	

Source: GSK

Tykerb has been able to achieve ~$400M in global sales of which ~25% occur in the US. Based on our expectations for an increase in duration and greater use in the advanced setting, we believe ~$300M in peak neratinib sales (~2x from increases in duration and ~1x from greater share of the 3rd/4th line segment) appear reasonable in light of Tykerb sales. Thus, if we were to assume a marginal price increase (say ~25%) above Tykerb, it is possible to envision US sales of ~$400M from mBC.

UBS forecast

We currently model neratinib with the following parameters:

- **Median duration of ~6 months** – We model a median duration of 6.5 months in 3rd line and 5.5 months in 4th line. This is up from the ~4 months we model for Tykerb.
- **Majority share in 3rd/4th line, some 2nd line** – we currently model neratinib achieving peak share of 60% in 3rd/4th line with a peak share of 10% in 2nd line mBC. This equates to an overall mBC share of ~24%.

Table 8: HER2+ Breast Cancer market share

eBC vs mBC pt analysis	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E
eBC pts (Adjuvant)	36.3	37.2	38.2	39.1	40.1	41.0	42.0	43.1	44.1	45.2	46.2	47.3
Penetration												
Herceptin (IV,subQ) + CT	75%	80%	78%	70%	69%	56%	33%	25%	20%	15%	15%	15%
Herceptin + Perjeta	3%	4%	5%	13%	18%	20%	33%	35%	35%	35%	35%	35%
T-DM1 + Perjeta	2%	3%	4%	5%	5.5%	15%	25%	30%	35%	40%	40%	40%
Other	20%	13%	13%	13%	8%	10%	10%	10%	10%	10%	10%	10%
mBC pts	22.3	22.1	22.0	21.8	21.7	21.5	21.4	21.2	21.1	20.9	20.8	20.6
Penetration												
Herceptin	42%	22%	15%	10%	8%	4%	3%	3%	3%	3%	3%	3%
Perjeta	23%	29%	36%	35%	35%	35%	34%	33%	32%	32%	32%	32%
TDM-1	5%	24%	34%	35%	35%	37%	37%	36%	35%	35%	35%	35%
Neratinib	0%	0%	0%	8%	12%	16%	20%	22%	24%	24%	24%	24%
Other (w/o trastuzumab)	30%	24%	15%	13%	11%	8%	6%	6%	6%	6%	6%	6%

Source: UBS estimates

- **Pricing on par with Perjeta** – We model a neratinib price of $75,000, in line with the Perjeta pricing. While this is a meaningful increase over Tykerb (~$52,000/year WAC) we believe the duration benefit will translate into a pricing premium.
- **We model a 10-20% escalating royalty to Pfizer** – According to Puma filings, it owes Pfizer a 10-20% escalating royalty for neratinib sales. We have included this in our cost of goods line.
- **We model a 30% ROW royalty** – While the royalty on the high side of licensing deals, we believe Puma would wait until Phase III data before partnering, derisking the compound sufficiently to achieve strong economic terms.
- **Assumptions translate into peak sales of ~$300M** – We model a 2016 launch, assuming 2 years to complete the Phase III studies and 1 year for approval. We model a 65% probability of success given the solid Phase II data. Overall, this adds ~$9/share in value or ~$250M in market value.
- **R&D investment will be modest** – We currently assume management completes two combination studies (one with capecitabine and one with temsirolimus). Assuming each trial enrolls ~400 patients and has ~1 year of PFS, we believe each will cost on order of $20M.

Table 9: Neratinib mBC value

	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
US Neratinib	74	116	160	205	230	255	258	261	265	270	276	281	287	292	298
ROW Neratinib		66	105	144	185	207	229	232	235	238	243	248	253	258	263
ROW royalty rate		*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*
Total WW Neratinib in mBC	74	136	192	249	285	317	327	331	335	342	348	355	363	370	377
COGS (incl Pfizer royalty)	11	17	24	31	34	38	39	39	40	41	41	42	43	44	45
SG&A	36	58	66	69	72	76	78	80	82	84	86	88	90	93	95
R&D	10	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Operating Income	16	56	97	144	173	198	205	207	209	212	216	220	224	228	232
Operating margin	*22%*	*41%*	*51%*	*58%*	*61%*	*62%*	*63%*	*63%*	*62%*	*62%*	*62%*	*62%*	*62%*	*62%*	*62%*
Taxes	5.8	19.6	34.0	50.4	60.7	69.2	71.8	72.5	73.1	74.2	75.6	77.0	78.4	79.9	81.4
Tax rate	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*
After tax income	10.7	36.4	63.1	93.5	112.7	128.5	133.4	134.6	135.7	137.9	140.4	143.0	145.7	148.4	151.1
Unlevered Free Cash Flows	5.5	15.8	23.2	29.2	29.8	28.7	25.3	21.6	18.4	15.9	13.7	11.8	10.2	8.8	7.6

Total Present Value	247.0
YE2012 Share count	29.0
Total PV/Share	$8.5
Discount rate	18.1%
Implied probability of success--->	*65%*

Source: UBS estimates

2. What's the upside from more indications?

Overview: Puma has pointed to three potential indications which we believe have merit to study in Phase II trials. First, there is neoadjuvant use of neratinib in HER2+ breast cancer, second, there is neratinib in HER2+ patients with brain metastasis and, third, is in HER2 mutated lung cancer. We believe each of these indications will be explored and can add substantial value.

Consensus view: As with most mid-stage stories, there are very divergent views. On the one hand, many bulls look at the multiple paths management can take neratinib down and believe there is more than one way to win. On the other hand, bears look at the additional indications as without clear mechanistic validation or areas in which neratinib's side effect profile will hurt its ability to compete with more tolerable therapy. Overall, we believe consensus acknowledges label expansion potential in lung and neoadjuvant, but hasn't fully valued any of the opportunities.

Our take: We currently add value for neratinib in the neoadjuvant setting and in HER2 mutated lung cancer. In neoadjuvant, we are conservative with our forecasting, but acknowledge the potential for substantial upside if all adjuvant patients also receive neoadjuvant care. And in lung cancer, given the signs of activity in HER2+ mutated disease we feel comfortable adding value, but plan to wait for more information before adding additional value from other potential new HER2 lung targets management is studying. For CNS disease, while we acknowledge that activity in the brain is likely, without significant clinical data (first data due in 2013) we would rather wait before adjusting our forecasts. Further, we believe there is significant overlap between those patients with CNS disease and those in the 3rd/4th line setting, thus our forecast may already incorporate those patients. Together, neoadjuvant and lung add another $9/share to our forecast with both at a 50% and 40% probability of success, respectively.

Neoadjuvant HER2+ Breast Cancer

The neoadjuvant market is currently smaller than the adjuvant market due in major part to physician's beliefs that removal of the breast and adjuvant therapy yields better results. Notwithstanding the fact that many studies, including a major meta-analysis, have demonstrated little difference in outcomes between those patients who achieve a pathologic complete response (pCR) in the neoadjuvant setting and those in the adjuvant setting. Further, given that duration is 4 months in the neoadjuvant setting and 12 months in the adjuvant setting, large pharmaceutical marketing teams have found it not in their best interests to change prescribing patterns (in addition they cannot promote off-label). Nonetheless, we believe the neoadjuvant market could be attractive for Puma, even if it is only 5-10k patients at the start. We highlight below recent regulatory changes which we believe will ultimately make neoadjuvant a more attractive market than it is currently today:

- **Recent FDA draft guidance provides a faster path to market** – Until very recently (May 2012), the FDA had not even thought about accepting pCR as an endpoint for a neoadjuvant study which made the regulatory pathway very difficult. This is the major reason why no agent currently has a neoadjuvant

label. However, given that we expect the draft guidance to turn into real guidance sometime in 2013, pCR would offer a shorter Phase III study and thus a quicker path to market for Puma.

