September 2, 2014

HEALTHCARE/BIOTECHNOLOGY

Stock Rating:

OUTPERFORM

12-18 mo. Price Target	$20.00
LOXO - NASDAQ	$13.01

3-5 Yr. EPS Gr. Rate	NA
52-Wk Range	$13.42-$12.69
Shares Outstanding	15.9M
Float	6.5M
Market Capitalization	$207.4M
Avg. Daily Trading Volume	188
Dividend/Div Yield	NA/NM
Book Value	NA
Fiscal Year Ends	Dec
2014E ROE	NA
LT Debt	$0.0M
Preferred	$0.0M
Common Equity	$108M
Convertible Available	No

Trading range since August 1, 2014 IPO.

EPS Diluted	Q1	Q2	Q3	Q4	Year	Mult.
2014E	--	--	(0.24)	(0.25)	(0.90)	NM
2015E	--	--	--	--	(1.10)	NM

Revenue ($/mil)	Q1	Q2	Q3	Q4	Year	Mult.
2014E	--	--	0.0	0.0	0.0	NM
2015E	--	--	--	--	0.0	NM

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Loxo Oncology

Clear Opportunity, But Execution Required; Initiating with Outperform

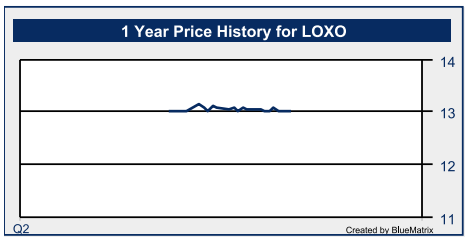
SUMMARY

We are initiating coverage of Loxo Oncology with an Outperform rating and $20 price target. Loxo is an early-stage biotechnology company executing a business plan for targeted cancer drugs that benefits from **1)** clear precedent for clinical and commercial success, **2)** a rapid development path and **3)** well-defined chemistry, potency and selectivity around the target of interest (TRK). However, Loxo has yet to generate clinical data. Therefore, the investment thesis relies heavily on a belief that Loxo's targeted approach to the treatment of TRK-translocations will mirror a trajectory for successfully commercialized targeted cancer drugs, a prime example being Xalkori. We believe this thesis has merit and provides indirect proof-of-concept that lead asset LOXO-101 should generate enriched efficacy in TRK+ tumors.

KEY POINTS

- **Rapid path to market for cancer drugs targeting gene translocations or point mutations.** Key examples include Pfizer's lung cancer drug Xalkori (ALK translocation), the CML drugs (Gleevec, Tasigna, Sprycel) targeting the BCR-ABL oncogene, and Zelboraf and Tafinlar for melanoma (BRAF mutation). These drugs advanced from IND to FDA approval in ~4.5 years on average.
- **LOXO-101 Catalysts.** Phase 1a all-comers dose escalation data in 1Q15. However, these patients were not pre-screened for TRK mutations. While we could see a few TRK+ subjects, the study is mainly geared at safety. The Phase 1b trial (initial data late 2015) specifically enrolling TRK+ patients should provide a better window into early efficacy.
- **Model.** Without clinical data for LOXO-101, we are referencing the clinical and commercial experience with Xalkori in constructing our base case. Our model assumes LOXO-101 approval/launch by YE18 or 2019 (~4.5 years) and a share ramp in TRK+ lung adenocarcinoma (subset of NSCLC) that tracks Xalkori's historical share gains in ALK+ NSCLC (see Exhibit 11).
- **Array BioPharma Collaboration.** The Array collaboration brings a world-class kinase biology discovery engine to Loxo. This will be important as Loxo continues to advance the pipeline beyond lead asset LOXO-101. Loxo management has indicated a goal of identifying four new lead programs by 4Q15, starting with LOXO-200 (target disclosure mid-2015).

Stock Price Performance



Company Description

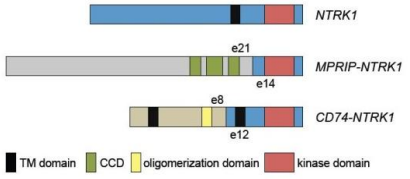
Loxo Oncology is developing targeted drugs for the treatment of cancer in genetically defined patient populations. The company's lead product candidate, LOXO-101, is an oral, selective and potent inhibitor of TRK, a family of signaling molecules that appear to play an important role in the development of a range of cancers.

Investment Thesis

Summary & Conclusions

We are initiating coverage of Loxo Oncology with an Outperform rating and a $20 price target. Loxo Oncology is an early stage biotechnology company focused on the development of small molecule therapeutics for the treatment of cancer in genetically defined patient populations. Loxo's lead asset, LOXO-101, is a potent and highly selective inhibitor of pan-TRK tyrosine kinases that benefits from clear mechanistic/scientific rationale and has generated promising preclinical data with a favorable pharmacokinetic profile. The company's development approach relies to a significant degree on higher-than-average clinical/regulatory prospects for drugs targeting oncogenic chromosomal rearrangements with clearly defined and rapid paths to market, and our Outperform thesis reflects this bias for success. That being said, Loxo has yet to generate human efficacy data for LOXO-101 (Phase 1a trial under way), an important caveat. However, established precedents that provide grounds for proof-of-concept for Loxo's development paradigm, albeit indirect, include high-profile commercialized tyrosine kinase inhibitors (TKIs) in molecularly defined cancers, such as Xalkori (ALK+ NSCLC), Zykadia (ALK+ NSCLC), Tafinlar (BRAF V600E), Zelboraf (BRAF V600E), and Gleevec/Sprycel/Tasigna/Bosulif/Iclusig (CML, Bcr-Abl), among others.

Exhibit 1
Schematic of TRK Fusions Characterized In Lung Adenocarcinoma Patients



Top: full length wild-type *NTRK1* gene
Middle: *MPRIP* sequence, with 3 coiled-coil domains, fused to a portion of the *NTRK1* gene containing the fully intact kinase domain.
Bottom: *CD74-NTRK1* fusion with 2 transmembrane domain segments, and a separate oligomerization domain from the *CD74* gene.

Sources: Vaishnavi et al., *Nature Medicine* 2013, 19 (11): 1469-1472

The precedents above suggest LOXO-101 should drive a disproportionate clinical benefit in TRK fusion cancers, even though we have yet to see clinical data. TRK translocations have been discovered in a range of cancers (NSCLC, colorectal[1], papillary thyroid, neuroblastoma, and others, see Exhibit 3) and Loxo's emerging Phase 1a/1b data (2015) should begin to clarify LOXO-101's clinical potential in specific indications. However, as a starting point to illustrate potential value, we have decided to focus our modeling work on NSCLC given relatively clear parallels to Xalkori's development path in ALK+ NSCLC (another chromosomal translocation). Assuming the LOXO-101 data fall into place as expectations would suggest, we see a well-defined potential market opportunity where LOXO-101's commercial prospects could follow an adoption curve similar to what Xalkori has achieved in NSCLC ALK+ patients (see Market Model pg. 14 and Exhibit 11 for details). Based on these preliminary assumptions, we believe LOXO-101 could achieve global sales in TRK+ NSCLC of ~$300M by 2024, and our thesis is driven off this revenue roadmap.

Key aspects of our thesis include:

- **TRK fusions are a proven molecular driver for multiple tumors.** A range of scientific evidence (see p. 6 for details) has firmly established the role of aberrant fusions of tyrosine kinase domains of TRK family members in cancer development.[2] Although TRK is a new target, we see good validation for a therapeutic strategy where inhibiting the TRK kinase slows down and/or reverses disease progression in patients with TRK fusions. TRK fusions have been implicated in the development of lung adenocarcinomas, papillary thyroid carcinomas, colorectal carcinomas, neuroblastomas and a variety of other malignancies (see Exhibit 3).

- **LOXO-101's pharmacokinetic profile looks advantageous vs. competitors, including 1)** low nM potency for TRKs, **2)** high specificity (>100x) for TRK family members (TRKA, TRKB, and TRKC) vs. other tyrosine kinases, and **3)** none to very limited brain penetration (in contrast to Ignyta's TRK inhibitor, see p. 11).

- **LOXO-101 chemistry has origins as a pain drug, suggesting a de-risked safety profile.** LOXO-101 is the product of Loxo's collaboration with Array (see p. 7), and the Array chemistry supporting the family of compounds targeting TRKA was geared to application for pain (the natural ligand of TRKA is nerve growth factor which mediates pain). Relatedly, LOXO-101's high specificity for TRK tyrosine kinases (see below, Exhibit 2) over other kinases would imply little cross-reactivity that could generate off-target side effects.

[1] Martin-Zanca, D., et al. A human oncogene formed by the fusion of truncated tropomyosin and protein tyrosine kinase sequences. *Nature* 1986, 319: 743-78.
[2] Alberti, L., et al. *RET* and *NTRK1* Proto-Oncogenes in Human Diseases. *J of Cell Phys* 2003, 195: 168-186.

