PTC Therapeutics (PTCT)

Initiating Coverage with OUTPERFORM Rating, $55 Price Target - Reading-Through the Nonsense - PTC is Enriched for Success

- **PTC is developing ataluren, a molecularly targeted Phase III drug candidate for the treatment of genetically-defined rare and ultra-rare diseases caused by nonsense mutations.** PTC is currently enrolling patients with Duchenne muscular dystrophy caused by nonsense mutations (nmDMD) in a large randomized Phase III clinical trial expected to readout mid:2015. Ataluren may also receive conditional approval in the EU in YE:13 based on the results of a Phase IIb trial in nmDMD.
- **Ataluren may be broadly applicable, beyond initial indications, to 12% of all hereditary diseases and nonsense mutation driven cancers.** There are ~2,400 genetically-defined rare diseases caused by nonsense mutations. We estimate that ataluren could be worth >$1.5 billion in peak sales in nmDMD and nmCF alone.
- **PTC is also developing a candidate for spinal muscle atrophy (SMA), a fatal childhood disease.** In pre-clinical models, PTC's SMA candidate extended the life-span of delta-7 SMN mice by 800% vs. controls. Their SMA candidate, partnered with Roche, may be worth in excess of $100M annually to PTC.
- **We believe that the market has broadly overlooked ataluren's efficacy in Phase IIb trials in nmDMD; and we estimate that their confirmatory trial is highly likely to yield a positive-read out in mid-2015.** Given lessons learned about the natural history of DMD and ataluren in past trials, PTC has enriched and substantially derisked the ongoing Phase III trial. PTC will also initiate a Phase III trial of ataluren in nmCF, results are expected in 2015. PTC holds worldwide rights to ataluren and it is not competitive with other late-stage development candidates for DMD or CF.
- **Conditional approval of ataluren in the EU by YE:13 and rapid development of their SMA candidate represent significant upside to our price target.** We believe the market has assigned little chance of a conditional approval of ataluren in the EU, which represents $20 upside to our $55 price target. Additionally, their candidate for SMA, partnered with Roche, could rapidly be approved based upon strong efficacy in initial PI/II studies, may be worth $100's M in annual royalties.
- **Initiating coverage of PTC Therapeutics with an OUTPERFORM rating and $55 price target.** Our $55 price target is derived by applying an 8X multiple to estimated 2017 revenues for ataluren in nmDMD and nmCF, discounted 25% and 35% annually, respectively. Conditional approval of ataluren in the EU and success of the SMA candidate remain upside to our price target.

FYE Dec	2012A	2013E			2014E		
REV	ACTUAL	CURR.	PREV.	CONS.	CURR.	PREV.	CONS.
Q1 Mar	$11.2A	$7.1A		N/AA	$3.6E		N/AE
Q2 Jun	11.2A	6.1E		N/AE	7.5E		N/AE
Q3 Sep	7.6A	6.1E		N/AE	7.5E		N/AE
Q4 Dec	7.3A	6.1E		N/AE	$7.5E		N/AE
Year*	**$33.9A**	**$25.4E**		**N/AE**	**$26.1E**		**N/AE**
Change	-68%	-25%			--		
	2012A	**2013E**			**2014E**		
EPS	**ACTUAL**	**CURR.**	**PREV.**	**CONS.**	**CURR.**	**PREV.**	**CONS.**
Q1 Mar	($0.78)A	($2.08)A		N/AA	($2.08)E		N/AE
Q2 Jun	0.36A	(0.77)E		N/AE	(0.77)E		N/AE
Q3 Sep	(2.17)A	(0.46)E		N/AE	(0.46)E		N/AE
Q4 Dec	(1.99)A	(0.48)E		N/AE	($0.48)E		N/AE
Year*	**($4.59)A**	**($2.51)E**		**N/AE**	**($2.51)E**		**N/AE**
P/E	--	--			--		
Change	-116%	45%			--		

Consensus estimates are from Thomson First Call.
** Numbers may not add up due to rounding.*

July 16, 2013

Price
$16.70

Rating
OUTPERFORM

12-Month Price Target
$55

Christopher N. Marai, Ph.D.
(415) 274-6861
christopher.marai@wedbush.com

Gregory R. Wade, Ph.D.
(415) 274-6863
greg.wade@wedbush.com

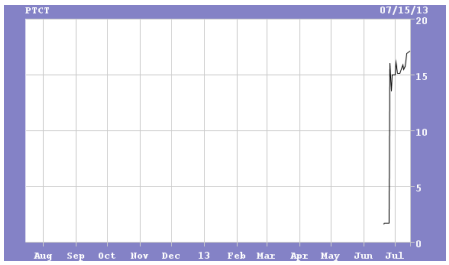
David M. Nierengarten, Ph.D.
(415) 274-6862
david.nierengarten@wedbush.com

Company Information

Shares Outst (M)	27.0
Market Cap (M)	$462.8
52-Wk Range	$13.04 - $17.92
Book Value/sh	$16.24
Cash/sh	$6.38
Enterprise Value (M)	$290.7
LT Debt/Cap %	0.0
Cash Burn (M)	$64.6
Current Cash (M)	$172.1

Company Description

PTC Therapeutics is a biopharmaceutical company focused on the development of orally administered, proprietary, small molecule drugs that target post-transcriptional control processes for orphan and ultra-orphan disorders including DMD and CF.



Source: Thomson Reuters

Investment Thesis

PTC is a biotechnology company focused on the development of ataluren, a molecularly targeted, orally delivered treatment for rare and ultra-rare diseases including Duchenne muscular dystrophy and cystic fibrosis caused by nonsense mutations. Ataluren may also be effective in treating 2500 other rare diseases and certain cancers caused by nonsense mutations since its mechanism of action is broadly applicable to these molecular lesions. PTC is also developing a candidate for spinal muscle atrophy a fatal and rare disease that most severely impacts infants. We believe that ataluren will be shown to be safe and efficacious in on going Phase III trials in nmDMD as well as those set to begin (H1:14) in nmCF. In our opinion the street is overly discounting their lead Phase III program for ataluren in nnDMD, which showed mixed results, overall in a Phase II trial, but positive trends and nominal statistically significant benefit in the current subgroups being evaluated in the Phase III trial. We believe that, given lessons learned from prior pioneering trials of ataluren in DMD, PTC has enriched their Phase III trial for success and that it is highly likely to show positive results in mid:2015. Additionally, PTC may also receive conditional approval for ataluren for nmDMD in the EU by YE:13, a scenario which would result in an early 2014 launch and would $20 in upside to our $55, 12-month price target. Final read-outs from a soon to be initiated (H1:14) trial for ataluren CF are anticipated by mid:16. PTC's SMA program, partnered with Roche, remains additional upside to our estimates. We believe that this program likely be accelerated through the clinic due to significant unmet medical need in this devastating disease and that breakthrough results in Phase I/II trials could form the basis for a registration filing as early as 2015.