- **Tykerb provides some confidence** – In the NSABP protocol B-41 presented at ASCO 2012 (Abstract LBA506), when Tykerb was substituted for Herceptin, similar pCR rates were achieved in HER2+ breast cancer patients (~53%). Thus, given neratinib's likely superiority to Tykerb in the advanced setting we believe its possible neratinib could achieve similar (if not better) pCR results to Tykerb in the neoadjuvant setting.

Neoadjuvant valuation

Based upon a 2011 Patterns of Care in Medical Oncology survey, we believe neoadjuvant therapy accounts for ~9% of the overall treated HER2+ population or ~1/8 the size of the adjuvant population. Thus, in terms of the overall market, neoadjuvant is much smaller, comprising around 5-6,000 patients annually. Currently, we believe trastuzumab or chemotherapy (and combinations) are the preferred treatments in the neoadjuvant market. Median duration is ~4 months. Given these criteria and our assumption that neratinib could take ~1/3 share given its response rate benefit over Tykerb likely translating into a pCR benefit, we made the following assumptions to arrive at our forecast:

- **37.5% peak share** – Given market expansion and a poorer tolerability profile compared to Herceptin, we see minority market share as reasonable.
- **The neoadjuvant market can expand by ~25% over the next 10 years** – Given that we expect the FDA to allow pCR as a primary endpoint in the neoadjuvant setting, we believe more companies will explore neoadjuvant studies and thus more marketing will expand the market.

Table 10: Neoadjuvant sub-model

Neratinib Neoadjuvant model	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E
eBC patients	36.3	37.2	38.2	39.1	40.1	41.0	42.0	43.1	44.1	45.2	46.2	47.3
Neoadjuvant as a % of eBC	*14%*	*14%*	*15%*	*15%*	*15%*	*15%*	*16%*	*16%*	*16%*	*17%*	*17%*	*17%*
# of Neoadjuvant patients	5.1	5.3	5.6	5.8	6.1	6.3	6.6	6.9	7.2	7.6	7.9	8.2
Penetration into Neoadjuvant				15%	30%	35%	38%	38%	38%	38%	38%	38%
Total neoadjuvant patients	-	-	-	0.9	1.8	2.2	2.5	2.6	2.7	2.8	3.0	3.1
Annual Cost	37,500	38,250	39,015	39,795	40,591	41,403	42,231	43,076	43,937	44,816	45,712	46,627
Total neoadjuvant sales	$0.0	$0.0	$0.0	$34.7	$73.9	$91.9	$105.0	$111.9	$119.2	$127.0	$135.3	$144.1

Source: UBS estimates

Table 11: Neoadjuvant valuation

	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
US Neratinib	35	74	92	105	112	119	127	135	144	147	150	153	156	159	162
ROW Neratinib		31	67	83	94	101	107	114	122	130	132	135	138	140	143
ROW royalty rate		*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*
Total WW Neratinib in mBC	35	83	112	130	140	149	159	170	181	186	190	193	197	201	205
COGS (incl Pfizer royalty)	5	11	14	16	17	18	19	20	22	22	22	23	23	24	24
SG&A	10	10	11	11	11	12	12	12	12	13	13	13	14	14	14
R&D	10	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Operating Income	9	57	82	98	107	115	123	132	142	146	149	152	155	158	161
Operating margin	*27%*	*68%*	*74%*	*76%*	*76%*	*77%*	*77%*	*78%*	*78%*	*79%*	*79%*	*79%*	*79%*	*79%*	*79%*
Taxes	3.3	19.9	28.8	34.3	37.5	40.2	43.1	46.2	49.5	51.1	52.2	53.2	54.3	55.4	56.5
Tax rate	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*
After tax income	6.2	37.0	53.5	63.7	69.6	74.7	80.1	85.9	92.0	94.9	96.9	98.8	100.8	102.8	104.9
Unlevered Free Cash Flows	2.8	13.8	16.4	16.0	14.4	12.7	11.1	9.8	8.6	7.3	6.1	5.1	4.3	3.6	3.0

Total Present Value	129.3
YE2012 Share count	29.0
Total PV/Share	$4.5
Discount rate	21.8%
Implied probability of success--->	*50%*

Source: UBS estimates

Is there a path to much greater upside in neoadjuvant?

In short, yes. We have been conservative in our forecast and assume that the current limited usage in neoadjuvant only increases moderately. However, there is a path to much greater upside.

- **Phase II neoadjuvant trials always include adjuvant therapy post surgery** – Our model assumes that standard of care does not shift and that neoadjuvant continues to be used primarily for tumor shrinkage. However, given that the recent neoadjuvant studies follow on with adjuvant therapy post tumor removal, if every adjuvant patient also had neoadjuvant treatment the market would grow rapidly.
- **Potential for ~6x upside** – The adjuvant market in the US is currently ~36,000 patients (~6x our neoadjuvant market). Thus, if we assume all those patients were to also have neoadjuvant procedures, the potential market for neratinib is ~$1.3B. Assuming similar penetration (~37.5%) yields peak sales of ~$500M for neratinib.

Next Steps

There are two on-going studies which are assessing the possible benefit of neratinib in the neoadjuvant setting:

- **NSABP neoadjuvant study** – In 2010, Pfizer began a similar study to the Tykerb neoadjuvant study, in collaboration with the National Surgical Adjuvant Breast and Bowel Project (NSABP). This study has three arms: neratinib + paclitaxel, trastuzumab + paclitaxel, and neratinib + trastuzumab + paclitaxel. This study is expected to continue enrollment until the end of 2012 and have data for presentation in 2013. We would expect that data at ASCO 2013 or SABCS 2013.
- **NIH I-SPY 2 TRIAL** – Also initiated in 2010, the I-SPY 2 trial has a similar set of arms to the NSABP study (without the transtuzumab + neratinib combo arm which management believes will be added in 2012). It is expected enrollment will continue through the end of 2012. We would expect data later in 2013 for this study, possibly for SABCS.
- **Phase III likely if NSABP is positive** – With positive data from the NSABP trial we would expect management to attempt to negotiate an SPA with the FDA and begin a Phase III neoadjuvant study sometime in 2014. Importantly, a neoadjuvant study with pCR as the primary endpoint would only cost ~$10-20M for ~1,000 patients and could finish in under 1.5 years.

CNS Disease

In general when HER2+ breast cancer spreads to the brain the treatment options are limited. Antibodies such as Herceptin, Perjeta and T-DM1 do not cross the blood-brain-barrier making them unusable in that setting. Thus, traditional chemotherapy is used which has a very poor response rate. Further, Tykerb has been studied in Phase II and demonstrated a 6% response rate in brain disease. Thus, given that pre-clinically, neratinib should have CNS activity it is being studied in CNS disease.

- **Ongoing study to shed light on CNS activity** – Dana Farber began a Phase II study of neratinib in HER2+ brain disease in 2012. Results are expected in 2013, at which time we would expect to have a better indication of neratinib's viability in CNS disease.