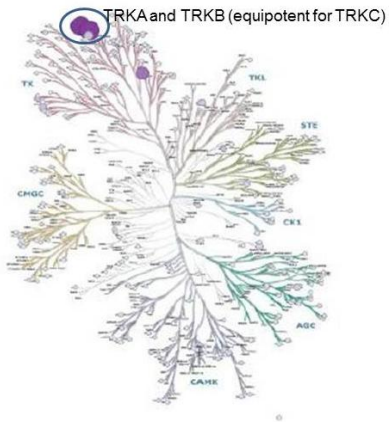
- **Targeted therapy for cancers driven by chromosomal translocations has been validated by regulatory and commercial success of recently approved drugs (see Exhibit 4).** Xalkori received FDA approval for treatment of NSCLC in ALK+ patients with an accelerated status in 2011, only four years after the initial discovery of the *EML4-ALK* oncogenic fusion in 2007. Xalkori's 2014 sales are tracking at ~$400-450M worldwide as a therapy for ALK-positive NSCLC tumors. The ALK development field has blossomed with multiple ALK inhibitors in development and a second generation ALK inhibitor (Zykadia) has already been approved in 2014.

- **Anecdotal, but still positive, early data on TRK inhibition in treatment of TRK-positive cancers**. RXDX-101, Ignyta's TRK Inhibitor, showed a partial response in the only patient with a TRK fusion who was treated in a Phase 1 dose escalation study in patients with advanced solid tumors (see p. 11 for details).

- **Collaboration with Array BioPharma lays a strong foundation for Loxo's operational efficiency and access to a world-class platform for pre-clinical development of kinase inhibitors.** Array is a world leader in the development of small molecule inhibitors with deep expertise in kinase biology. Array's own oncology pipeline currently includes Phase 3 asset binimetinib (MEK inhibitor licensed to Novartis in ovarian cancer and melanoma), Phase 3 selumetinib (MEK inhibitor licensed to AstraZeneca in NSCLC, thyroid cancer, and melanoma), and Phase 2 ARRY-543 (HER2/EGFR inhibitor for gastric cancer licensed to ASLAN Pharmaceuticals), among others.

- **Selective inhibition of oncogenic tyrosine kinases may become a preferred treatment strategy vs. chemo for translocation-driven malignancies, and TRK inhibitors could follow suit.** Recent clinical trials in patients with ALK or EGFR mutations have demonstrated that small molecule inhibition may be superior to standard chemotherapy, not only as the second line, but also as first-line therapy. The PROFILE1014 study demonstrated that first-line Xalkori is superior to PPC (pemetrexed + either cisplatin or carboplatin) in prolonging progression-free survival (PFS) (median 10.9 vs. 7.0 months; HR 0.454; p < 0.0001) in ALK+ Asian patients.[3] In the EURTAC study which enrolled patients with activating EGFR mutations, PFS was 9.7 months for Tarceva vs. 5.2 months for chemotherapy (HR 0.37, p<0.0001).[4]

Exhibit 2
ARRY-407 Selectivity for TRK Kinases Vs. Other Kinase Targets



Sources: Steven W. Andrews, Allosteric Small Molecule Inhibitors of the NGF/TRKA Pathway. A New Approach to Treat Inflammatory Pain. Array BioPharma Presentations.

Exhibit 3
TRK Fusions Across Multiple Tumor Types

Gene Fusion	Cancer	1-4%	5-25%	>25%	Unk.
NTRK1	Papillary Thyroid Carcinoma		✓		
NTRK1	Spitz Neoplasms Nevi		✓		
NTRK1	Lung Adenocarcinoma	✓			
NTRK1	Lung Large Cell Neuroendocrine Cancer	✓			
NTRK1	Intrahepatic Cholangiocarcinoma	✓			
NTRK1	Glioblastoma	✓			
NTRK1	Colorectal Cancer				✓
NTRK2	Astrocytoma	✓			
NTRK3	Secretory Breast Carcinoma			✓	
NTRK3	MASC of the Salivary Glands			✓	
NTRK3	Papillary Thyroid Carcinoma (post-Chernobyl)		✓		
NTRK3	Congenital Mesoblastic Nephroma		✓		
NTRK3	Papillary Thyroid Cancer	✓			
NTRK3	Acute Myeloid Leukemia	✓			
NTRK1/2/3	Pontine Glioma		✓		

Source: Loxo Oncology Presentations.

[3] Mot, T., et al. First-line crizotinib versus pemetrexed-cisplatin or pemetrexed-carboplatin in patients (pts) with advanced *ALK*-positive non-squamous non-small cell lung cancer (NSCLC): results of a phase III study (PROFILE 1014). J Clin Oncol 2014, 32:5s.

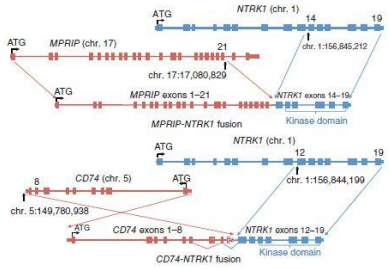
[4] Rosell, R., et al. Erlotinib versus standard chemotherapy as first-line treatment for European patients with advanced EGFR mutation-positive non-small-cell lung cancer (EURTAC): a multicenter, open-label, randomized phase 3 trial. Lancet Oncol. 2012, 13 (3): 239-246.

Exhibit 4
Recent TKI Approvals

Drug	Approval	Tumor	Molecular aberration	Pivotal N	ORR
ZYKADIA	2014 (FDA) Accelerated	NSCLC	ALK positive	n=163	55%
Gilotrif (afatinib)	2013 (FDA) Full Approval	NSCLC	EGFR Mutation	n=345	50%
Tafinlar (dabrafenib)	2013 (FDA) Accelerated	Melanoma	BRAF V600E Mutation	n=250 n=108	52% 76%
TARCEVA (erlotinib)*	2013 (FDA) Full Approval	NSCLC	EGFR Mutation	n=154	65%
XALKORI (crizotinib)	2011 (FDA) Accelerated	NSCLC	ALK-EML4 Translocation	n=136 n=119	65% 61%
ZELBORAF (vemurafenib)	2011 (FDA) Accelerated	Melanoma	BRAF V600E Mutation	n=675	48%
Iressa (gefitinib)**	2009 (EMA)	NSCLC	EGFR Mutation	NA	71% 42%
Tasigna (nilotinib)	2007 (FDA) Accelerated	CML	BCR-ABL Expression	n=232	40%
SPRYCEL (dasatinib)	2006 (FDA) Accelerated	CML/ALL	BCR-ABL Expression	n=519	77%

* Originally approved in 2004 in the US. Approved in the US for patients with EGFR mutation positive NSCLC in 2013.
** Originally approved in 2003 in the US. Approved in EU in 2009 for patients with EGFR mutation positive NSCLC in 2009.
Source: Loxo Oncology Presentations.

Exhibit 5
Schematic of Genomic Rearrangement from Tumor Samples Harboring *MPRIP-NTRK1* and *CD74-NTRK1*, Including Chromosomal Breakpoints For Each Gene Rearrangement



Source: Vaishnavi et al., *Nature Medicine* 2013, 19 (11): 1469-1472

Tyrosine Kinase Fusion Tumorigenesis Basics

Mechanism of tyrosine kinase fusion activation. The discovery of the Philadelphia chromosome and its oncogenic product (BCR-ABL tyrosine kinase) in chronic myeloid leukemia (CML) established the significance of chromosomal rearrangements (so called fusion gene products) in cancer progression. While the details differ, the tyrosine kinase gene fusions share several common characteristics that support targeting a constitutively active kinase domain as a therapeutic strategy to control disease:

a) The tyrosine kinase portion of the fusion oncogene encodes an intact kinase domain, which is essential for activity.

b) For each studied tyrosine kinase fusion, the chromosomal breakpoint is often conserved across the various fusions products.

c) Although each tyrosine kinase may have numerous fusion partners, even in the same disease (for example, *MRIP* and *CD47–NTRK1* fusions in lung adenocarcinomas,[5] see Exhibits 1 and 5), the kinase domain is preserved.

d) Many fusion partners contain coiled-coil or leucine zipper domains that drive dimerization or oligomerization of the fusion kinase, leading to ligand-independent activation of the tyrosine kinase.

e) Some fusion partners are activated by 5' upstream regulatory sequences of the fusion partner that drive expression and activation of the kinases in tissues and/or subcellular compartments where they are normally not functional.

f) **Continued aberrant signaling from the oncogenic kinase drives cell growth and survival, providing rationale for inhibition of the kinase activity, which should result in growth arrest and induction of apoptosis (cell death).[6]**

[5] Vaishnavi, A., et al. Oncogenic and drug-sensitive *NTRK* rearrangements in lung cancer. *Nature Medicine* 2013, 19 (11): 1469-1472.