Valuation Methodology

Our $55 price target is derived by applying an 8X multiple to estimated 2017 revenues for ataluren in nmDMD and nmCF, discounted 25% and 35% annually, respectively. Conditional approval of ataluren in the EU by YE:13 remains upside to our price target and would yield a 12-month price target of $75/share. We project that approval and commercialization of ataluren could generate ~$550 million in annual worldwide revenues in 2017 (our valuation year) in nmDMD and nmCF and potential peak global sales of >$1.5 billion. Success of the PTC's pre-clinical SMA candidate remains upside to our estimates. Similarly we arrive at our $55 price target by applying a 15x multiple to PTC's fully taxed EPS in 2017 discounted back 20% annually.

Risks

Risks to the attainment of our price target include 1) failure of ataluren in the clinic in DMD or CF; 2) regulatory failure of ataluren; and 3) inability to fund the development or execute on the commercializing of ataluren globally

Key Points

- Ataluren showed a (nominally) statistically significant benefit in 6MWD vs. placebo in selected patients with nmDMD
- The pivotal Phase III trial is highly likely to show positive results as it has been significantly de-risked and enriched for success based upon findings from PTC's Phase IIb trial in nmDMD
- Ataluren may receive conditional approval in the EU for nmDMD by YE:13, representing $20 in upside to our price target
- We anticipate ataluren's launch will be rapid given that ¼ of the potential patients with nmDMD or nmCF is already receiving treatment as a participant in an ongoing trial
- PTC has worldwide rights to ataluren and it is NOT competitive with current drugs in late stage clinical development (eteplirsen, drisapersen and Vertex's (VRTX: Not Covered) drugs
- We estimate nmDMD and nmCF to represent a market opportunity in excess of $2 billion annually world wide, and estimate that ataluren could surpass $1.5 billion in annual global sales in these two indications by 2019
- The SMA opportunity represents potentially $100 M+ in royalties from US sales from partner Roche and may be on the market in 2016, well ahead of most investors expectations, PTC is expected to choose a clinical candidate for SMA by YE:13
- Next-generation ataluren molecules and candidates that could enhance ataluren's activity could provide market exclusivity well beyond ataluren's current 2027 IP life

Milestones

H2:13	Seek early access programs (in select territories) for ataluren in nmDMD
YE:13	Select clinical candidate for SMA program
Q4:13	MAA filing for conditional approval of ataluren for nmCF in the EU
YE:13	Potential conditional approval of ataluren for nmDMD in the EU
Mid:14	Full enrollment in the confirmatory Phase III trial of ataluren in nmDMD
Q1:14	Initiation of a Phase III trial of ataluren in nmCF
H2:14	Potential data from the Phase IIb open-label extension study in the EU
YE:14	Potential conditional approval of ataluren for nmCF in the EU
2014	Initiation of Phase I/II trials of SMN2 candidate for SMA
H1:15	Completion of the confirmatory Phase III trial of ataluren in nmDMD
H2:15	FDA and MAA filing for full approval of ataluren for nmDMD
H2:15	Completion of the confirmatory Phase III trial of ataluren in nmCF
2015	Potential accelerated approval of candidate for SMA
H1:16	FDA and MAA filing for full approval of ataluren for nmCF

PTC Therapeutics Inc. Overview

PTC Therapeutics is a biopharmaceutical company focused on the development of orally administered, proprietary, small-molecule drugs that target post-transcriptional control processes for orphan and ultra-orphan disorders. PTC's lead product candidate is ataluren for the treatment of patients with genetic disorders that arise from a type of genetic mutation known as a nonsense mutation. Ataluren is in Phase III trials for the treatment of Duchenne muscular dystrophy caused by nonsense mutations (nmDMD), and cystic fibrosis caused by nonsense mutations (nmCF). PTC has worldwide commercialization rights to ataluren for all indications in all territories. PTC is also developing, in collaboration with Roche, a compound for spinal muscular atrophy (SMA).

Figure 1: PTC's Product Pipeline

Program	Stage	Target	Mechanism	Partner	Next Event
Ataluren - DMD	Phase III	nmDMD - dystrophin	Read-Through	None	Potential EU Conditional Approval YE:13
Ataluren - CF	Phase III	nmCF (Class I) - CFTR	Read-Through	None	Initiation of Phase III H1:14/ Filing for Conditional Approval in EU Q4:13
SMA	Preclinical	SMN2	Exon-Skipping	Roche	Initiation of Phase I/II trials 2014

Source: Company data, Wedbush Securities, Inc.

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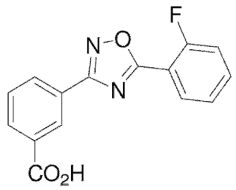
Ataluren

Ataluren is a novel, orally administered, small-molecule compound that targets nonsense mutations (Figure 2). PTC is developing ataluren for the treatment of a broad set genetic disorders caused by in-frame nonsense mutations (nm). This type of mutation accounts for about 12% of all hereditary disease-causing mutations.

Ataluren is currently in ongoing Phase III trials for nmDMD and nmCF, we anticipate filings for full approval in H2:15 and H1:16. Additionally, PTC has filed for conditional approval of ataluren in the EU in nonsense mutation DMD (nmDMD) and is expected to file for conditional approval in and nonsense mutation CF (nmCF) in Q4:13. We believe that ataluren will be on the market in the EU, either though conditional approval, or on a named-patient basis in 2014. The FDA has granted orphan drug designation to ataluren for the treatment of both nmDMD and nmCF and the EMA has designated ataluren as an orphan medicinal product.

Ataluren is believed to interact with the ribosome during translation and results in the read-through of pre-mature stop codons that arise from nonsense mutations. Ataluren allows the ribosome to manufacture a full-length properly functioning protein by translational read-through of pre-mature stop codons. Ataluren does not cause read-through of normal stop codons. It is believed that translational read-through may be an attractive alternative to gene therapy for in-frame nonsense mutations. Compared to gene addition approaches, translational read-through compounds may have significant advantages because: 1) they do not act in a gene-specific manner, thus facilitating treatment of multiple conditions, 2) the size of the gene and vector capacity are not issues, and 3) gene expression remains under endogenous control, meaning tissue, cell type specificity and factors regarding duration of expression as well as alternative splicing remain largely in a natural state.