A few thoughts on valuation

Approximately 1/3 of all metastatic HER2+ patients develop CNS disease, suggesting the market for CNS disease is about 6,000 patients annually. Without data in CNS disease and given the very low historic rates of response in this setting we are not yet willing to assign specific share to neratinib in CNS disease. However, assuming that the 3rd/4th line setting overlaps ~50% with the CNS disease market, CNS would represent an ~50% increase in the available patients for neratinib in mBC. **Thus, it could ultimately be a ~$200M delta to our US forecasts.**

HER2+ Mutated Lung Cancer

Defined subsets of lung cancer have recently become very attractive given both the reduced time to market which appears to be afforded by the FDA for genetically defined subtypes and the attractive nature of "personalized medicine" from a drug/diagnostic combination. Pfizer demonstrated this with the approval of its ALK fusion gene targeted lung cancer compound crizotinib and many companies are trying to do this with follow-on strategies in EGFR mutated disease. Neratinib presents an interesting case because it is both an EGFR and HER2 targeted tyrosine kinase inhibitor which is highly potent (IC_{50}s for both targets are less than 2x apart), but has demonstrated mixed results in EGFRm disease, primarily due to being unable to dose the compound high enough to achieve adequate levels for EGFRm disease (namely the T790M mutation which has an IC_{50} much higher than wild-type EGFR). However, given that HER2 mutated lung cancer (a specific mutation on exon 20 of the kinase) is a defined subset of patients and that neratinib has high HER2 activity, we believe there is a case for neratinib in HER2 mutated lung cancer.

What can we learn from the EGFRm studies?

We see two things we can learn from studies in EGFRm disease related to both safety and efficacy:

- **Mean plasma concentrations at 240mg QD are ~60nmol/L** – This is not nearly enough to inhibit the key mutation in EGFR (T790M) which needs at least 90nmol/L.[2] However, in pre-clinical models HER2 inhibition in cell lines occurred at ~40-fold lower doses than EGFR cell lines. Thus, given the clinical activity seen HER2+ breast tumors (and even assuming the lungs need higher doses), neratinib should have enough potency to hit HER2+ lung tumors.

- **Diarrhea appears to be a bigger problem in lung cancer** – While dose reductions did not appear to significantly hamper the results of neratinib in breast cancer, it did have a deleterious effect in EGFRm lung cancer. While this is likely due to the need for a higher dose in lung cancer, we believe it

[2] Sequist et al. JCO 2010 28(18):3076-83

suggests that lung cancer physicians and patients are less adept at managing the side effect. Thus, we will have to see if diarrhea proves to be a differential problem in lung cancer.

What are the chances in HER2+ mutated lung cancer?

We believe Pfizer's dacomitinib provides the best evidence thus far of activity in HER2 mutated lung cancer.

- **Pfizer's dacomitinib had limited activity in HER2 mutated disease** – At ESMO 2012 (abstract LBA18), Pfizer presented data for dacomitinib which demonstrated some effect on HER2 mutated/amplified lung cancer, we believe the data is supportive of a signal, but that neratinib can be better.
  - **Unlike neratinib, dacomitinib is more sensitive for EGFR than HER2 (potency of 6nmol/L for EGFR versus 50-80nmol/L for HER2/4)** such that while neratinib couldn't achieve high enough EGFRm concentrations due to toxicities, it seems just as likely that dacomitinib couldn't achieve high enough HER2 concentrations for toxicity. Thus, as it wasn't a potent enough inhibitor the data isn't conclusive.
  - **High rates of AEs likely inhibited achieve inhibitor concentrations for HER2/4** – Key AEs were 87% diarrhea and 73% rash which required dose reductions.
  - **Even with the faults, dacomitinib demonstrated clinical activity** – In the 22 patients with HER2 disease, there were 3 partial responses and 6 stable diseases. Thus, with a more potent inhibitor (i.e., neratinib) we would expect a better response.

Overall, we believe HER2 will still require clinical testing to validate the target in lung cancer, but we believe neratinib's profile allows for a better testing of the hypothesis than other inhibitors to date. Thus, we believe there is potential for neratinib in lung cancer.

Thoughts on valuation

Table 12: HER2+ Lung Cancer Market Model

HER2+ Market Share Summary	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Total WW HER2+ Patients (~2-4% of NSCLC)	32,136	33,796	35,485	37,304	39,187	41,134	43,146	45,189	47,361	49,597	51,899	54,266	56,663	59,190	61,783	64,441
# Tested and Treated in the US	257	539	955	1,499	2,191	2,970	3,709	4,230	5,719	5,939	6,159	6,379	6,585	6,817	7,049	7,281
US Market Penetration	3%	5%	9%	13%	18%	23%	28%	31%	40%	40%	40%	40%	40%	40%	40%	40%
1st line	50%	50%	50%	45%	43%	38%	33%	30%	25%	20%	20%	20%	20%	20%	20%	20%
2nd line	30%	30%	30%	23%	22%	19%	17%	15%	13%	10%	10%	10%	10%	10%	10%	10%
3rd line	20%	20%	20%	15%	6%	4%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
US Market Share (% of treated)	**100%**	**100%**	**100%**	**83%**	**70%**	**61%**	**51%**	**47%**	**40%**	**32%**	**32%**	**32%**	**32%**	**32%**	**32%**	**32%**
# Tested and Treated Outside the US	109	115	606	1,278	2,287	3,613	5,324	7,282	9,189	10,624	14,508	15,230	15,978	16,752	17,553	18,379
OUS Market Penetration	1%	1%	3%	5%	9%	13%	18%	23%	28%	31%	40%	40%	40%	40%	40%	40%
1st line	0%	0%	50%	50%	50%	45%	43%	38%	33%	30%	25%	20%	20%	20%	20%	20%
2nd line	0%	0%	30%	30%	30%	23%	22%	19%	17%	15%	13%	10%	10%	10%	10%	10%
3rd line	0%	0%	20%	20%	20%	10%	6%	4%	2%	2%	2%	2%	2%	2%	2%	2%
EU Market Share (% of treated)	**0%**	**0%**	**100%**	**100%**	**100%**	**78%**	**70%**	**61%**	**51%**	**47%**	**40%**	**32%**	**32%**	**32%**	**32%**	**32%**

Neratinib Sales Summary ($M)	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
US NSCLC - HER2+	$19	$42	$75	$102	$134	$162	$176	$189	$219	$187	$197	$209	$220	$232	$245	$258
OUS NSCLC - HER2+	$0	$0	$29	$62	$113	$148	$204	$248	$272	$297	$346	$299	$320	$342	$366	$390
Total Neratinib ($M)	$19	$42	$104	$163	$247	$310	$380	$438	$491	$484	$544	$507	$539	$574	$610	$648

Source: UBS estimates

Given that we see potential for neratinib in HER2 over-expressed lung cancer, we include 40% probability of success related to neratinib in lung cancer. Key valuation points are:

- HER2 mutations occur in 2-4% of all NSCLC patients and we include a prevalent market of 3% of all NSCLC.

- We assume screening for HER2 mutations is a slow process (similar to what we're seeing with Xalkori), ramping up to 80% of HER2 over-expressers identified by neratinib's 9th year on the market.
- We believe neratinib can follow a Xalkori like path to market and assume that ORRs will only be necessary for approval.
- We assume 2nd/3rd generation HER2 inhibitors will be developed and cede market share in the later half of neratinib's patent life.