TRK Family in Oncogenic Fusions

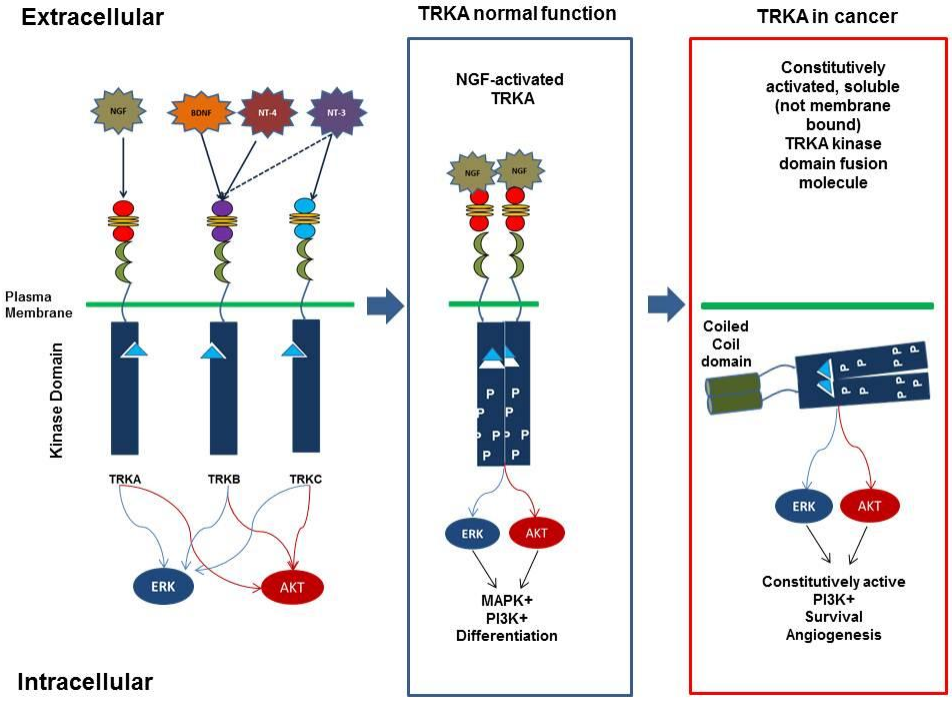
The tyrosine kinase domain of TRKA was first described in 1986 as part of an oncogenic fusion in colorectal carcinoma. Cloning the oncogene revealed it to be a transforming fusion molecule consisting of the non-muscle tropomyosin TPM3 gene fused to the tyrosine kinase domain of a previously unknown protein, named TRK (for **t**ropomyosin-**r**elated **k**inase). TRKA was later identified as a nerve growth factor (NGF) receptor that supports survival and differentiation of sympathetic and sensory neurons responsive to temperature and pain.

Following NGF binding, TRKA undergoes **dimerization** and **autophosphorylation** at five tyrosine residues (Y490, Y670, Y674, Y675, Y785). The activated receptor initiates several signal transduction cascades, including the mitogen activated protein kinase (MAPK), phosphatidylinositol 3-kinase (PI3K) and PLC-γ pathways (see Exhibit 6). The TRK family of receptors consists of three members named TRKA, TRKB, and TRKC, displaying binding specificity for different neurotrophins, and major isoforms of TRK receptors are the result of alternative splicing.

We have developed our own cartoon of the TRK fusion biology based on a detailed review of the literature (see Exhibit 6).

Activation of TRK receptors has different consequences depending on the cellular context. For example, exposure of rat PC12 pheochromocytoma cells to NGF causes neuronal differentiation, but NGF exposure to mouse NIH-3T3 fibroblasts transfected with TRKA leads to enhanced cell proliferation. In addition to tropomyosin- *NTRK1* fusion molecule identified in colorectal cancer, TRK fusions were also found to be active in papillary thyroid carcinoma (*TPR-NTRK, TFG-NTRK,* accounting for up to 25% of papillary thyroid carcinoma cases), and a number of other malignancies (see Exhibit 3).

Exhibit 6
TRK Signaling Cascade in Normal Development and In Cancer



Sources: Oppenheimer Research.

[6] Shaw, A., et al. Tyrosine kinase gene rearrangements in epithelial malignancies. Nat Rev Cancer 2013, 13 (11): 772-787.

Aberrant fusions of tyrosine kinase domains of TRK family members have been implicated in development of lung adenocarcinomas, papillary thyroid carcinomas, colorectal carcinomas, neuroblastomas and a variety of other tumors (refer back to Exhibit 3). TRK fusions have been shown to:

1) Be present in tumor samples that did not contain any other genetic alterations (refer back to Exhibit 1)

2) Be constitutively active, propagating the survival signal to the downstream pathways

3) Promote cellular growth in a manner similar to other tyrosine kinase fusion genes, like *EML4-ALK*

4) Respond to TRK-specific tyrosine kinase inhibitors, like ARRY-407 or CEP-701, by down-regulating proliferation and survival of cells isolated from tumor samples

5) Stimulate development of novel tumors in animal models when injected into nude mice in a manner similar to *EML4-ALK*

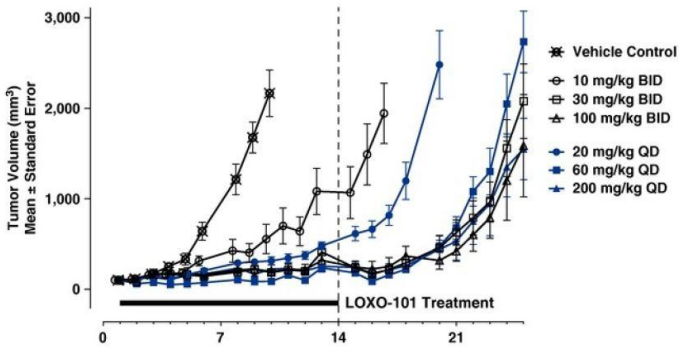
These findings firmly establish the transforming role of TRK fusions in cancer development,[7] **and provide good validation for a therapeutic strategy where inhibiting the TRK kinase may result in the slowing down/reversal of the disease progression in patients with TRK fusions.**

LOXO-101 Key Facts

High selectivity for TRKA, TRKB and TRKC. One of the most important challenges in kinase inhibitor discovery and development is optimization of selectivity, because the ATP binding sites tend to be similar among different kinases. LOXO-101, developed in collaboration with Array BioPharma, has minimal off-target activity, and is highly specific for TRK family kinases (see Exhibit 2). The compound was originally designed using Array's drug discovery platform that includes a stringent iterative selection process, with x-ray crystallography-guided selection of leads. Impressively, more than 80 crystal structures of the TRK kinase domain-lead compound complexes were solved during the scaffold refinement process at Array.

LOXO-101 inhibits tumor growth in an animal model of *NTRK-1* fusion-driven human tumor. A human tumor cell line expressing TRKA fusion was injected into immune-compromised mice to model tumor growth (xenograft tumor model). Tumors showed response at all doses, with disease stabilization extending 5-6 days beyond the 14-day dosing interval at LOXO-101 doses of 60 mg/kg or more per day (see Exhibit 7, dotted line). Supporting the selectivity of LOXO-101 for TRK translocations, this inhibition effect was not detected when mice with TRKA fusion xenografts were treated with Xalkori (see Exhibit 8).

Exhibit 7
LOXO-101 Inhibits TRKA+ Xenograft Tumor Growth. Dosing Response

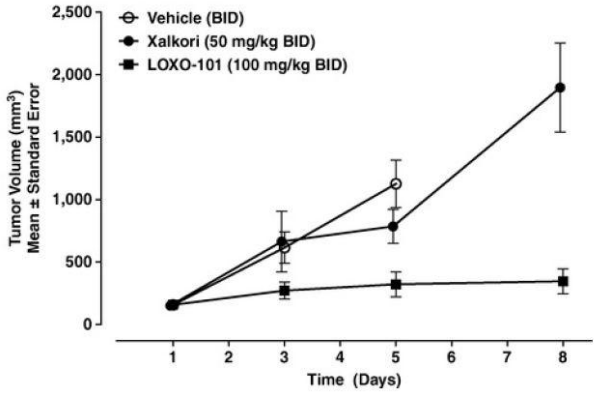


Sources: Loxo Oncology Filings.

[7] *RET* and *NTRK1* Proto-Oncogenes in Human Diseases. *J of Cell Phys* 2003, 195: 168-186.

LOXO-101's pharmacokinetic and pharmacodynamic profiles support a higher drug dosing regimen to maximize target coverage and clinical efficacy with less potential for side effects. Robust tumor regression typically requires ~80% or better kinase inhibition, and that generally requires high dosing of the inhibitor. However, TRK activation and specifically TRKB plays an important role in the neuronal signaling. Other TRK inhibitors that cross the blood-brain barrier (BBB) have previously been associated with undesirable neurologic/cognitive dose-related toxicities.[8] LOXO-101's chemical design (does not cross BBB) would appear to enable high doses and thus a wide therapeutic window (in contrast to Ignyta's TRK inhibitor, see p. 11 for details). This PK/PD should synergize well therapeutically with LOXO-101's low nM potency for TRKs and high specificity (>100x) for TRK family members (TRKA, TRKB, and TRKC) vs. other tyrosine kinases, including other TKIs exhibiting TRK activity.

Exhibit 8
Inhibition of TRKA+ Tumors by LOXO-101 or Xalkori

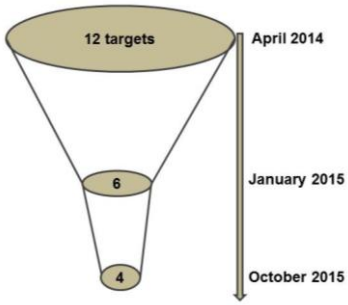


Sources: Loxo Oncology Filings.

LOXO-101 Phase 1a/1b Trial Design in Advanced Solid Tumors

In April 2014, Loxo initiated a multicenter, open-label Phase 1a/1b dose escalation study to evaluate safety and efficacy of LOXO-101 in patients with advanced solid tumors. The Phase 1a is the typical "all-comers" study enrolling patients with progressive disease and more than one prior chemotherapy. Endpoints include safety, pharmacokinetics and pharmacodynamics and Phase 1a data are expected in 1Q15. However, the Phase 1a patients are not being screened for TRK translocations. While some TRK+ patients could be enrolled, the 1Q15 data are therefore not expected to provide a clear picture of efficacy in the TRK+ population. On the other hand, the Phase 1b expansion trial (2Q15 expected start per Loxo) will require TRK+ status as an enrollment criterion in patients with NSCLC, papillary thyroid, colorectal, and other carcinomas. Therefore, we are unlikely to see clinical validation of LOXO-101 in the target population until year-end 2015 or 1H16 (per clinicaltrials.gov).