Figure 2: Ataluren Chemical Structure



Source: Company data, Wedbush Securities, Inc.

There are an estimated 2.5 million patients in the US with genetic disorders caused by nonsense mutations. Diseases caused by nonsense mutations include Duchenne muscular dystrophy (DMD), cystic fibrosis (CF), beta-thalassemia, Hurler syndrome, among 2,400 others and nonsense mutations have been implicated in several cancers. It is important to note that, nonsense mutations do not impact all patients with a given disease (i.e., DMD, CF, etc.), however, the approach is clearly broad in applicability to varying diseases and could treat a substantial number of patients. Additionally, genetic tests are available and employed clinically for most genetic disorders, including DMD and CF, to determine if the underlying cause is a nonsense mutation, and gene sequencing tests for other nonsense mutation diseases is possible with existing technologies.

PTC has focused the clinical development of ataluren on CF and DMD, two of the most common rare diseases. Since ataluren works in diseases caused by nonsense mutations, ataluren is being tested in nm subtypes of CF and DMD. This represents approximately 10% (~3000 patients in the US) and 13% (~1500 patients in the US) of total patients with CF and DMD, respectively.

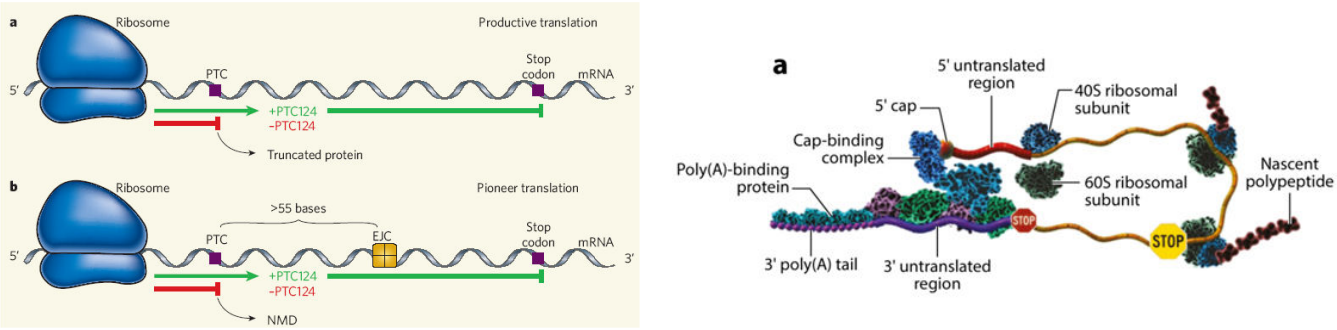
Given the potential for broad applicability to nonsense mutation mediated disease, we believe that, eventually, given clinical experience with ataluren as well as ongoing regulatory reform, that they may, at some point, be eligible for a broad label based upon the presence of a causative nonsense mutation.

Reading-Through the Nonsense - Ataluren's Mechanism of Action

Ataluren is thought to work through interactions with the ribosome, to enable the ribosome to read-through premature nonsense stop codons on mRNA thus allowing the cell to produce a full-length, functional protein (Figure 3). It is thought that read-through of premature stop signals, without affecting the normal termination of protein synthesis (normal stop-codons), may be able to overcome the effects of nonsense mutations. Ataluren does not promote read-through of normal stop codons. Nonsense mutations give rise to in-frame UAA, UAG or UGA codons in the mRNA coding region. This leads to premature translational termination and truncated polypeptide products, and promotes mRNA destabilization by nonsense-mediated mRNA decay (NMD). Preclinical studies suggest that ataluren causes read-through of all three possible pre-mature stop codons UGA, UAA and UAG, but is most potent on UGA codons. Importantly, we note that, NMD does not prohibit nonsense mutation read-through because it depends on a set of three necessary factors that control mRNA transcript stability and termination efficiency. Deactivation of any one of these three factors stabilizes the nonsense containing transcript and promotes nonsense codon read-through.

The feasibility of nonsense mutation read-through is well established. More than 40 years ago, it was recognized that streptomycin and other aminoglycosides could promote ribosomal misreading. Later studies demonstrated that high concentrations of gentamicin promote read-through of nonsense codons in DMD mdx mouse and CF mouse models. Unfortunately, the lack of potency, the potential renal and otic toxicities, and the need for intravenous or intramuscular gentamicin administration have prevented the clinical use of this approach.

Figure 3: Ataluren Only Promotes Read-through of Premature Stop Codons



Source: Schmitz et al. Nature (2007), Stuart W. Peltz et al. Annu. Rev. Med. (2013)64:407-425.

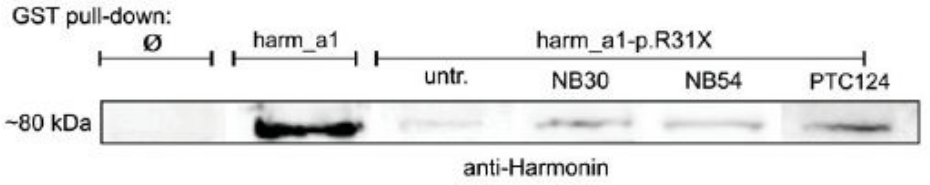
Ataluren Has Demonstrated Read-Through in Multiple Independent Experiments

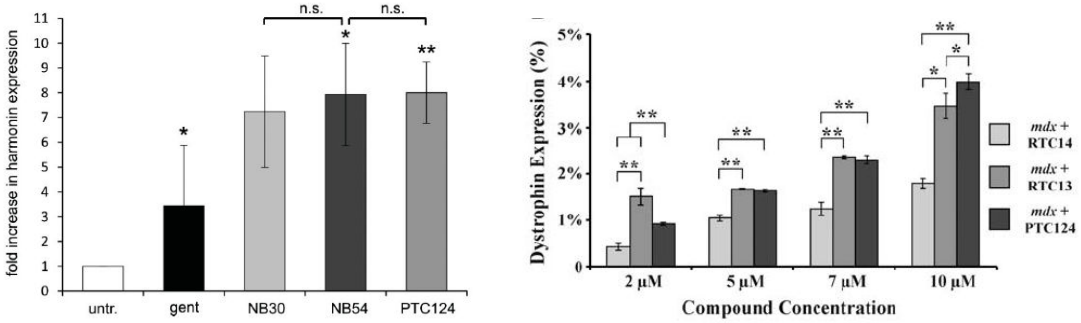
A total of 11 studies conducted completely independent of PTC have demonstrated that ataluren promotes read-through of premature stop codons (Figure 4). Studies conducted have demonstrated read-through in a large number of nonsense mutated genes and several experimental systems addressing multiple genetic disorders. We note that read-through has been demonstrated in patients, patient cells, mouse models, transfected cell lines as well as cell-free systems.