Table 13: Neratinib value in lung cancer

	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
US Neratinib	19	42	75	102	134	162	176	189	219	187	197	209	220	232	245	258
ROW Neratinib	0	0	29	62	113	148	204	248	272	297	346	299	320	342	366	390
ROW royalty rate			*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*
Total WW Neratinib in lung	19	42	84	120	168	206	237	264	301	276	301	298	316	335	354	375
COGS (incl Pfizer royalty)	3	6	11	15	20	24	26	28	33	28	30	31	33	35	37	39
SG&A				20	30	32	33	35	36	38	40	42	44	47	49	51
R&D	15	15	10	5	5	5	5	5	5	5	5	5	5	5	5	5
Operating Income	2	20	63	80	113	146	173	196	226	205	227	220	233	248	264	280
Operating margin				*66%*	*67%*	*71%*	*73%*	*74%*	*75%*	*74%*	*75%*	*74%*	*74%*	*74%*	*74%*	*75%*
Taxes	0.5	7.1	21.9	28.0	39.6	50.9	60.5	68.5	79.2	71.6	79.3	76.9	81.7	86.9	92.3	98.0
Tax rate	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*
After tax income	1.0	13.3	40.7	51.9	73.5	94.6	112.4	127.3	147.1	132.9	147.3	142.8	151.7	161.3	171.4	181.9
Unlevered Free Cash Flows	0.5	5.4	13.3	13.6	15.4	15.9	15.1	13.7	12.6	9.1	8.1	6.3	5.3	4.5	3.9	3.3

Total Present Value	138.8
YE2012 Share count	29.0
Total PV/Share	$4.8
Discount rate	25%
Implied probability of success---->	*40%*

Source: UBS estimates

What about other HER targets in lung cancer?

Management is about to begin a Phase II study in this additional defined subset of lung cancer. However, without any clinical validation we prefer to wait for the Phase II data before adding any value to our model.

3. What's Puma worth in a takeout?

Overview: Given the success Puma's CEO had with his prior company Cougar biotechnology, many investors are looking at Puma as a potential takeout story. As such, we believe it is prudent to assess the takeout valuation.

Consensus view: By default given the success with Cougar we believe consensus sees the story as a potential takeout. That said, there are clearly doubters, but we believe any bulls on the story will readily acknowledge that takeout is their end goal.

Our take: We model a takeout valuation of $40/share. This is based upon increasing the probability of success for the pipeline as we believe a takeout will be predicated on pipeline success and by removing all the SG&A overhead.

How we value a takeout

For a takeout to occur we believe there will be some clinical success upon which an acquirer feels the need to bid. As such, to reach our acquisition price we complete two tasks to yield our $40 acquisition price:

- **We increase our probability of success to 100% for metastatic breast cancer** – Given that this is the lead indication for neratinib, we believe it will drive a acquisition. Thus, we increase its probability of success assuming an acquisition is predicated on clinical success in mBC.
- **We remove all SG&A assumptions from our model** – We currently model SG&A for both the lung cancer and breast cancer indications in our model for the US market. We would assume an acquirer would use its own sales force to sell such a product.

Table 14: Puma acquisition analysis

Product	Implied Probability of Success	Value/Share	Sales at Expiration Year	Exclusivity Expiration Year
Neratinib - HER2 mBC	100%	$21.8	298	2030E
Neratinib - HER2 neoadjuvant	50%	$5.1	162	2030E
Neratinib - HER2 lung	40%	$5.7	258	2030E
Corporate		-$0.9		
NOLs		$4.0		
Cash		$4.0		
Total Sum of Parts		$39.7		

Source: UBS estimates

Neratinib in Breast Cancer

Table 15: Neratinib in advanced mBC

	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
US Neratinib	74	116	160	205	230	255	258	261	265	270	276	281	287	292	298
ROW Neratinib		66	105	144	185	207	229	232	235	238	243	248	253	258	263
ROW royalty rate		*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*
Total WW Neratinib in mBC	74	136	192	249	285	317	327	331	335	342	348	355	363	370	377
COGS (incl Pfizer royalty)	11	17	24	31	34	38	39	39	40	41	41	42	43	44	45
SG&A															
R&D	10	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Operating Income	52	114	163	213	246	274	283	287	291	296	302	308	315	321	327
Operating margin	*71%*	*84%*	*85%*	*86%*	*86%*	*86%*	*87%*	*87%*	*87%*	*87%*	*87%*	*87%*	*87%*	*87%*	*87%*
Taxes	18.4	39.8	56.9	74.5	86.0	95.8	99.1	100.4	101.7	103.6	105.7	107.9	110.1	112.3	114.6
Tax rate	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*
After tax income	34.1	74.0	105.8	138.4	159.8	177.9	184.1	186.5	188.9	192.5	196.4	200.4	204.4	208.6	212.8
Unlevered Free Cash Flows	21.3	41.0	52.2	60.7	62.3	61.6	56.7	51.0	46.0	41.6	37.8	34.2	31.1	28.2	25.5

Total Present Value	630.8
YE2012 Share count	29.0
Total PV/Share	$21.8
Discount rate	12.5%
Implied probability of success--->	*100%*

Source: UBS estimates

Table 16: Neratinib in neoadjuvant BC

	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
US Neratinib	35	74	92	105	112	119	127	135	144	147	150	153	156	159	162
ROW Neratinib		31	67	83	94	101	107	114	122	130	132	135	138	140	143
ROW royalty rate		*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*
Total WW Neratinib in mBC	35	83	112	130	140	149	159	170	181	186	190	193	197	201	205
COGS (incl Pfizer royalty)	5	11	14	16	17	18	19	20	22	22	22	23	23	24	24
SG&A															
R&D	10	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Operating Income	19	67	93	109	118	127	135	144	154	159	162	165	169	172	176
Operating margin	*56%*	*81%*	*83%*	*84%*	*84%*	*85%*	*85%*	*85%*	*85%*	*85%*	*86%*	*86%*	*86%*	*86%*	*86%*
Taxes	6.8	23.5	32.6	38.2	41.5	44.3	47.3	50.5	53.9	55.6	56.7	57.9	59.1	60.3	61.6
Tax rate	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*
After tax income	12.7	43.7	60.5	70.9	77.0	82.2	87.8	93.8	100.1	103.2	105.4	107.5	109.8	112.0	114.3
Unlevered Free Cash Flows	5.8	16.3	18.5	17.8	15.9	13.9	12.2	10.7	9.4	8.0	6.7	5.6	4.7	3.9	3.3

Total Present Value	146.9
YE2012 Share count	29.0
Total PV/Share	$5.1
Discount rate	21.8%
Implied probability of success--->	*50%*

Source: UBS estimates

Neratinib in Lung Cancer

Table 17: Neratinib in HER2+ lung cancer

	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
US Neratinib	19	42	75	102	134	162	176	189	219	187	197	209	220	232	245	258
ROW Neratinib	0	0	29	62	113	148	204	248	272	297	346	299	320	342	366	390
ROW royalty rate			*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*
Total WW Neratinib in lung	19	42	84	120	168	206	237	264	301	276	301	298	316	335	354	375
COGS (incl Pfizer royalty)	3	6	11	15	20	24	26	28	33	28	30	31	33	35	37	39
SG&A																
R&D	15	15	10	5	5	5	5	5	5	5	5	5	5	5	5	5
Operating Income	2	20	63	100	143	177	206	230	263	243	267	262	278	295	313	331
Operating margin				*83%*	*85%*	*86%*	*87%*	*87%*	*87%*	*88%*	*89%*	*88%*	*88%*	*88%*	*88%*	*88%*
Taxes	0.5	7.1	21.9	35.0	50.1	62.0	72.1	80.7	91.9	85.0	93.4	91.7	97.2	103.2	109.4	115.9
Tax rate	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*
After tax income	1.0	13.3	40.7	64.9	93.0	115.1	133.9	149.8	170.8	157.8	173.4	170.3	180.5	191.6	203.2	215.3
Unlevered Free Cash Flows	0.5	5.4	13.3	17.0	19.5	19.3	18.0	16.1	14.7	10.8	9.5	7.5	6.4	5.4	4.6	3.9