Exhibit 9
Loxo's Development Strategy



Sources: Loxo Oncology Presentation, Oppenheimer Research.

Loxo's Collaboration with Array

In July 2013, Loxo entered into a collaboration agreement with Array BioPharma for the development of a portfolio of tyrosine kinase inhibitors. We believe the Array collaboration enables Loxo access to a world-class medicinal chemistry platform, which has been validated in the development of other kinase inhibitors currently at advanced stages of development.

Specifically, Loxo outlicensed a TRK program from Array, with exclusive rights to develop and commercialize Array-invented compounds targeting the TRK family of receptors, including LOXO-101. The Array agreement was extended in 2014 to encompass other targets beyond TRK and we expect to learn more about the pipeline in 2015. For LOXO-101, we have modeled a royalty (~5%) and milestone payments ($222M and we model $111M being triggered) to Array.

[8] Weiss, G., et al. Phase 1 study of the safety, tolerability, and pharmacokinetics of PHA-848125AC, a dual tropomyosin receptor kinase A and cyclin-dependent kinase inhibitor, in patients with advanced solid malignancies. *Invest New Drugs* 2012, 30(6): 2334-2343.

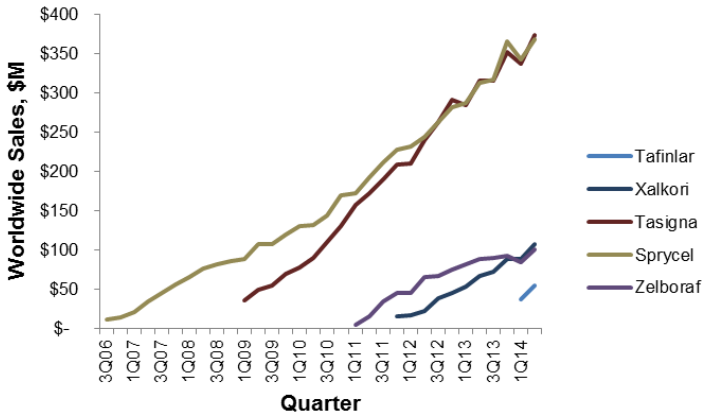
The discovery strategy for other targets consists of initially identifying 12 additional discovery targets, of which six will be selected for continued study on or before January 2015. These six will be further reduced to four on or before October 2015 (see Exhibit 9). The additional discovery targets have not been disclosed yet.

Commercial Performance of Selected Tyrosine Kinase Inhibitors

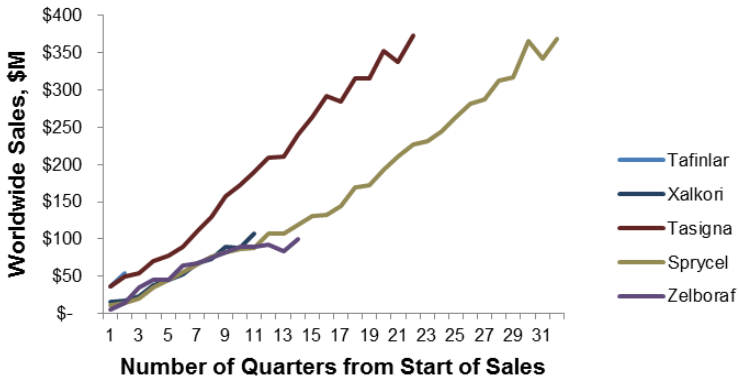
The significance of chromosomal translocations in hematological cancers and susceptibility to treatment with small molecule drugs has been appreciated since the 1990's when the breakthrough drug Gleevec was being developed for CML (approved by FDA in 2001). Only more recently, however, have oncogenic fusions become amenable to targeted therapy in epithelial and solid cancers,[9] leading to the approvals of Xalkori and Zykadya in ALK-rearranged NSCLC. More generally, beyond gene fusions, tyrosine kinase inhibitors targeting EGFR mutations in NSCLC (Tarceva, Iressa, Gilotrif) and BRAF mutations in melanoma (Tafinlar, Zelboraf) also support efficient paths to market and well-defined commercial opportunities (see Exhibit 4).

Targeted tyrosine kinase inhibitors appear to follow a consistent sales growth trajectory, reaching ~$100M in 7-12 quarters post-launch. To provide some perspective on how LOXO-101 could perform if commercialized, we examined worldwide revenues for several tyrosine kinase inhibitors that were approved in the past decade, including Tafinlar, Xalkori, Tasigna, and Sprycel (we excluded Iressa given regulatory actions in 2004-2005 that impacted sales).

Exhibit 10
Select Tyrosine Kinase Quarterly Sales



Worldwide Sales vs. Quarters Post-approval



Sources: Oppenheimer Research, Novartis, Pfizer, AstraZeneca, GSK, and Roche filings and presentations. Quarterly sales figures for Zelboraf are extrapolated from half-year and annual figures.

[9] Mitelman, F., Johansson, B., and Mertens, F. Fusion genes and rearranged genes as a linear function of chromosome aberrations in cancer. Nature Genetics 2004, 36 (4): 331-334.

Our conclusions are **1)** recently approved tyrosine kinase inhibitors tend to reach ~$100M in worldwide sales within 7-12 quarters of the initial US launch, and **2)** sales climb steadily and linearly over time, reflecting consistent share gains for the TKI's target population. These observations suggest LOXO-101 could behave similarly commercially, assuming, of course, successful clinical development and good commercial execution.

Patient Identification an Important Factor for Commercial Success

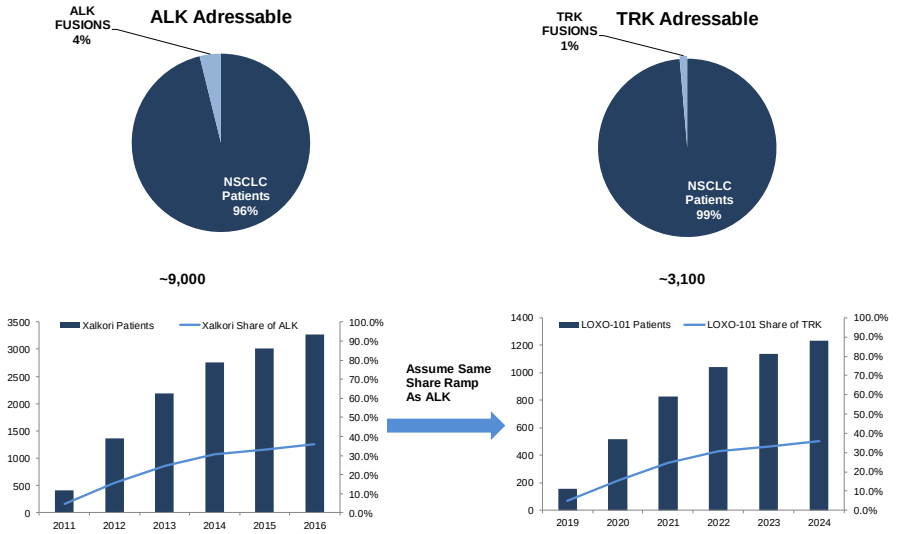
Both Xalkori and Zelboraf were approved with a companion diagnostic to identify the patients most likely to respond to treatment. For example for Xalkori, Abbott Molecular markets an ALK rearrangement detection kit (VYSIS, a fluorescence in situ hybridization (FISH) test to detect gene rearrangements) which requires a tissue sample. However, routine testing for chromosomal translocations such as ALK remains uncommon, because **1)** a small minority of patients stand to benefit from screening (ALK prevalence ~4% of NSCLC), **2)** tissue quantities from needle aspirations are limited in quality and quantity and usually do not provide enough material for ALK testing, **3)** needle aspirates are usually reserved for testing EGFR mutations, which are more common, and **4)** surgery is typically required to extract sufficient tissue to perform ALK testing.[10]

While FISH is the current standard for ALK testing, we believe Loxo could benefit from improved patient identification with the development of next-generation sequencing (NGS), which may be more compatible with small tissue samples collected from needle biopsies than FISH. For instance, the Boston-based company Foundation Medicine has carried out an analysis that identified 2/32 TRK translocation patients in adenocarcinoma using NGS for diagnostic purposes.[5] Although Loxo has not disclosed the assay for the company's planned companion diagnostic, NGS appears to be a promising alternative vs. FISH, particularly as NGS gains momentum in the next 4-5 years ahead of a potential LOXO-101 launch. Looking ahead, we see the emerging NGS technology as potentially driving a greater adoption curve for LOXO-101 than Xalkori appears to have achieved with ALK and Abbott's test. However, our near-term base case (as discussed below) assumes a LOXO-101 commercial trajectory mirroring Xalkori.

LOXO-101 Adoption Curve

To illustrate potential commercial prospects, we have modeled LOXO-101's adoption in TRK+ lung adenocarcinoma patients using the same share ramp that Xalkori's achieved in ALK+ NSCLC (see Exhibit 11).