The literature highlights several failed attempts to demonstrate ataluren's read-through, resulting in some level of confusion about the compounds mechanism and activity. Given the independent clinical and pre-clinical evidence of ataluren's activity, we are unconvinced by these sporadic and inconsistent findings. Specifically, we note that unsuccessful experiments did not retest published approaches, and authors (often competitors) did not attempt to contact PTC's lead investigators for guidance, as is the standard in the rigorous application of scientific discovery process. Additionally, several experiments may have utilized inappropriate experimental conditions leading to failure.

We highlight below (Figure 4) several pieces of data from groups who have sought to find new read-though compounds and compared them to ataluren (PTC124). Although these do not include all the independent data supporting ataluren's activity we believe these represent robust examples of ataluren's activity since authors were incentivized 1) determined to demonstrate that their molecules potential superiority (thus potentially attempting underestimating ataluren's effect) and 2) undertake rigorous experiments to reproduce ataluren's activity such that theirs could be compared. In Figure 4, NB30, NB54 and RTC13, and RTC14 were tested against ataluren (PTC124) we note that this data has been presented and published in several respected scientific venues.

Figure 4: Ataluren's Efficacy Independently Verified and Superior to Read-through Investigational Read-Through Compounds





Independent Studies Higlighting Ataluren (PTC124)'s Efficacy

Protein/Gene	Model	Disease	Reference
USH1C	Mouse models and human retina cell culture	Usher Syndrome	Goldmann, T. et al. A comparative evaluation of NB30, NB54 and PTC124 in translational read-through efficacy for treatment of an USH1C nonsense mutation. *EMBO Mol. Med.* **4**, 1186-1199 (2012). Goldmann, T., Overlack, N., Wolfrum, U. & Nagel-Wolfrum, K. PTC124-mediated translational readthrough of a nonsense mutation causing Usher syndrome type 1C. *Hum. Gene Ther.* **22**, 537-547 (2011).
CPT1A	Skin fibroblasts cell culture	Carnitine palmitoyltransferase 1A	Tan, L., Narayan, S.B., Chen, J., Meyers, G.D. & Bennett, M.J. PTC124 improves readthrough and increases enzymatic activity of the CPT1A R160X nonsense mutation. J. Inherit. Metab. Dis. 34, 443-447 (2011).
PPT1	Fibroblast and lymphoblast cell cultures	Batten disease	Sarkar, C., Zhang, Z. & Mukherjee, A.B. Stop codon read-through with PTC124 induces palmitoyl-protein thioesterase-1 activity, reduces thioester load and suppresses apoptosis in cultured cells from INCL patients. Mol. Genet. Metab. 104, 338-345 (2011).
ARSB	Fibroblast cell cultures	Mucopolysaccharidosis VI	Bartolomeo, R., Polishchuk, E.V., Volpi, N., Polishchuk, R.S. & Auricchio, A. Pharmacological read-through of nonsense ARSB mutations as a potential therapeutic approach for mucopolysaccharidosis VI. *J. Inherit. Metab. Dis.* **36**,363-371
MUT	Mouse model	Methylmalonic aciduria	Buck, N.E., Wood, L.R., Hamilton, N.J., Bennett, M.J. & Peters, H.L. Treatment of a methylmalonyl-CoA mutase stopcodon mutation. *Biochem. Biophys. Res.Commun.* **427**, 753-757 (2012).
BMPR2	Lung and blood-derived cell cultures	Pulmonary arterial hypertension	Drake, K.M., Dunmore, B.J., McNelly, L.N., Morrell, N.W. & Aldred, M.A. Correction of nonsense BMPR2 and SMAD9 mutations by Ataluren in PulmonaryArterial Hypertension. *Am. J. Respir. Cell. Mol. Biol.* , epub ahead of print (2013).
ATM	Ataxia telangiectasia cell culture	Ataxia telangiectasia	Du, L. et al. A new series of novel small molecular weight compounds induce readthrough of all three types of nonsense mutations in the ATM gene. *Molec.Ther.* , epub ahead of print (2013).
ABCC6	Human embryonic kidney epithelial cell culture	Pseudoxanthoma elasticum	Zhou, Y., Jiang, Q., Takahagi, S., Shao, C. & Uitto, J. Premature termination codon read-through in the ABCC6 gene: potential treatment for pseudoxanthoma elasticum. *J. Invest. Dermatol.* , epub ahead of print (2013).
CFTR	CF cell cultures	Cystic fibrosis	Gonzalez-Hilarion, S. et al. Rescue of nonsense mutations by amlexanox in human cells. *Orphanet J. Rare Dis.* **7**, 58 (2012).
dystrophin	Mouse model	Duchenne muscular dystrophy	Kayali, R. et al. Read-through compound 13 restores dystrophin expression and improves muscle function in the mdx mouse model for Duchenne muscular dystrophy. *Hum. Molec. Genet.* **21**, 4007-4020 (2012).

Source: Kerstin Nagel-Wolfrum, - EMBO Mol Med (2012) 4, 1186–1199. Bertoni. Human Molecular Genetics, 2012, Vol. 21, No. 18

Other Read-Through Compounds Fall Short

Several groups have sought to design new read-through compounds, based upon knowledge of aminoglycoside nonsense mutation read-through and their limitations of ototoxicity and/or nephrotoxicity, which prohibit long-term clinical use. Consequently efforts have been focused on designing next-generation aminoglycosides with improved bio-compatibility and read-through efficiency. NB30 and NB54 are two new aminoglycoside derivatives that have been tested with some success by these (currently academic) groups, however only NB54 appears viable but requires substantially higher dose exposure to have ataluren like-activity in some assays. Additionally, "read-through compounds" RTC13 and RTC14 have further been tested; though authors concluded only RTC13 warranted further development efforts. Although authors have suggested that RTC13 may have a superior effect to ataluren (PTC124) in experimental pre-clinical models, higher dose levels have been required to achieve such efficacy which could lead to higher off-target effects. Prior to delivery into the clinic RTC13 will require refinement of several PK/PD metabolism and stability factors that all must maintain read-through and safety. Ataluren is not based on an aminoglycoside scaffold or chemical, backbone a fact that we believe may differentiate it in clinical efficacy and safety from compounds in development.