Total Present Value	164.6
YE2012 Share count	29.0
Total PV/Share	$5.7
Discount rate	25%
Implied probability of success--->	*40%*

Source: UBS estimates

Table 18: Puma Biotechnology – Income Statement (2011-2020E)

	2011	1Q12	2Q12	3Q12E	4Q12E	2012E	2013E	2014E	2015E	2016E
Neratinib revenue	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.5	149.8
Other	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	0.0	0.0	19.5	149.8
Consensus Revenue				*0.0*	*0.0*	*0.0*	*0.0*	*33.3*	*48.2*	
COGS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	22.5
Gross Profit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.6	127.3
SG&A	9.3	1.2	1.7	1.5	1.4	5.8	6.7	6.9	7.2	53.4
R&D	0.8	10.6	13.0	11.6	6.3	41.5	24.0	43.3	53.6	49.0
Operating Income	-10.1	-11.8	-14.7	-13.1	-7.7	-47.3	-30.7	-50.2	-44.2	25.0
Total Non-operating Income	-0.1	0.0	0.0	0.0	0.0	0.0	0.8	1.9	3.3	3.4
Pretax Income	-10.2	-11.8	-14.7	-13.1	-7.7	-47.3	-29.9	-48.3	-40.9	28.4
Taxes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tax Rate	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Net Income	-10.2	-11.8	-14.7	-13.1	-7.7	-47.3	-29.9	-48.3	-40.9	28.4
Diluted EPS	-1.32	-0.59	-0.73	-0.65	-0.30	-2.21	-1.03	-1.58	-1.18	0.78
Consensus EPS				*-$0.46*	*-$0.46*	*-$2.25*	*-$1.94*	*-$1.39*	*-$1.56*	
Basic shares outstanding										
Diluted shares outstanding	7.7	20.0	20.0	20.0	25.3	21.4	29.0	30.5	34.7	36.2
Margin Analysis										
Gross Margin		NA	NA	NA	NA	NA	NA	NA	85.0%	85.0%
SG&A (% of Revenue)		NA	NA	NA	NA	NA	NA	NA	36.7%	35.6%
R&D (% of Revenue)		NA	NA	NA	NA	NA	NA	NA	275.4%	32.7%
Operating Margin		NA	NA	NA	NA	NA	NA	NA	-227.1%	16.7%
Pretax Margin		NA	NA	NA	NA	NA	NA	NA	-210.2%	18.9%
Net Margin		NA	NA	NA	NA	NA	NA	NA	-210.2%	18.9%
Year-over-Year Growth										
Revenue		NA	NA	NA	NA	NA	NA	NA	NA	669%
COGS		NA	NA	NA	NA	NA	NA	NA	NA	669%
Gross Profit		NA	NA	NA	NA	NA	NA	NA	NA	669%
SG&A		NA	NA	NA	NA	-37%	15%	3%	3%	646%
R&D		NA	NA	NA	NA	4922%	-42%	80%	24%	-9%
Operating Income		NA	NA	NA	NA	367%	-35%	64%	-12%	-156%
Pretax Income		NA	NA	NA	NA	363%	-37%	62%	-15%	-169%
Net Income		NA	NA	NA	NA	363%	-37%	62%	-15%	-169%
EPS		NA	NA	NA	NA	68%	-53%	54%	-26%	-166%
Diluted shares outstanding		NA	NA	NA	NA	176%	36%	5%	14%	4%

Source: UBS estimates, company reports

Table 19: Puma Biotechnology – Balance Sheet (2011-2020E)

	2011A	2012E	2013E	2014E	2015E	2016E	2017E
	FY	FY	FY	FY	FY	FY	FY
Cash and cash equivalents	53.4	135.0	106.9	60.4	101.4	129.0	256.8
Accounts receivable	0.0	0.0	0.0	0.0	0.0	12.1	22.4
Prepaid expenses and other current asset	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Total current assets	53.7	135.3	107.1	60.7	101.7	141.4	279.4
Property, plant and equipment, net	0.7	2.7	4.9	7.5	10.3	13.5	17.0
Other assets	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Total assets	55.4	139.0	113.1	69.2	113.0	155.9	297.5
Accounts payable	0.1	0.1	0.1	0.1	0.0	9.2	17.0
Accrued expenses	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Other accrued liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total current liabilities	0.6	0.6	0.6	0.6	0.5	9.7	17.5
Long-term portion of deferred rent	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Other long-term liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total long-term liabilities	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Total Liabilities	1.0	1.0	1.0	1.1	0.9	10.1	18.0
Preferred stock	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Common stock	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Additional paid-in capital	64.6	195.5	199.5	203.9	288.8	294.1	300.0
Accumulated other comprehensive income	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Accumulated Income (deficit)	-10.2	-57.5	-87.5	-135.8	-176.7	-148.3	-20.4
Total Equity	54.4	138.0	112.1	68.2	112.1	145.7	279.5
Total liabilities and equity	55.4	139.0	113.1	69.2	113.0	155.9	297.5

Source: UBS estimates, company reports

Table 20: Puma Biotechnology – Cash Flows (2011-2020E)

	2011A	2012E	2013E	2014E	2015E	2016E	2017E
	FY	FY	FY	FY	FY	FY	FY
Operating Activities							
GAAP Net Income (loss)	-10.2	-47.3	-29.9	-48.3	-40.9	28.4	127.9
Depreciation and amortization	0.0	1.0	1.1	1.1	1.2	1.2	1.3
Share-based compensation	0.1	1.2	4.0	4.4	4.8	5.3	5.9
Anti-dilutive warrant	7.6	0.0	0.0	0.0	0.0	0.0	0.0
Changes in operating assets and liabilities:							
Accounts receivable	0.0	0.0	0.0	0.0	0.0	-12.1	-10.3
Prepaid expenses and other current assets	-0.3	0.0	0.0	0.0	0.0	0.0	0.0
Other assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Accounts payable	0.6	0.0	0.0	0.0	-0.1	9.2	7.8
Other accrued liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deferred rent and other long term liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net cash produced (used in) operating activities	-2.3	-45.1	-24.9	-42.8	-35.0	32.0	132.6
Investing Activities							
Restricted Cash	-1.1	0.0	0.0	0.0	0.0	0.0	0.0
Capital expenditures	-0.3	-3.0	-3.3	-3.6	-4.0	-4.4	-4.8
Net cash provided by (used in) investing activities	-1.3	-3.0	-3.3	-3.6	-4.0	-4.4	-4.8
Financing Activities							
Proceeds from convertible note payable	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Capital contributions by stockholder	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Net proceeds from issuances of common stock and	56.7	129.7	0.0	0.0	80.0	0.0	0.0
Net cash provided by financing activities	57.0	129.7	0.0	0.0	80.0	0.0	0.0
Change in cash	53.4	81.6	-28.2	-46.4	41.0	27.6	127.8
Cash beginning of period	0.0	53.4	135.0	106.9	60.4	101.4	129.0
Cash at end of period	53.4	135.0	106.9	60.4	101.4	129.0	256.8