Exhibit 11
Our Model Assumes a Share Ramp for TRK Mirroring Xalkori in ALK



Sources: Oppenheimer Research.

[10] http://www.pharmamedtechbi.com/~/media/Supporting%20Documents/The%20Pink%20Sheet/75/1/Targeted_cancer_drugs.pdf

We see this approach as plausible, though of course emerging clinical data for LOXO-101 will better define the opportunity in lung and/or other TRK+ tumors. On the mechanics of our model, lung adenocarcinoma represents ~40% of NSCLC, and TRK fusions are estimated at 3.6% of adenocarcinomas.[5] Given those assumptions, we estimate the total number of lung adenocarcinoma patients with TRK translocations to be ~3100 in the US.

To provide some perspective on two key levers in our LOXO-101 market model, **1)** TRK prevalence in lung adenocarcinoma and **2)** LOXO-101 peak share, we explored sensitivity on value per share and peak worldwide sales. We currently assume ~3.6% of lung cancer adenocarcinomas are TRK+ based on published data[5], and every ~50 bps of TRK+ prevalence drives another ~$3-4 per share, or ~$60-70M in peak sales, in our base case of ~43% peak share. Better data on the underlying prevalence of TRK fusions in lung adenocarcinoma will be important to improve our understanding of the market opportunity over time. For instance, using ~43% peak LOXO-101 share to illustrate, our model suggests peak worldwide sales could vary from $275M to nearly $700M with TRK fusion prevalence ranging over 2% to 5%, respectively (see Exhibit 12). We are comfortable with Loxo potentially taking significant share of the TRK translocation market in NSCLC given a clear focus on this genetically-defined population with a drug designed specifically for TRK+ patients. Beyond lung cancer, as more data on the role of TRK in different malignancies become available and as Loxo generates clinical data in a range of tumor types, evidence of TRK fusion prevalence in different cancers could expand the opportunity set for LOXO-101.

Exhibit 12
Value per Share and Worldwide Peak Sales Sensitivity Analysis on TRK Prevalence in Adenocarcinoma and Peak LOXO-101 Share

DCF Sensitivity Analysis

Peak Share of TRK Addressable	TRK Prevalence in Adenocarcinoma						
	2.0%	2.5%	3.0%	3.5%	4.0%	4.5%	5.0%
26%	$4	$7	$8	$10	$12	$14	$16
35%	$8	$9	$12	$15	$17	$20	$23
43%	$9	$13	$16	$19	$23	$26	$29
52%	$12	$16	$20	$24	$28	$32	$36
61%	$15	$19	$24	$29	$33	$38	$42
69%	$17	$23	$28	$33	$38	$44	$49

Peak Sales Sensitivity Analysis

Peak Share of TRK Addressable	TRK Prevalence in Adenocarcinoma						
	2.0%	2.5%	3.0%	3.5%	4.0%	4.5%	5.0%
26%	$164	$205	$246	$287	$328	$368	$409
35%	$218	$273	$328	$382	$437	$491	$546
43%	$273	$341	$409	$478	$546	$614	$682
52%	$328	$409	$491	$573	$655	$737	$819
61%	$382	$478	$573	$669	$764	$860	$955
69%	$437	$546	$655	$764	$873	$983	$1,092

Sources: Oppenheimer Research.

TRK Inhibitor Competitive Landscape

The significance of TRK fusions in cancer is gaining appreciation as more data are generated on somatic cancers driven by TRK fusions resulting from oncogenic chromosomal translocations. While the competitive landscape for tyrosine kinase inhibitors is crowded, TRK has only recently emerged as druggable target for cancer therapy and there are still a limited number of players (see Exhibit 14).

Among the current TRK players, we see the most direct and immediate competition to LOXO-101 from Ignyta's RXDX-101, which appears to be a few months ahead of Loxo in clinical development (see Exhibit 14). Like Loxo, Ignyta is another early-stage biotechnology company developing a competing tyrosine kinase and TRK inhibitor (RXDX-101) out-licensed to Ignyta by Nerviano Medical Sciences in November 2013. Parallels are imperfect as Ignyta's pipeline consists of several candidates with disclosed targets beyond RXDX-101 and the backup (pre-clinical) TRK inhibitor RXDX-102 (i.e., RXDX-103 and RXDX-104 were also in-licensed from Nerviano). However, Ignyta still seems to be the most appropriate comparable to Loxo in terms of development risk and

the opportunity set in TRK+ driven cancers, as well as overall corporate scale (both companies have similar EVs, see Exhibit 13). Ignyta's RXDX-101 also appears to be the best comparable to LOXO-101 on a drug profile vs. drug profile basis. Other companies developing compounds with TRK activity such as Tesaro, Daiichi Sankyo/Plexxikon and Novartis (see Exhibit 14) have higher activity against other targets (i.e., ALK for Tesaro) and/or weaker TRK activity overall (i.e., Daiichi Sankyo/Plexxikon in Phase 2c in TRK+) or activity against a broad range of targets beyond TRK (i.e., Novartis' dovitinib).

Here is what we know about RXDX-101 so far. In an ongoing Nerviano-initiated Phase 1 dose escalation trial in patients with advanced solid tumors, RXDX-101 was administered to 17 patients at 5 dose levels (100, 200, 400, 800, and 1200 mg/m^2). The maximum tolerated dose (MTD) has not been reached. One colorectal cancer patient with a TRKA translocation showed a partial response in data reported at ASCO 2014, the only TRK+ patient in the study, which is intriguing but still only a N of 1.[11] Ignyta recently initiated a new Phase 1/2a trial in solid tumors (STARTRK-1, NCT02097810).

From a potency perspective, RXDX-101 has IC50s of 1.7 nM, 0.1 nM and 0.1 nM for TRKA, B, and C, respectively, which we understand to be broadly in-line with LOXO-101, although Loxo has not yet disclosed potency numbers for LOXO-101. However, there are some nuances with respect to RXDX-101 that are worth noting and appear to differentiate LOXO-101 potentially on safety and/or efficacy:

1) In addition to TRKA/B/C, RXDX-101 inhibits ROS1 (0.2 nM IC50) and ALK (1.6 nM IC50), off-target activity not shared by LOXO-101, an important distinction in selectivity that could be clinically relevant. Loxo appears to be the only company in the clinic with a TKI focused exclusively on inhibition of TRK as the primary target.

2) RXDX-101 crosses the blood-brain-barrier (BBB) whereas LOXO-101 does not. Inhibition of TRKB is believed to negatively impact neurological function, including mood and emotional state.[12]

While early safety data at ASCO 2014 for RXDX-101 have been unremarkable thus far in the dose escalation (no grade 3-4 serious adverse events seen or DLTs), dose-dependent toxicities for other TRK inhibitors that cross the BBB may warrant some caution for RXDX-101. For example, Nerviano's PHA-848125AC, a TRK and CDK inhibitor that is BBB-permeable, triggered dose-limiting neurological toxicities including grade 2-4 ataxia, and grade 2-3 tremors in a Phase 1 advanced solid tumor trial. These side effects necessitated a change in the dosing regimen, ultimately impacting efficacy.[13] Similarly, in a Phase 1 trial, the TRK tyrosine kinase inhibitor CEP-701, was poorly tolerated at doses above 40 mg BID, and therefore could not be evaluated for efficacy across different dosing regimens,[14] although the issues here were more GI related than neurologic. **More data on RXDX-101 should help clarify whether crossing the BBB leads to neurologic side effects (mood, memory, etc.) that may limit the therapeutic window for anti-cancer activity.**

Exhibit 13
Ignyta Comparable

Company	Ticker	Share Price on 08/29/14	Price as % of 52-week Low	Price as % of 52-week High	Equity Value	Cash	Debt	EV
Ignyta, Inc	RXDX	$ 7.50	750%	38%	$ 147	$ 79	$ 9	$ 77
LOXO Oncology	LOXO	$ 13.01	103%	97%	$ 207	$ 118	$ -	$ 89

Sources: FactSet as of 08/29/14, Oppenheimer Research.

[11] De Braud, F. et al. Phase 1 Open Label, Dose Escalation Study of RXDX-101, an Oral Pan-TRK, ROS1, and ALK Inhibitor, in Patients with Advanced Solid Tumors with Relevant Molecular Alterations. 2014 ASCO Annual Meeting.

[12] Translational Psychiatry (2014) 4, e389; doi:10.1038/tp.2014.26.

[13] Weiss, G., et al. Phase 1 study of the safety, tolerability, and pharmacokinetics of PHA-848125AC, a dual tropomyosin receptor kinase A and cyclin-dependent kinase inhibitor, in patients with advanced solid malignancies. *Invest New Drugs* 2012, 30(6): 2334-2343.

[14] Marshall, JL., et al. Phase I trial of orally administered CEP-701, a novel neurotrophin receptor-linked tyrosine kinase inhibitor. *Invest New Drugs* 2005, 23 (1): 31-37.