Beyond Ataluren – Next-Generation Read-Through and Adjunct Therapy Programs

PTC's nonsense suppression assay is able to identify molecules that promote or enhance nonsense suppression. PTC is continuing work on additional pre-clinical second generation read-through compounds. Current pre-clinical candidates are more active across all 3 stop codons (UGA, UAA, UAG), maintain metabolic stability, improve PK, are active *in vivo* and are believed to possess similar safety. In addition to second-generation compounds, PTC is using their expertise in nonsense suppression to develop candidates that can enhance the effect of ataluren. In addition to increasing read-through, small molecules that stabilize nonsense-containing mRNAs could enhance the effect of a compound that acts through the nonsense suppression mechanism. PTC has designed assays that evaluate the natural decay of nonsense-containing mRNAs to test chemistry that by blocking degradation, increases the level of nonsense-containing mRNAs. PTC is currently looking at approaches for next-generation read-through compounds and potential adjunctive molecules to enhance ataluren or later generation's activity. We believe that if successful, compounds that improve ataluren's activity (or next-generation ataluren molecules) may provide additional runway for the ataluren franchise, well beyond current composition of matter and method of use patents set to expire in 2024 and 2027, respectively.

Ataluren for nmDMD

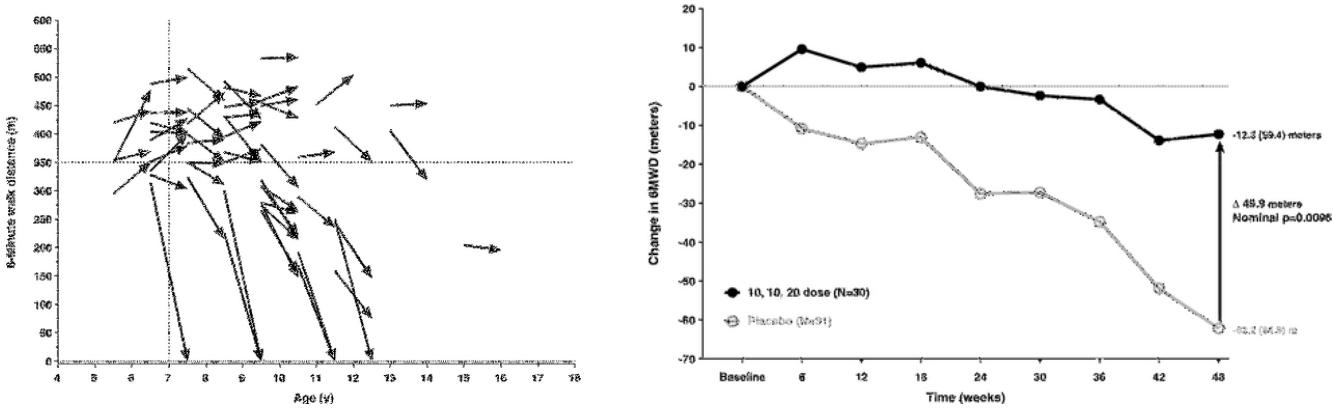
Ataluren is being developed by PTC for the treatment of patients with nonsense mutation-induced Duchenne muscular dystrophy (nmDMD). nmDMD is estimated to cause DMD in approximately 13% of all boys with DMD (~4000 of 31,000 in the US, EU and Japan). Ataluren has been shown to induce read-through of nonsense mutations by the ribosome and produce full-length dystrophin in animal and human models as well as clinical trials in humans. Inappropriate stop-codons may occur at any point on the gene for dystrophin, and it is believed that ataluren is able to read-through pre-mature stop codons. Since dystrophin is the protein that is missing in patients with DMD, the replacement of this protein may have disease modifying impact, potentially halting or reversing their ambulatory decline. It is known from Becker's muscular dystrophy that even low levels of dystrophin can result in near-normal life spans (60's) and dramatically extended or life-long ambulation.

Phase III nmDMD Trial Enriched for Success - Pioneering Work Informs and Reduces the Risk of Ongoing Phase III Trials

We believe that results from PTC's pioneering Phase IIb trial has allowed them to significantly reduce the risk of the ongoing Phase III trial in nmDMD. We note, that PTC pioneered the 6MWD endpoint in DMD, and that prior to their Phase IIb clinical trial, there was no established precedent for an appropriate trial design to evaluate the clinical efficacy of ataluren (or any other drug) in DMD. Additionally, the Phase IIb trial data, now serves as the most comprehensive data set encompassing ambulatory measures and the natural history of patients with DMD/BDMD available (Figure 5). We believe the past trials have given PTC an improved understanding of the patient population likely to demonstrate the greatest measurable benefit from treatment, the dose of ataluren most likely to demonstrate efficacy and the appropriate statistical plan for analyzing the trial data. Additionally, in our opinion, much of the Street has overlooked the nuances in PTC's prior data sets and those associated with DMD that lead us to believe there is a high probability that ataluren will be successful in these ongoing Phase III trials for DMD.

Figure 5: Natural History of 6MWT and Data from Phase II Trial Suggest Phase III Success

Natural History Study | **Ataluren's Benefit in DMD patients >7 years on Corticosteroids**



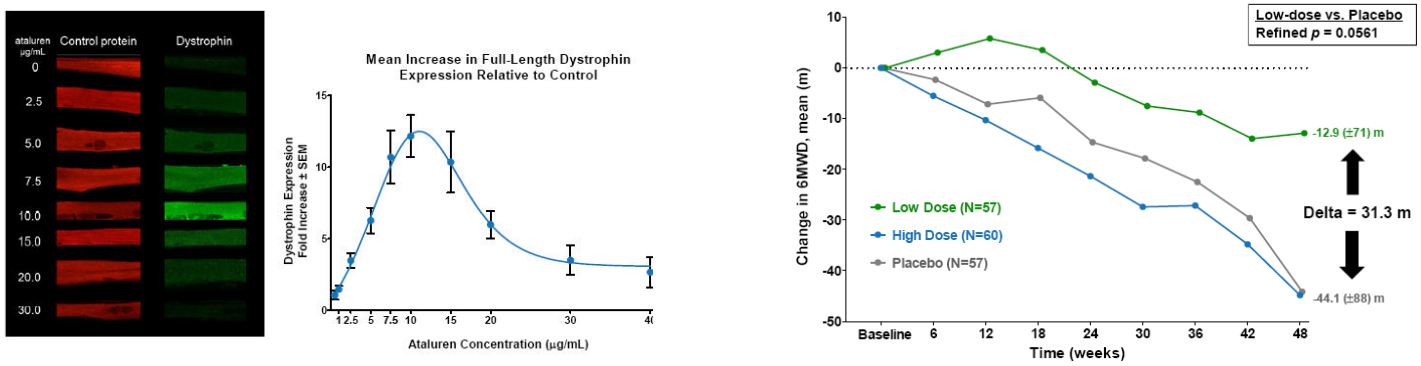
Source: Company data, Wedbush Securities, Inc.