Source: UBS estimates, company reports

Puma Biotechnology

Income statement (US$m)	-	-	-	-	12/11	12/12E	% ch	12/13E	% ch	12/14E	% ch
Revenues	-	-	-	-	0	0	-	0	-	0	-
Operating expenses (ex depn)	-	-	-	-	(10)	(46)	*357.3*	(30)	*-36.0*	(49)	*65.6*
EBITDA (UBS)	-	-	-	-	(10)	(46)	*357.3*	(30)	*-36.0*	(49)	*65.6*
Depreciation	-	-	-	-	0	(1)	*9244.0*	(1)	*5.0*	(1)	*5.0*
Operating income (EBIT, UBS)	-	-	-	-	(10)	(47)	*366.7*	(31)	*-35.1*	(50)	*63.5*
Other income & associates	-	-	-	-	0	0	-	0	-	0	-
Net interest	-	-	-	-	0	0	*1172.9*	1	*1561.4*	2	*137.5*
Abnormal items (pre-tax)	-	-	-	-	0	0	-	0	-	0	-
Profit before tax	-	-	-	-	(10)	(47)	*362.7*	(30)	*-36.8*	(48)	*61.6*
Tax	-	-	-	-	0	0	-	0	-	0	-
Profit after tax	-	-	-	-	(10)	(47)	*362.7*	(30)	*-36.8*	(48)	*61.6*
Abnormal items (post-tax)	-	-	-	-	0	0	-	0	-	0	-
Minorities / pref dividends	-	-	-	-	0	0	-	0	-	0	-
Net income (local GAAP)	-	-	-	-	(10)	(47)	*362.7*	(30)	*-36.8*	(48)	*61.6*
Net Income (UBS)	-	-	-	-	(10)	(47)	*362.7*	(30)	*-36.8*	(48)	*61.6*
Tax rate (%)	-	-	-	-	*0*	*0*	-	*0*	-	*0*	-
Pre-abnormal tax rate (%)	-	-	-	-	*0*	*0*	-	*0*	-	*0*	-

Per share (US$)	-	-	-	-	12/11	12/12E	% ch	12/13E	% ch	12/14E	% ch
EPS (local GAAP)	-	-	-	-	(1.32)	(2.21)	*67.8*	(1.03)	*-53.4*	(1.58)	*53.6*
EPS (UBS)	-	-	-	-	(1.32)	(2.21)	*67.8*	(1.03)	*-53.4*	(1.58)	*53.6*
Net DPS	-	-	-	-	0.00	0.00	-	0.00	-	0.00	-
Cash EPS	-	-	-	-	(1.32)	(2.17)	*64.4*	(1.00)	*-54.1*	(1.55)	*55.6*
BVPS	-	-	-	-	2.71	6.46	*138.1*	3.86	*-40.2*	2.23	*-42.2*

Balance sheet (US$m)	-	-	-	-	12/11	12/12E	% ch	12/13E	% ch	12/14E	% ch
Cash and equivalents	-	-	-	-	53	135	*152.9*	107	*-20.9*	60	*-43.5*
Other current assets	-	-	-	-	0	0	*0.0*	0	*0.0*	0	*0.0*
Total current assets	-	-	-	-	54	135	*152.1*	107	*-20.8*	61	*-43.3*
Net tangible fixed assets	-	-	-	-	1	3	*293.2*	5	*83.9*	7	*51.2*
Net intangible fixed assets	-	-	-	-	0	0	-	0	-	0	-
Investments / other assets	-	-	-	-	1	1	*0.0*	1	*0.0*	1	*0.0*
Total assets	-	-	-	-	55	139	*151.0*	113	*-18.6*	69	*-38.8*
Trade payables & other ST liabilities	-	-	-	-	1	1	*1.5*	1	*1.6*	1	*1.7*
Short term debt	-	-	-	-	0	0	-	0	-	0	-
Total current liabilities	-	-	-	-	1	1	*1.5*	1	*1.6*	1	*1.7*
Long term debt	-	-	-	-	0	0	-	0	-	0	-
Other long term liabilities	-	-	-	-	0	0	*0.0*	0	*0.0*	0	*0.0*
Total liabilities	-	-	-	-	1	1	*0.8*	1	*0.9*	1	*1.0*
Equity & minority interests	-	-	-	-	54	138	*153.8*	112	*-18.8*	68	*-39.2*
Total liabilities & equity	-	-	-	-	55	139	*151.0*	113	*-18.6*	69	*-38.8*

Cash flow (US$m)	-	-	-	-	12/11	12/12E	% ch	12/13E	% ch	12/14E	% ch
Net income	-	-	-	-	(10)	(47)	*362.7*	(30)	*-36.8*	(48)	*61.6*
Depreciation	-	-	-	-	0	1	*9244.0*	1	*5.0*	1	*5.0*
Net change in working capital	-	-	-	-	0	0	*-97.2*	0	*10.0*	0	*10.0*
Other (operating)	-	-	-	-	8	1	*-84.3*	4	*233.3*	4	*10.0*
Net cash from operations	-	-	-	-	(2)	(45)	*1900.8*	(25)	*-44.9*	(43)	*72.3*
Capital expenditure	-	-	-	-	0	(3)	*1088.9*	(3)	*10.0*	(4)	*10.0*
Net (acquisitions) / disposals	-	-	-	-	0	0	-	0	-	0	-
Other changes in investments	-	-	-	-	(1)	0	-	0	-	0	-
Cash from investing activities	-	-	-	-	(1)	(3)	*129.8*	(3)	*10.0*	(4)	*10.0*
Increase/(decrease) in debt	-	-	-	-	0	0	-	0	-	0	-
Share issues / (repurchases)	-	-	-	-	57	130	-	0	-	0	-
Dividends paid	-	-	-	-	0	0	-	0	-	0	-
Other cash from financing	-	-	-	-	0	0	-	0	-	0	-
Cash from financing activities	-	-	-	-	57	130	*127.8*	0	-	0	-
Cash flow chge in cash & equivalents	-	-	-	-	53	82	-	(28)	-	(46)	-
FX / non cash items	-	-	-	-	-	0	-	0	-	0	-
Bal sheet chge in cash & equivalents	-	-	-	-	-	82	-	(28)	-	(46)	-
Core EBITDA	-	-	-	-	(10)	(46)	*357.3*	(30)	*-36.0*	(49)	*65.6*
Maintenance capital expenditure	-	-	-	-	0	(3)	*1088.9*	(3)	*10.0*	(4)	*10.0*
Maintenance net working capital	-	-	-	-	0	0	-	0	-	0	-
Operating free cash flow, pre-tax	-	-	-	-	(10)	(49)	*375.1*	(33)	*-33.2*	(53)	*60.0*

Source: Company accounts, UBS estimates. (UBS) valuations are stated before goodwill-related charges and other adjustments for abnormal and economic items at the analysts' judgement. Note: For some companies, the data represents an extract of the full company accounts.