Exhibit 14
Pan-TRK Competitive Landscape

Company	Drug	Stage	Target	Comments
Ignyta	RXDX-101	Phase 1/2a	ALK, ROS, TRKA, TRKB, TRKC	1.6 nM IC50 ALK, 0.2 nM ROS1, 1.7, 0.1, 0.1 for TRK A, B, C respectively
Ignyta	RXDX-102	Preclinical	pan-TRK	Outlicensed from Nerviano under the same agreement as RXDX-101; back up compound to RXDX-101, will be in development only if RXDX-101 fails in clinic
Novartis AG	Dovitinib	Phase 1 & 2	FGFR3, VEGFR, PDGFR, cKIT, FLT3, CSFR1, TRK and RET	There are 15 Novartis-sponsored trials (4 completed) and 31 investigator-sponsored trials with dovitinib in a variety of solid tumors
Plexxikon*	PLX-7486	Phase 1	FMS, TRKA, TRKB, TRKC	IC50 ≤20 nM; Phase 2c will evaluate patients with activating TRK histology
Tesaro	TSR-011**	Phase 1/2	ALK, TRKA, TRKB, TRKC	0.36 nM Kd for ALK, 4.7, 1.2, 7.1 for TRK A,B,C; emphasis clearly on ALK
TEVA	Lestaurtinib (CEP-701)	post-Phase 1 development abandoned for TRK-related indications	FLT3, pan-TRK	All Cephalon-(or TEVA) sponsored studies are completed and the only on-going clinical trials with CEP-701 are investigator-sponsored

*Subsidiary of Daiichi Sankyo
** In collaboration with Amgen
Sources: Oppenheimer Research.

Valuation

Exhibit 15
DCF Valuation

Time of Valuation	2014.7
WACC	**15.0%**
Intermediate CF Growth (2025 - 2030)	20%
Terminal FCF Growth	0.0%
Discounted FCF (2014 - 2032) $M	$138.9
Terminal FCF Value $M	$68.4
Total PV FCF $M	$207.3
Cash $M 3Q14	$112.5
Debt $M 3Q14	$0.0
Equity Value $M	**$319.7**
Shares Oustanding (M) 3Q14	15.9
DCF Value / Share	**$20.06**

Source: Oppenheimer Research Estimates.

Valuation Method: We value Loxo using a discounted cash flow (DCF) analysis with a weighted average cost of capital (WACC) of 15% and a 0% terminal growth rate post 2032. Since we model the cash cost of options, we use the basic share count to avoid double-counting.

Discount Rate: Our valuation framework utilizes a 15% discount rate for pre-commercial stage companies that have not achieved clear Phase 2 proof-of-concept.

Terminal Growth Rate: We explicitly model cash flows to 2024. From 2025 to 2032, we grow cash flows at 20% of the prior year's cash flow growth rate. After 2032 (composition patent for LOXO-101 including assumed HW extensions), we assume a terminal growth rate of 0% yielding a terminal value of ~$68 million. LOXO-101 appears eligible for 3 years of Hatch-Waxman patent extension given a 2019 launch and a 2029 patent (11 years) plus an additional 3 years to reach the maximum 14 years of market exclusivity.

Exhibit 16
Catalyst Calendar

Drug	Type	Event	Phase	Timing	Clinical Trial ID
LOXO-200	Product Advancement	Target Announcement		1Q15	
LOXO-101	Clinical Data	Phase 1a "all comers" Dose Escalation Study Readout	1a	1Q15	NCT02122913
LOXO-101	Clinical Data	Start Phase 1b (screen for Trk Fusions)	1b	2Q15	
LOXO-200	Regulatory	IND Submission for LOXO-200		2H15	

Sources: Loxo Presentations, Oppenheimer Research, clinicaltrials.gov

Lung Cancer Model Assumptions

Lung adenocarcinoma patient population growth. Lung adenocarcinomas are estimated to account for ~40% of the expected ~224,210 NSCLCs diagnosed in the US in 2014. We are focusing on adenocarcinoma as this sub-population is enriched in TRK+ patients, based on the evidence so far. The NSCLC patient population is assumed to grow at the rate of the US population or ~0.9%.

Addressable lung adenocarcinoma patients' population. We assume ~3.5% of lung adenocarcinomas are driven by TRK fusions, based on 3/84 patients with TRK translocations identified in lung adenocarcinoma in the Vaishnavi paper.[5]

LOXO-101 Adoption curve. In modeling adoption curve for LOXO-101 post-approval, we have assumed the same adoption ramp as Xalkori (refer back to Exhibit 11). We have modeled the prevalence of ALK fusions in NSCLC at 4% and used Xalkori sales and pricing to back into patients on therapy, with an assumed ~6 month duration. Based on this analysis, and assuming continued linear share gains for Xalkori and then a plateau, we have assumed ~40-45% peak share for LOXO-101 in TRK+ lung cancer. We have modeled a LOXO-101 launch in 2019, consistent with the ~4.5 years from IND to approval timeframe for Xalkori.

Pricing: Xalkori's wholesale acquisition cost (WAC) has been growing at ~8.5% CAGR post-approval, from $9,572.37/month in August 2011 to $11,985.44/month in June 2014. For LOXO-101, we have assumed a WAC of $17,233/month in 2019, initially growing at ~7% CAGR and eventually slowing to 5% (in 2027, not shown).

Exhibit 17
Market Model
LOXO-101 Model ($M)

	2019E	2020E	2021E	2022E	2023E	2024E
Number of NSCLC Cases						
New Cases, US	234,933	237,139	239,365	241,612	243,880	246,170
Growth	*0.9%*	*0.9%*	*0.9%*	*0.9%*	*0.9%*	*0.9%*
ALK prevalence						
ALK Prevalence	9,397	9,486	9,575	9,664	9,755	9,847
% ALK Prevalence	*4.00%*	*4.00%*	*4.00%*	*4.00%*	*4.00%*	*4.00%*
Number of Xalkori Patients, year end	4,067	4,105	4,144	4,183	4,222	4,262
% Xalkori Patients	*43.3%*	*43.3%*	*43.3%*	*43.3%*	*43.3%*	*43.3%*
Adenocarcinoma Prevalence	93,973	94,856	95,746	96,645	97,552	98,468
% Adenocarcinoma Prevalence	*40.0%*	*40.0%*	*40.0%*	*40.0%*	*40.0%*	*40.0%*
Trk Translocations in Adenocarcinoma	3,356	3,388	3,420	3,452	3,484	3,517
% Trk Translocations	*3.57%*	*3.57%*	*3.57%*	*3.57%*	*3.57%*	*3.57%*
Number of TKI Trk patients	158	516	825	1,043	1,138	1,235
% TKI Trk accepted Patients	*4.8%*	*15.5%*	*24.6%*	*30.8%*	*33.3%*	*35.8%*
Cost Per Month, $ US	17,233	18,379	19,553	20,752	21,974	23,216
% Annual WAC Increase	7%	7%	6%	6%	6%	6%
Duration of Therapy (months)	6.2	6.2	6.2	6.2	6.2	6.2
Cost Per Patient, $ US	107,372	114,517	121,832	129,303	136,915	144,652
Revenue						
US	$ 16,953	$ 59,082	$ 100,471	$ 134,826	$ 155,808	$ 178,641
EU	$ -	$ 12,714	$ 44,311	$ 75,353	$ 101,120	$ 116,856
EU Multiplier (%)	*75.0%*	*75.0%*	*75.0%*	*75.0%*	*75.0%*	*75.0%*
GLOBAL REVENUE	**$ 16,953**	**$ 71,796**	**$ 144,783**	**$ 210,180**	**$ 256,928**	**$ 295,497**

Sources: Pfizer filings, Loxo Filings, Oppenheimer Research.

Duration: We assume average duration of treatment to be 27 weeks (6.2 months), based on what Xalkori achieved in pivotal trials (average of 22 and 32 weeks mean duration).

EU revenue: EU revenue was assumed to be ~75% of US revenue.

Financial Model Assumptions

Revenue

US: Loxo retains all development and commercialization rights to LOXO-101. We assume that the company will commercialize LOXO-101 on its own in 2019. We model US LOXO-101 sales of ~$179 million in 2024.

EU: We model peak EU LOXO-101 sales of ~$117 million in 2024.

Economics

Array: Loxo owes mid-single digit royalty to Array for LOXO-101, which we assume to be 5%. Additionally, Loxo has agreed to ~$222 million in milestone payments to Array, which include:

- Phase 2 and Phase 3 completion payments
- US, EU, and Japan approval payments
- Anniversary of approval payments
- Sales milestones payments

We have modeled $111 million in milestone payments.

COGS: LOXO-101 is a small molecule, so we expect COGS to be ~10% initially falling to ~6% with the benefit of ramping volumes.

Operating Expenses

R&D: We see R&D ramping substantially in 2014-2019 with execution of the LOXO-101 program and the initiation of a range of preclinical and clinical activities with other pipeline candidates. According to the Array agreement, Loxo will pay Array ~$7million/year for the discovery research phase, which can be extended for up to two additional one-year renewal periods. We have modeled the discovery extension phase for 2 additional years. Since we do not model revenues for undisclosed targets, the preclinical R&D spend is dilutive to our valuation. On clinical development, we have modeled ~$13 million for the Phase 1a/1b trials for LOXO-101 (2014-2015), and ~$55 million for Phase 2/3 in 2016-2019.

SG&A: We assume SG&A ramping up to ~$21 million for launch in 2019, with ~15% YoY growth thereafter.

Financings: We have modeled an additional $100M financing in 2017 to bridge the balance sheet through LOXO-101 pivotal trials and the early commercial effort.