We believe a few now-known observations (not known at the time of trial design or conductance) may have resulted in the Phase IIb trial's not meeting its primary endpoint in the overall patient population. We highlight two specific and well-documented causes that we believe resulted in difficulty achieving the primary endpoint: 1) an unknown dose response curve and 2) variability among patients with DBMD/DMD.

Bell-Shaped Dose Response Curve

Ataluren demonstrated a bell-shaped dose response curve in clinical and pre-clinical assessments made by PTC. The most significant manifestation of this dose response occurred in the Phase IIb trial in which patients on high dose (20, 20, 40 mg/kg) demonstrated no benefit in 6MWT measure vs. placebo. Importantly, patients on low dose (10, 10, 20 mg/kg) showed a near-statistically significant 31.3 m benefit (p=0.0561) (Figure 6). In pre-clinical studies, PTC also demonstrated that ataluren resulted in dystrophin production in nm human myotubes and that this production was also dose-dependent in a bell-shaped fashion (Figure 6).

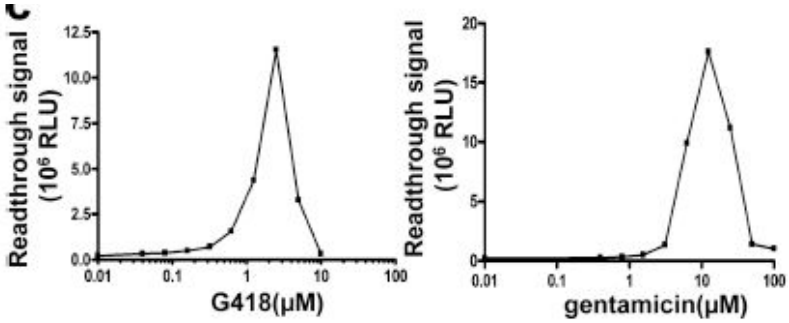
Figure 6: Pre-Clinical (Left) and Clinical Evidence of Ataluren's Bell-Shaped Dose Response



Source: Company data, Wedbush Securities, Inc.

Beyond the substantial clinical and pre-clinical data provided by PTC and independent studies, other compounds that promote read-through also have a similar "bell-shaped" dose-response curves (Figure 7). Past studies of aminoglycosides, compounds known to promote nonsense mutation read-through have demonstrated bell-shaped dose response curves (Figure 6-7).

Figure 7: Bell-Shaped Dose Response Curves Also Occur with Other Read-Through Compounds



Source: Du et al. J Exp Med 2009

Given the fact that ataluren is not based upon an aminoglycoside scaffold and that at the molecular mechanisms of read-through are poorly understood, it is understandable that PTC identified the bell-shaped dose response curve later in the development cycle.

Variability among Patients with DMD

PTC was the first company to test the clinical efficacy of a molecule for DMD by the 6MWD endpoint. Prior to studies by PTC, little was known about this endpoint and as a result of their pioneering Phase IIb study and other additional clinical studies on the natural history of DMD, we believe that contemporary studies will benefit from refined design. The primary difficulty with ambulatory endpoints in DMD (including 6MWT) is inter-patient variability (now known to be caused by a number of factors) as well as the time required for a therapy to demonstrate benefit in an endpoint that depends upon some regeneration/restoration of muscle function (a process expected to take some time) or decline in the control group to drive a difference in 6MWD.

PTC and other studies have identified key 6MWD criteria to enrich the patient population and derisk their Phase III trial. The age of patients enrolled in the trial is a key metric that has been modified. It is now known that patients >7 years of age are most likely to show a decline in 6MWD. Previous studies have enrolled patients as young as 5 years old. The literature highlights that patients often gain ambulatory function at younger ages, and thus any benefit confirmed by a drug in the <7 year old population may be difficult to detect on an ambulatory measure such as the 6MWT. PTC enrolled patients between 5 and 20 years of age. Additionally, once patients with DMD progress they often exhibit rapidly deteriorating ambulation until it is lost altogether. This is an important factor because therapies that attempt to preserve or restore ambulation may take time to manifest benefit. For example, should patients deteriorate before the production of substantial levels of dystrophin are produced, it may not be possible to demonstrate a drug's impact on ambulation. Additionally, some older patients thought to have DMD may show little sign of ambulation loss well into their teens. It is now thought that some of these patients may, in fact, be Becker's patients, a phenotype with a much better prognosis with which patients may remain ambulatory into their 60's. The broader patient age criteria may have also resulted in a higher standard deviation than initially assumed (50m, vs. observed 72-90 m) and under powering of the Phase IIb study.

Phase III Study Design Enrichment and Derisking

PTC has taken several steps to derisk and enhance the likelihood for a positive outcome of the Phase III study based upon their pioneering work on 6MWT and DMD in Phase II trials. In their randomized, double-blind, placebo-controlled, Phase III trial for ataluren in DMD, PTC will enroll ~220 patients with genotypically confirmed nmDMD. Patients will be randomized 1:1 to receive either 10, 10, 20 mg/kg ataluren (morning, midday, evening) or placebo. Entrance criteria and stratification of patients has been enhanced for the Phase III population, which we believe enriches it for success. We highlight key entrance criteria in Figure 8.

Figure 8: The Phase III Trial is Enriched for Success

Criteria	Phase III	Phase IIb
Patients	~220 (1:1 Placebo Controlled)	174 (1:1:1 Placebo Controlled)
Dose	10,10,20 mg/kg (Low Dose)	10,10,20 mg/kg (Low Dose) and 20,20,40 mg/kg (High Dose)
Primary Endpoint	Change in 6MWD from Baseline	Change in 6MWD from Baseline
Age	≥7 and ≤16 years old (onset by age of 6)	≥5 years old (onset by age of 9)
Baseline 6MWD	≥150 m	≥75 m
Gower's Maneuver	Possible inclusion criteria (<7 seconds)	NA
%-Predicted 6MWD	≥80%	NA
Steroid Use	Us is required minimum 6-months prior to trial start	Yes if stable, No also OK
Powering	>85% Powered to Detect 30m Difference in 6MWD	NA