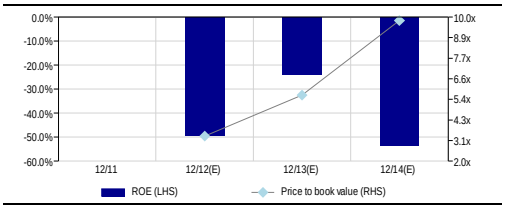
Puma Biotechnology

12-month rating	Buy
12m price target	US$27.00

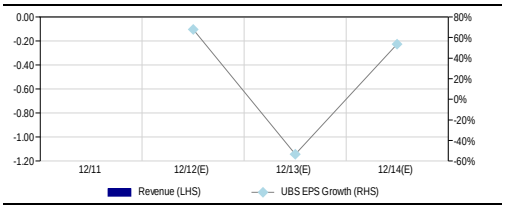
Company profile

Profitability

ROE v Price to book value



Growth (UBS EPS)



Valuation (x)	5Yr Avg	-	12/11	12/12E	12/13E	12/14E
P/E (local GAAP)	-	-	-	NM	NM	NM
P/E (UBS)	-	-	-	NM	NM	NM
P/CEPS	-	-	-	NM	NM	NM
Net dividend yield (%)	-	-	-	0.0	0.0	0.0
P/BV	-	-	-	3.3	5.6	9.6
EV/revenue (core)	-	-	-	-	-	-
EV/EBITDA (core)	-	-	-	-10.7	-15.8	-10.3
EV/EBIT (core)	-	-	-	NM	NM	NM
EV/OpFCF (core)	-	-	-	NM	NM	NM
EV/op. invested capital	-	-	-	NM	NM	NM

Enterprise value (US$m)		-	12/11	12/12E	12/13E	12/14E
Average market cap		-	-	591	591	591
+ minority interests		-	0	0	0	0
+ average net debt (cash)		-	(10)	(94)	(121)	(84)
+ pension obligations and other		-	0	0	0	0
- non-core asset value		-	0	0	0	0
Core enterprise value		-	-	497	470	507

Growth (%)	5Yr Avg	-	12/11	12/12E	12/13E	12/14E
Revenue	-	-	-	-	-	-
EBITDA (UBS)	-	-	-	NM	-36.0	65.6
EBIT (UBS)	-	-	-	NM	-35.1	63.5
EPS (UBS)	-	-	-	67.8	-53.4	53.6
Cash EPS	-	-	-	64.4	-54.1	55.6
Net DPS	-	-	-	-	-	-
BVPS	-	-	-	138.1	-40.2	-42.2

Margins (%)	5Yr Avg	-	12/11	12/12E	12/13E	12/14E
EBITDA / revenue	-	-	-	-	-	-
EBIT / revenue	-	-	-	-	-	-
Net profit (UBS) / revenue	-	-	-	-	-	-

Return on capital (%)	5Yr Avg	-	12/11	12/12E	12/13E	12/14E
EBIT ROIC (UBS)	-	-	-	NM	NM	NM
ROIC post tax	-	-	-	NM	NM	NM
Net ROE	-	-	-	(49.2)	(23.9)	(53.6)

Coverage ratios (x)	5Yr Avg	-	12/11	12/12E	12/13E	12/14E
EBIT / net interest	-	-	-	-	-	-
Dividend cover (UBS EPS)	-	-	-	-	-	-
Div. payout ratio (%, UBS EPS)	-	-	-	-	-	-
Net debt / EBITDA	-	-	5.3	2.9	3.6	1.2

Efficiency ratios (x)	5Yr Avg	-	12/11	12/12E	12/13E	12/14E
Revenue / op. invested capital	-	-	-	0.0	0.0	0.0
Revenue / fixed assets	-	-	-	0.0	0.0	0.0
Revenue / net working capital	-	-	-	0.0	0.0	0.0

Investment ratios (x)	5Yr Avg	-	12/11	12/12E	12/13E	12/14E
OpFCF / EBIT	-	-	1.0	1.0	1.1	1.1
Capex / revenue (%)	-	-	-	-	-	-
Capex / depreciation	-	-	NM	3.0	3.1	3.3

Capital structure (%)	5Yr Avg	-	12/11	12/12E	12/13E	12/14E
Net debt / total equity	-	-	(98.2)	(97.8)	(95.3)	(88.6)
Net debt / (net debt + equity)	-	-	NM	NM	NM	NM
Net debt (core) / EV	-	-	-	(19.0)	(25.7)	(16.5)

Source: Company accounts, UBS estimates. (UBS) valuations are stated before goodwill-related charges and other adjustments for abnormal and economic items at the analysts' judgement.

Valuations: based on an average share price that year, (E): based on a share price of US$21.45 on 26 Oct 2012 16:12 EDT Market cap(E) may include forecast share issues/buybacks.

Matthew Harrison
Analyst
matthew.harrison@ubs.com
+1-212-713 2429

Matthew Roden, PhD
Analyst
matthew.roden@ubs.com
+1-212-713 2491

■ Puma Biotechnology

Puma is a biotechnology company, focused on the development of small molecules for the treatment of cancer. Its key development compound is an agent for HER2+ disease called neratinib. Neratinib is currently being studied in metastatic breast cancer, CNS disease, neoadjuvant breast cancer and lung cancer. We expect key data in 2013.

■ Statement of Risk

Key risks associated with a development-stage biotechnology company include: (a) the ability to finance the company through debt and equity issuances; (b) the outcome of clinical trials and regulatory approvals; and (c) the ability of management to bring its development projects to the market.

■ Analyst Certification

Each research analyst primarily responsible for the content of this research report, in whole or in part, certifies that with respect to each security or issuer that the analyst covered in this report: (1) all of the views expressed accurately reflect his or her personal views about those securities or issuers and were prepared in an independent manner, including with respect to UBS, and (2) no part of his or her compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed by that research analyst in the research report.

Required Disclosures

This report has been prepared by UBS Securities LLC, an affiliate of UBS AG. UBS AG, its subsidiaries, branches and affiliates are referred to herein as UBS.

For information on the ways in which UBS manages conflicts and maintains independence of its research product; historical performance information; and certain additional disclosures concerning UBS research recommendations, please visit www.ubs.com/disclosures. The figures contained in performance charts refer to the past; past performance is not a reliable indicator of future results. Additional information will be made available upon request. UBS Securities Co. Limited is licensed to conduct securities investment consultancy businesses by the China Securities Regulatory Commission.

UBS Investment Research: Global Equity Rating Allocations

UBS 12-Month Rating	Rating Category	Coverage[1]	IB Services[2]
Buy	**Buy**	50%	31%
Neutral	**Hold/Neutral**	41%	31%
Sell	**Sell**	9%	20%
UBS Short-Term Rating	**Rating Category**	**Coverage[3]**	**IB Services[4]**
Buy	**Buy**	less than 1%	33%
Sell	**Sell**	less than 1%	0%

1:Percentage of companies under coverage globally within the 12-month rating category.
2:Percentage of companies within the 12-month rating category for which investment banking (IB) services were provided within the past 12 months.
3:Percentage of companies under coverage globally within the Short-Term rating category.
4:Percentage of companies within the Short-Term rating category for which investment banking (IB) services were provided within the past 12 months.

Source: UBS. Rating allocations are as of 30 September 2012.

UBS Investment Research: Global Equity Rating Definitions

UBS 12-Month Rating	Definition
Buy	FSR is > 6% above the MRA.
Neutral	FSR is between -6% and 6% of the MRA.
Sell	FSR is > 6% below the MRA.
UBS Short-Term Rating	**Definition**
Buy	Buy: Stock price expected to rise within three months from the time the rating was assigned because of a specific catalyst or event.
Sell	Sell: Stock price expected to fall within three months from the time the rating was assigned because of a specific catalyst or event.

KEY DEFINITIONS

Forecast Stock Return (FSR) is defined as expected percentage price appreciation plus gross dividend yield over the next 12 months.

Market Return Assumption (MRA) is defined as the one-year local market interest rate plus 5% (a proxy for, and not a forecast of, the equity risk premium).

Under Review (UR) Stocks may be flagged as UR by the analyst, indicating that the stock's price target and/or rating are subject to possible change in the near term, usually in response to an event that may affect the investment case or valuation.

Short-Term Ratings reflect the expected near-term (up to three months) performance of the stock and do not reflect any change in the fundamental view or investment case.