Risks to Price Target

Key risks to our price target include: 1) Loxo has not generated any clinical data for LOXO-101, and the investment thesis relies entirely on preclinical results, conviction in a novel mechanism, and precedent from approved drugs targeting fusion oncogenes. 2) Limited clinical efficacy for LOXO-101 and/or unacceptable toxicity in Phase 1a/1b may indicate further development is unwarranted. 3) Evolving understanding of NTRK fusion prevalence means size of addressable population is unclear. 4) More rapid development and approval of competitive TRK inhibitors (for example, RXDX-101) could pressure LOXO-101's share of the TRK market. 5) Loxo's R&D is largely outsourced to Array, and changes in Array's business model or corporate infrastructure could impact Loxo's development timelines. 6) Approximately ~11M shares are restricted securities under Rule 144, which existing shareholders may elect to sell upon waiver or expiration of the 180-day post-IPO lockup period (i.e., Aisling Capital, OrbiMed, Array BioPharma and NEA, and other entities own ~90% of the restricted securities and Directors and Named Executive Officers own ~10% of the restricted securities).

Exhibit 18
Loxo Oncology Income Statement

$000s except per share data

	2013	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E
Revenue, LOXO-101							16,953	71,796	144,783	210,180	256,928	295,497
LOXO-101, US							16,953	59,082	100,471	134,826	155,808	178,641
LOXO-101, EU							0	12,714	44,311	75,353	101,120	116,856
Other												
Total revenue							**16,953**	**71,796**	**144,783**	**210,180**	**256,928**	**295,497**
Cost of goods							2,543	10,769	15,926	23,120	28,262	32,505
Cost of Sales							1,695	7,180	8,687	12,611	15,416	17,730
% Cost of Sales					10%	10%	10%	10%	6%	6%	6%	6%
Royalty to Array					0	0	848	3,590	7,239	10,509	12,846	14,775
% Royalty to Array					5%	5%	5%	5%	5%	5%	5%	5%
R&D	9,707	10,561	15,750	23,500	20,500	31,000	30,000	30,000	30,000	30,000	35,000	35,000
SG&A	583	4,081	5,305	6,897	9,656	10,621	21,242	23,367	25,703	28,274	31,101	34,211
Depreciation		6	21	30	30	42	54	58	51	51	64	60
Total operating expenses and net loss	**(10,290)**	**(14,648)**	**(21,076)**	**(30,427)**	**(30,186)**	**(41,663)**	**(36,887)**	**7,602**	**73,103**	**128,735**	**162,500**	**193,721**
Accretion of redeemable convertible preferred stock	(12)	376										
Interest Income (expense)		308	490	363	463	535	340	267	469	946	1,505	2,087
Pretax income	**(10,302)**	**(13,963)**	**(20,586)**	**(30,064)**	**(29,723)**	**(41,128)**	**(36,546)**	**7,870**	**73,572**	**129,681**	**164,005**	**195,808**
Income tax provision	0	0	0	0	0	0	0	0	0	11,974	57,402	68,533
Tax rate	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	9.2%	35.0%	35.0%
Net profit/(loss) attributable to common stockholders	**(10,302)**	**(14,272)**	**(20,586)**	**(30,064)**	**(29,723)**	**(41,128)**	**(36,546)**	**7,870**	**73,572**	**117,707**	**106,603**	**127,275**
Profit/(loss) per share	**($70.79)**	**($0.90)**	**($1.10)**	**($1.25)**	**($1.02)**	**($1.29)**	**($1.14)**	**$0.24**	**$2.27**	**$3.62**	**$3.27**	**$3.89**
Basic & diluted shares outstanding	146	15,941	18,647	23,988	29,247	31,896	32,034	32,184	32,340	32,493	32,636	32,760

Sources: Oppenheimer Research Estimates, Loxo Oncology Filings.

Exhibit 19
Loxo Oncology Balance Sheet

$000s except per share data

	2013	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E
Assets												
Cash and Equivalents	14,994	108,403	87,732	57,547	127,703	86,409	49,647	57,254	130,518	247,869	354,064	480,891
Prepaid Expenses and Other Current Assets	17	501	501	501	501	501	501	501	501	501	501	501
Current Assets	**15,011**	**108,904**	**88,233**	**58,048**	**128,204**	**86,910**	**50,148**	**57,755**	**131,019**	**248,370**	**354,565**	**481,392**
Property, Plant, & Equipment	0	25	110	231	352	519	734	997	1,305	1,661	2,069	2,518
Security deposit	11	11	11	11	11	11	11	11	11	11	11	11
Total Assets	**15,022**	**108,940**	**88,354**	**58,290**	**128,567**	**87,440**	**50,893**	**58,763**	**132,335**	**250,042**	**356,645**	**483,920**
Liabilities												
Accounts Payable	221	243	243	243	243	243	243	243	243	243	243	243
Accrued Expenses	189	353	353	353	353	353	353	353	353	353	353	353
R&D expenses	*81*	*148*	*148*	*148*	*148*	*148*	*148*	*148*	*148*	*148*	*148*	*148*
General & administrative expenses	*108*	*205*	*205*	*205*	*205*	*205*	*205*	*205*	*205*	*205*	*205*	*205*
Current Liabilities	**410**	**596**	**596**	**596**	**596**	**596**	**596**	**596**	**596**	**596**	**596**	**596**
Long Term Debt												
Total Liabilities	**410**	**596**	**596**	**596**	**596**	**596**	**596**	**596**	**596**	**596**	**596**	**596**
Non-Controlling Interest	0											
Redeemable convertible preferred stock	**24,843**											
Series A	*17,799*											
Series A-1	*7,044*											
Series B convertible preferred stock												
Total stockholders' deficit	**(10,231)**	**108,344**	**87,758**	**57,694**	**127,971**	**86,844**	**50,297**	**58,167**	**131,739**	**249,446**	**356,049**	**483,324**
Common stock	*0*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*
Additional paid-in capital	*59*	*132,894*	*132,894*	*132,894*	*232,894*	*232,894*	*232,894*	*232,894*	*232,894*	*232,894*	*232,894*	*232,894*
Deficit accumulated	*(10,290)*	*(24,551)*	*(45,137)*	*(75,201)*	*(104,924)*	*(146,051)*	*(182,598)*	*(174,728)*	*(101,156)*	*16,551*	*123,154*	*250,429*
Shareholders' Equity	**14,612**	**108,344**	**87,758**	**57,694**	**127,971**	**86,844**	**50,297**	**58,167**	**131,739**	**249,446**	**356,049**	**483,324**
Total Liabilities & Equity	**15,022**	**108,940**	**88,354**	**58,290**	**128,567**	**87,440**	**50,893**	**58,763**	**132,335**	**250,042**	**356,645**	**483,920**

Sources: Oppenheimer Research Estimates, Loxo Oncology Filings.

Exhibit 20
Loxo Oncology Cash Flow Statement

$000s except per share data

	2013	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E
Net Income/(Loss)	(10,290)	(14,261)	(20,586)	(30,064)	(29,723)	(41,128)	(36,546)	7,870	73,572	117,707	106,603	127,275
Depreciation	0	6	21	30	30	42	54	58	51	51	64	60
Stock-based compensation expense	70	64										
Issuance of redeemable convertible preferred stock in connection with collaboration agreement	7,044	0										
Total Operating Sources	**(3,176)**	**(14,191)**	**(20,565)**	**(30,034)**	**(29,693)**	**(41,086)**	**(36,493)**	**7,927**	**73,623**	**117,758**	**106,668**	**127,335**
Operating Uses												
Prepaid Expenses and Other Assets	(17)	(484)										
Security deposit	(11)	0										
Accounts Payable	221	22										
Accrued Expenses	189	164										
Total Operating Uses	**382**	**(298)**										
Operating Cash Flow	**(2,794)**	**(14,489)**	**(20,565)**	**(30,034)**	**(29,693)**	**(41,086)**	**(36,493)**	**7,927**	**73,623**	**117,758**	**106,668**	**127,335**
Capex		(32)	(105)	(152)	(151)	(208)	(269)	(321)	(358)	(407)	(472)	(509)
Investing Cash Flow	**0**	**(32)**	**(105)**	**(152)**	**(151)**	**(208)**	**(269)**	**(321)**	**(358)**	**(407)**	**(472)**	**(509)**
Proceeds from issuance of redeemable convertible preferred stock, net	17,787	(24,854)										
Net Proceeds from Issuance of Common Stock	1	132,708			100,000							
Proceeds from exercise of stock options	0	75										
Other	0	0										
Financing Cash Flow	**17,788**	**107,929**			**100,000**							
Beginning Cash	0	14,994	108,403	87,732	57,547	127,703	86,409	49,647	57,254	130,518	247,869	354,064
Net Increase (Decrease) in Cash	14,994	93,409	(20,670)	(30,186)	70,157	(41,294)	(36,762)	7,606	73,264	117,351	106,195	126,827
Ending Cash	**14,994**	**108,403**	**87,732**	**57,547**	**127,703**	**86,409**	**49,647**	**57,254**	**130,518**	**247,869**	**354,064**	**480,891**

Sources: Oppenheimer Research Estimates, Loxo Oncology Filings.