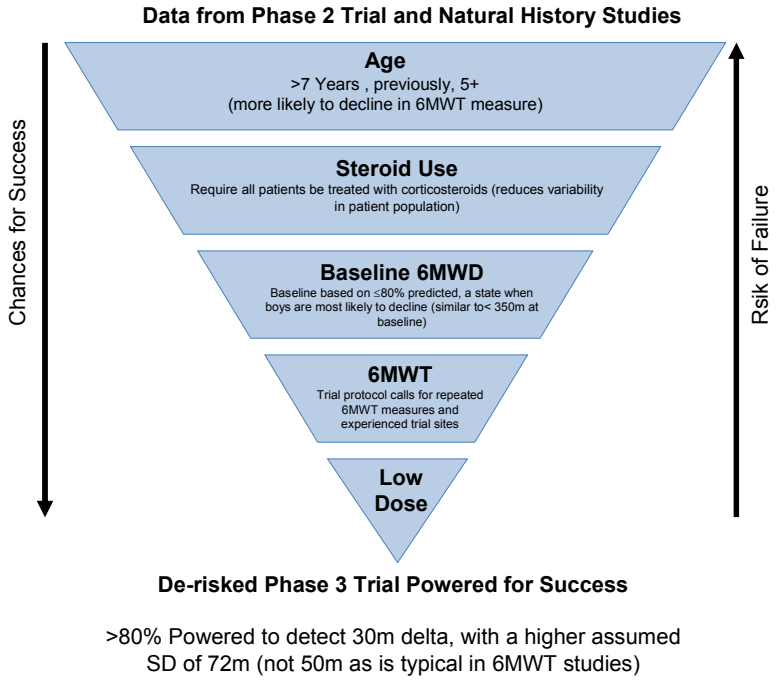
Changes were supported by pioneering work in PTC's Phase IIb Trial

6MWT site selection focus on centers of excellence	Sites have differing tolerance for protocol boundaries Children's compliance with instructions too variable
Lower Dose	Results suggest benefit in low dose group across many measures Pre-clinical models show low dose benefit in dystrophin production data Similar mechanism aminoglycosides have bell-shaped dose response
Lower Age	Boys <7 can still improve in the 6MWT
Steroid use	Steroid use impacts 6MWT measure
Removal of risky dystrophin measurements	Sample handling, biopsy, and dystrophin quantification was more difficult than anticipated

Source: Company data, Wedbush Securities, Inc.

In Figures 8 and 9, we highlight the key discoveries made following PTC's Phase II trial of ataluren in nmDMD. We note that, these discoveries relate to the natural history of the disease, in particular, with the exception of the now well described (and described below) dose response of ataluren.

Figure 9: Phase II Lessons Powers Phase III for Success



Source: Company data, Wedbush Securities, Inc.

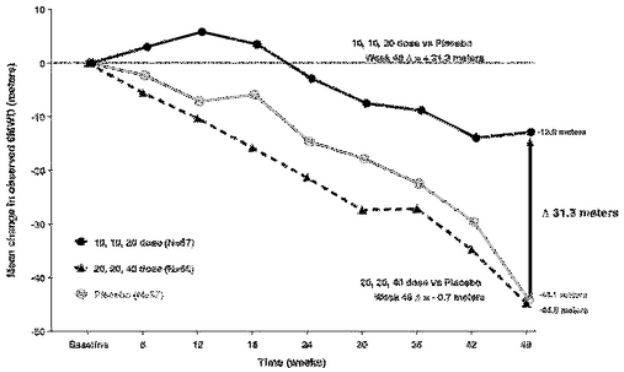
Phase IIb – Pioneering the 6MWD Endpoint and a Trend Toward Efficacy

PTC completed a randomized, double-blind, placebo-controlled dose-ranging Phase IIb trial of ataluren in 174 patients with nmDBMD; the largest and longest study of an investigational drug in Duchenne Becker's Muscular Dystrophy (DBMD). Patients were randomized 1:1:1 to receive placebo, at 10mg/kg, 10mg/kg and 20 mg/kg ataluren (10,10,20) daily in the morning, midday and evening, or 20 mg/kg, 20 mg/kg and 40 mg/kg (20,20,40). As per the trial protocol, efficacy and safety were assessed every 6 weeks by clinical visit for 48 weeks and interim laboratory visits occurred every 3 weeks for the first 24 weeks of the trial. The trial was conducted at 37 sites in 11 countries. At the time, this was the largest trial in DMD conducted in patients with DMD.

Patients were genotypically confirmed for nmDMD and were at least 5 years of age (5-20 years), had baseline unassisted walking ability of at least 75 meters in the 6-minute walk test (6MWT), had onset of symptoms occurring prior to 9 years of age, elevated CK levels and ongoing difficulty with walking. Patients with significant illness HCV, HBV, or recent use of aminoglycosides were excluded. Additionally, if patients were receiving corticosteroids they were required to be on a stable dose regime for 6 months prior to entering the trial. Patients were stratified based on age, 6MWD and use of corticosteroids.

The primary endpoint of the Phase IIb study was a mean change in 6-minute walk distance (6MWD) at 48 weeks compared to baseline. Additional analysis included proportion of patients with at least 10% worsening in the 6MWD at 48 weeks vs. baseline and, to account for potential variability in 6MWD measures, time to persistent 6MWD 10% worsening from baseline. Several secondary and exploratory endpoints were also assessed, including tests of muscle function based on time to climb four stairs, descend four stairs, run/walk 10 meters and stand from supine; muscle strength; patient/caregiver reported frequency of accidental falls; patient/caregiver reported health-related quality of life; patient/caregiver reported treatment satisfaction; at-home activity as measured by pedometry; verbal memory and attention; heart rate function; CK, values as a measure of whole-body muscle fragility; and biceps muscle dystrophin expression.

Figure 10: Low-Dose Ataluren Showed a Clinically Meaningful Benefit in 6MWD vs. Placebo



(Uncorrected, Left and Corrected Data, Right)

Source: Company data, Wedbush Securities, Inc.

6MWD Endpoint – Pioneering the Now Gold Standard in DMD

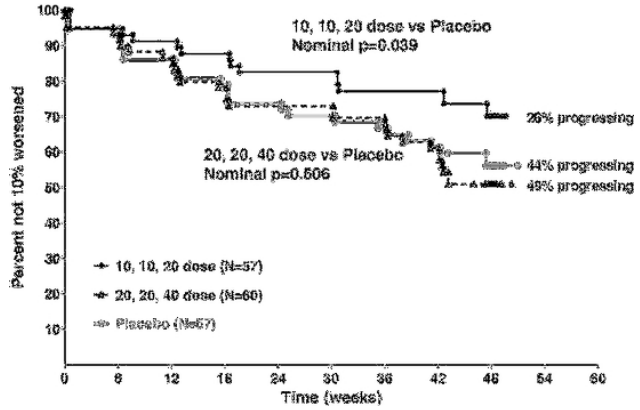
PTC's Phase 2b study of ataluren was the first registration-directed, 6MWT based trial ever conducted in patients DBMD. At the time the study was run, it was not known what the clinical endpoints, some of which had never been used before, would show when measuring the impact of a potentially disease-modifying therapy.