Equity Price Targets have an investment horizon of 12 months.

EXCEPTIONS AND SPECIAL CASES

UK and European Investment Fund ratings and definitions are: Buy: Positive on factors such as structure, management, performance record, discount; Neutral: Neutral on factors such as structure, management, performance record, discount; Sell: Negative on factors such as structure, management, performance record, discount.

Core Banding Exceptions (CBE): Exceptions to the standard +/-6% bands may be granted by the Investment Review Committee (IRC). Factors considered by the IRC include the stock's volatility and the credit spread of the respective company's debt. As a result, stocks deemed to be very high or low risk may be subject to higher or lower bands as they relate to the rating. When such exceptions apply, they will be identified in the Company Disclosures table in the relevant research piece.

Research analysts contributing to this report who are employed by any non-US affiliate of UBS Securities LLC are not registered/qualified as research analysts with the NASD and NYSE and therefore are not subject to the restrictions contained in the NASD and NYSE rules on communications with a subject company, public appearances, and trading securities held by a research analyst account. The name of each affiliate and analyst employed by that affiliate contributing to this report, if any, follows.

UBS Securities LLC: Matthew Harrison; Matthew Roden, PhD.

Company Disclosures

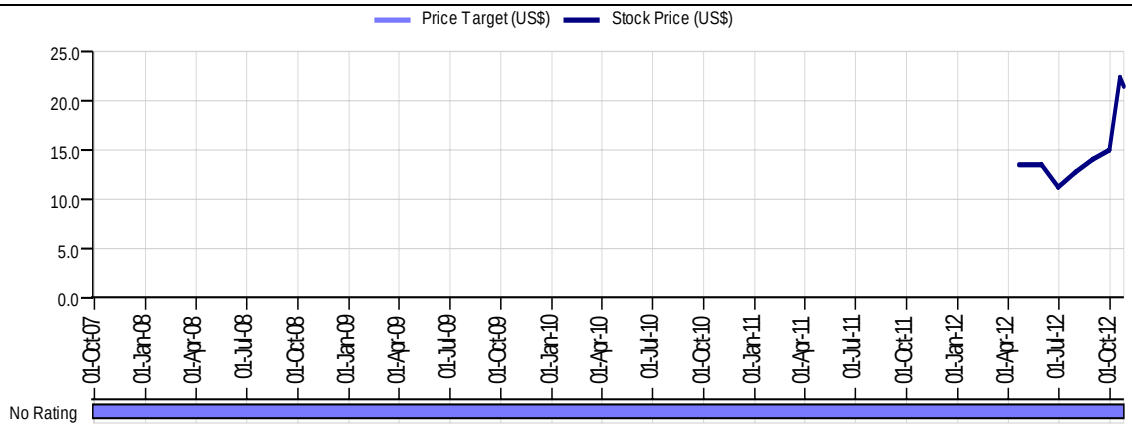
Company Name	Reuters	12-mo rating	Short-term rating	Price	Price date
Puma Biotechnology[2, 4, 5, 16]	PBYI.N	Not Rated	N/A	US$21.46	26 Oct 2012

Source: UBS. All prices as of local market close.
Ratings in this table are the most current published ratings prior to this report. They may be more recent than the stock pricing date

2. UBS AG, its affiliates or subsidiaries has acted as manager/co-manager in the underwriting or placement of securities of this company/entity or one of its affiliates within the past 12 months.
4. Within the past 12 months, UBS AG, its affiliates or subsidiaries has received compensation for investment banking services from this company/entity.
5. UBS AG, its affiliates or subsidiaries expect to receive or intend to seek compensation for investment banking services from this company/entity within the next three months.
16. UBS Securities LLC makes a market in the securities and/or ADRs of this company.

Unless otherwise indicated, please refer to the Valuation and Risk sections within the body of this report.

Puma Biotechnology (US$)



Source: UBS; as of 26 Oct 2012

Global Disclaimer

This document has been prepared by UBS Securities LLC, an affiliate of UBS AG. UBS AG, its subsidiaries, branches and affiliates are referred to herein as UBS.

This document is for distribution only as may be permitted by law. It is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation or would subject UBS to any registration or licensing requirement within such jurisdiction. It is published solely for information purposes; it is not an advertisement nor is it a solicitation or an offer to buy or sell any financial instruments or to participate in any particular trading strategy. No representation or warranty, either express or implied, is provided in relation to the accuracy, completeness or reliability of the information contained in this document ('the Information'), except with respect to Information concerning UBS. The Information is not intended to be a complete statement or summary of the securities, markets or developments referred to in the document. UBS does not undertake to update or keep current the Information. Any opinions expressed in this document may change without notice and may differ or be contrary to opinions expressed by other business areas or groups of UBS.

Nothing in this document constitutes a representation that any investment strategy or recommendation is suitable or appropriate to an investor's individual circumstances or otherwise constitutes a personal recommendation. Investments involve risks, and investors should exercise prudence and their own judgement in making their investment decisions. The financial instruments described in the document may not be eligible for sale in all jurisdictions or to certain categories of investors. Options, derivative products and futures are not suitable for all investors, and trading in these instruments is considered risky. Mortgage and asset-backed securities may involve a high degree of risk and may be highly volatile in response to fluctuations in interest rates or other market conditions. Foreign currency rates of exchange may adversely affect the value, price or income of any security or related instrument referred to in the document. For investment advice, trade execution or other enquiries, clients should contact their local sales representative.

The value of any investment or income may go down as well as up, and investors may not get back the full amount invested. Past performance is not necessarily a guide to future performance. Neither UBS nor any of its directors, employees or agents accepts any liability for any loss (including investment loss) or damage arising out of the use of all or any of the Information.

Any prices stated in this document are for information purposes only and do not represent valuations for individual securities or other financial instruments. There is no representation that any transaction can or could have been effected at those prices, and any prices do not necessarily reflect UBS's internal books and records or theoretical model-based valuations and may be based on certain assumptions. Different assumptions by UBS or any other source may yield substantially different results.

Research will initiate, update and cease coverage solely at the discretion of UBS Investment Bank Research Management. The analysis contained in this document is based on numerous assumptions. Different assumptions could result in materially different results. The analyst(s) responsible for the preparation of this document may interact with trading desk personnel, sales personnel and other parties for the purpose of gathering, applying and interpreting market information. UBS relies on information barriers to control the flow of information contained in one or more areas within UBS into other areas, units, groups or affiliates of UBS. The compensation of the analyst who prepared this document is determined exclusively by research management and senior management (not including investment banking). Analyst compensation is not based on investment banking revenues; however, compensation may relate to the revenues of UBS Investment Bank as a whole, of which investment banking, sales and trading are a part.

For financial instruments admitted to trading on an EU regulated market: UBS AG, its affiliates or subsidiaries (excluding UBS Securities LLC) acts as a market maker or liquidity provider (in accordance with the interpretation of these terms in the UK) in the financial instruments of the issuer save that where the activity of liquidity provider is carried out in accordance with the definition given to it by the laws and regulations of any other EU jurisdictions, such information is separately disclosed in this document. For financial instruments admitted to trading on a non-EU regulated market: UBS may act as a market maker save that where this activity is carried out in the US in accordance with the definition given to it by the relevant laws and regulations, such activity will be specifically disclosed in this document. UBS may have issued a warrant the value of which is based on one or more of the financial instruments referred to in the document. UBS and its affiliates and employees may have long or short positions, trade as principal and buy and sell in instruments or derivatives identified herein; such transactions or positions may be inconsistent with the opinions expressed in this document.