Stock prices of other companies mentioned in this report (as of 8/29/2014):

Array BioPharma, Inc. (ARRY-Nasdaq, $3.95, Not Covered)
ASLAN Pharmaceuticals, Privately Held
AstraZeneca PLC (AZN- NYSE, $76.01, Not Covered)
Daiichi Sankyo Co Ltd (4568-JP, ¥1,838, Not Covered)
GlaxoSmithKline PLC (GSK-NYQ, $49.10, Not Covered)
Ignyta, Inc. (RXDX-Nasdaq, $7.50, Not Covered)
Nerviano Medical Company, Privately Held
Novartis (NVS-NYSE, $89.84, Not Covered)
Pfizer (PFE-NYSE, $29.39, Not Covered)
Tesaro (TSRO-Nasdaq, $29.56, Not Covered)

Investment Thesis

Loxo is an early-stage biotechnology company executing a business plan for targeted cancer drugs that benefits from **1)** clear precedent for clinical and commercial success, **2)** a rapid development path and **3)** well-defined chemistry, potency and selectivity around the target of interest (TRK). However, Loxo has yet to generate clinical data. Therefore, the investment thesis relies heavily on a belief that Loxo's targeted approach to the treatment of TRK-translocations will mirror a trajectory for successfully commercialized targeted agents, a prime example being Xalkori. We believe this thesis has merit and provides indirect proof-of-concept that lead asset LOXO-101 should generate enriched efficacy in TRK+ tumors.

Price Target Calculation

We value Loxo using a discounted cash flow (DCF) analysis with a weighted average cost of capital (WACC) of 15% and a 0% terminal growth rate post 2032, generating a price target of $20 and yielding a terminal value of ~$68 million. Our valuation framework utilizes a 15% discount rate for pre-commercial stage companies that have not achieved clear Phase 2 proof-of-concept.

Key Risks to Price Target

Key risks to our price target include: 1) Loxo has not generated any clinical data for LOXO-101, and the investment thesis relies entirely on preclinical results, conviction in a novel mechanism, and precedent from approved drugs targeting fusion oncogenes. 2) Limited clinical efficacy for LOXO-101 and/or unacceptable toxicity in Phase 1a/1b may indicate further development is unwarranted. 3) Evolving understanding of NTRK fusion prevalence means size of addressable population is unclear. 4) More rapid development and approval of competitive TRK inhibitors (for example, RXDX-101) could pressure LOXO-101's share of the TRK market. 5) Loxo's R&D is largely outsourced to Array, and changes in Array's business model or corporate infrastructure could impact Loxo's development timelines. 6) Approximately ~11M shares are restricted securities under Rule 144, which existing shareholders may elect to sell upon waiver or expiration of the 180-day post-IPO lockup period (i.e., Aisling Capital, OrbiMed, Array BioPharma and NEA, and other entities own ~90% of the restricted securities and Directors and Named Executive Officers own ~10% of the restricted securities).

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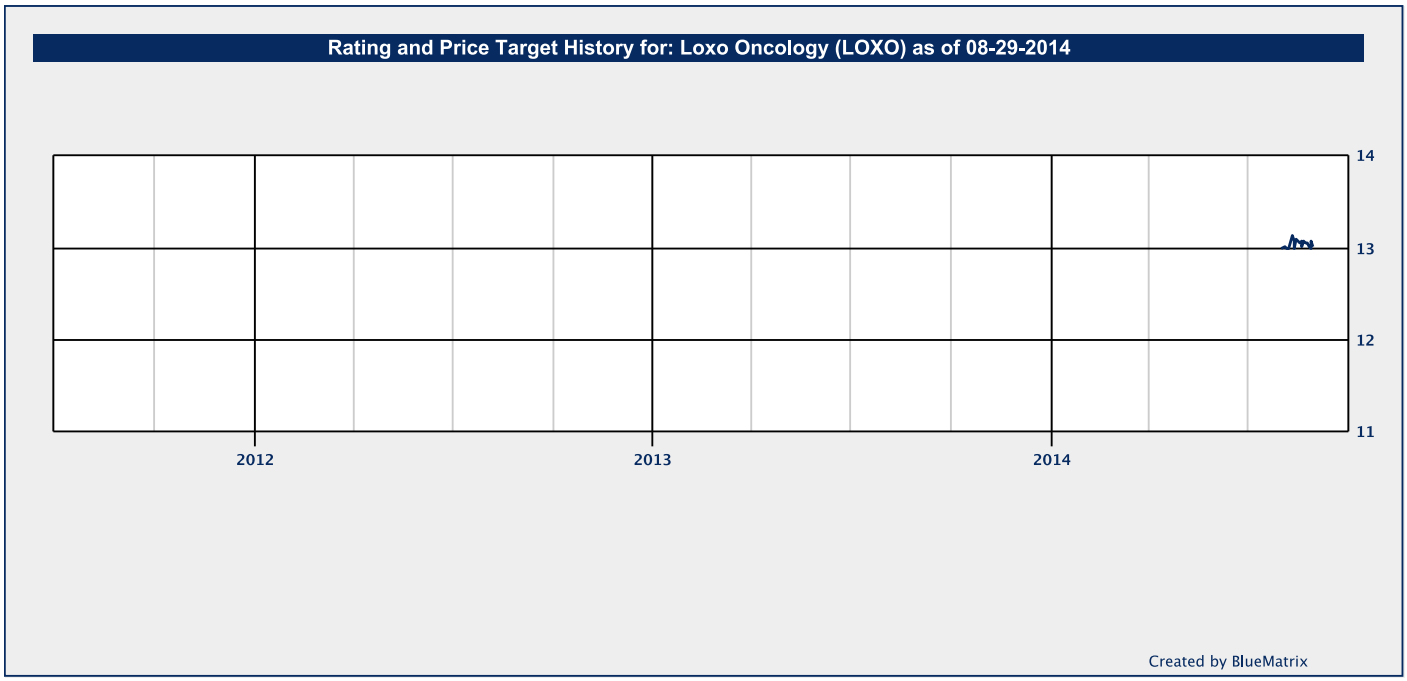
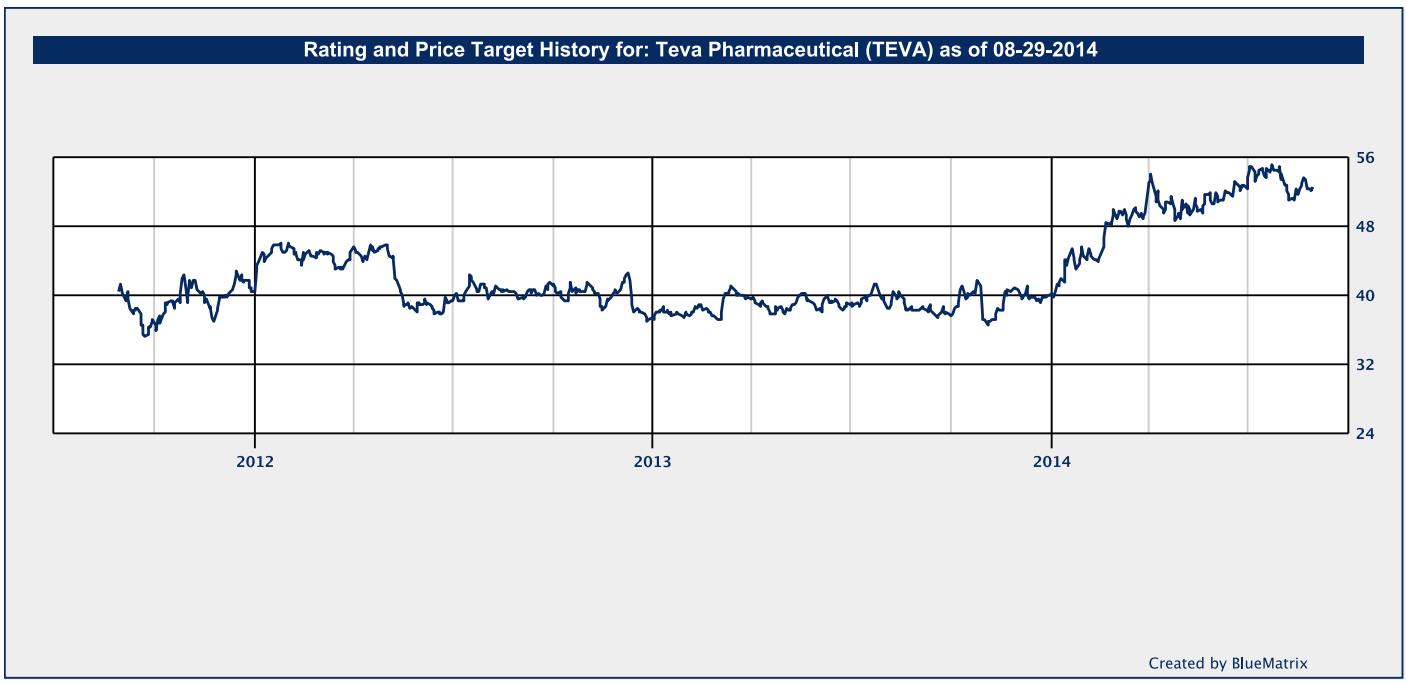
Stock Prices as of September 2, 2014

Teva Pharmaceutical (TEVA - OTC, $52.52, PERFORM)





All price targets displayed in the chart above are for a 12- to- 18-month period. Prior to March 30, 2004, Oppenheimer & Co. Inc. used 6-, 12-, 12- to 18-, and 12- to 24-month price targets and ranges. For more information about target price histories, please write to Oppenheimer & Co. Inc., 85 Broad Street, New York, NY 10004, Attention: Equity Research Department, Business Manager.

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			IB Serv/Past 12 Mos.	
Rating	Count	Percent	Count	Percent
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