In results reported from PTC's Phase IIb trial in March 2010, ataluren did not meet the primary endpoint of difference in 6MWD vs. placebo. In the study, no difference was observed between placebo and the 20,20,40 mg/kg dose of ataluren, which showed a -44.1 m (SD 88 m) the mean change in 6MWD vs. placebo, vs. -44.8 (SD 84.8m), p=0.606 over at 48 weeks. However, in the patients receiving the 10, 10, 20 mg/kg (low) dose of ataluren a smaller decline in their walking ability (6MWT) was observed vs. placebo. The mean change from baseline to 48 weeks in 6-minute walk distance was -42.6 m (SD 90.0 m) in the placebo group, and -12.9 m (SD 72 m), in the ataluren 10, 10, 20 dose group, a clinically meaningful difference of 29.7 m (nominal p-value 0.149). Additionally, corrected (for patients on study having non-drug related injury) post-hoc analysis showed a p-value of 0.0561 for the comparison of low-dose ataluren vs. placebo in the 6MWD. Recall, a 30m benefit over 48-52 weeks, is broadly considered by DMD experts to represent a clinically meaningful, and benefits in 6MWD of just under 30m have served as the foundation for approval of several drugs across many indications where the 6MWD is a meaningful primary endpoint (Figure 10).

Ataluren Shows Benefit in 10% Worsening Endpoint

In addition to 6MWD, PTC assessed several other endpoints including 10% persistent worsening in 6MWD. Similar to the mean change in 6MWD endpoint, patients receiving 20, 20, 40 mg/kg dose of ataluren did not show a significant difference from placebo, with 48% progressing >10% at 48-weeks vs. 44% progressing in the placebo arm (p=0.606) (Figure 11). However, similarly, and consistent with 6MWT data, 26% of patients receiving the 10, 10, 20 mg/kg dose of ataluren progressed >10% compared to 44% receiving placebo (p=0.039).

Figure 11: Low Dose Ataluren Showed Statistically Meaningful Impact on Patient Worsening



A change of 10% in walking ability in one year is generally predictive of substantial decline in a patient's clinical status over the following years.

Source: Company data, Wedbush Securities, Inc.

Phase II Trials - Ataluren Induced a Mean Increase in Muscle Dystrophin of 11% from Baseline over 28 Days

In October 2007, PTC reported results from an open-label Phase IIa clinical trial evaluating ataluren in 38 patients with nmDMD as confirmed by gene sequencing. The primary objective of this trial was to obtain indications of pharmacological activity by primary efficacy endpoint, change from baseline measurement of dystrophin levels in the extensor digitorum brevis (EDB). The entire EDB muscle was removed from one foot prior to treatment and the entire EDB muscle was removed from the other foot after treatment.

Patients at least 5 years of age, with nmDMD, increased levels of serum CK and diminished or absent dystrophin via muscle biopsy were enrolled. Patients received ataluren for 28-days and were divided into three groups: the first group comprised the first six participants enrolled, who received ataluren (4 mg/kg in the morning, 4 mg/kg at midday and 8 mg/kg in the evening); the second group comprised the next 20 participants in the trial received a middle dose (10, 10, 20 mg/kg) ataluren; the third group comprised the final 12 participants in the trial, who received the high dose (20, 20, 40 mg/kg) ataluren.

Ataluren Increases Dystrophin Clinically and in Pre-Clinical Models

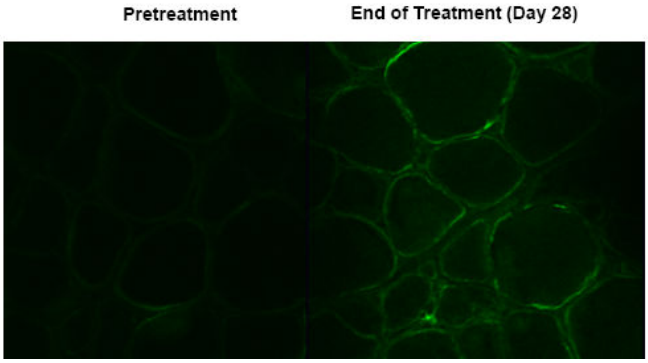
Ataluren induced a mean 11.0% increase in muscle dystrophin expression over the 28 days of treatment, with 23 of the 38 patients (61%) showing an increase from baseline (Figure 12). Additionally, 35 of 38 patients (92%), had reduction in serum CK at the end of the treatment period. Post-treatment analysis showed that following cessation of ataluren treatment, mean serum CK concentrations reverted towards their elevated baseline levels. Results for endpoints examining myometry scores and timed function tests showed small changes that were not statistically significant.

Importantly, although anecdotal, the parents and teachers of several boys noted evidence of greater activity, increased endurance and less fatigue during the ataluren treatment period. We believe this is encouraging given keep similar reports from patients on exon-skipping drugs for DMD (though after much longer periods of treatment) have also supported the potential broad benefits of DMD therapies.

In a Phase IIa study, PTC tested ataluren in 38 patients (5-17 years) with nmDMD over 28 days. Ataluren was well tolerated and active. Activity was assessed by an increase in C-terminal dystrophin expression in pre- and post-treatment biopsies (Figure 12). 13 of 38 boys showed qualitative increase in dystrophin expression that was correctly localized to the sarcolemma. We believe that this data is compelling given that the treatment period was 28 days and compares favorably to changes after as much as 12 weeks with exon-skipping approaches. We also believe that "stacking" of dystrophin, given its long half-life, beyond 28 days would be likely to increase the number of patients achieving higher levels of dystrophin.

Figure 12: Ataluren Produced Dystrophin following 28 Days of Dosing in Boys with DMD

Improvements were seen in 65% of Patients Over 28-Days



Source: Bonnrmann et al. Neuromusc. Disord., 2007

Ataluren Safety in nmDMD

Ataluren has generally been well tolerated across several Phase IIa/b clinical trials in subjects and patients with nmDMD. Most treatment-emergent adverse events were mild or moderate in severity, with no study discontinuations due to adverse events. Investigators' attributions of drug-related adverse effects were generally similar across the placebo and ataluren arms. The most common adverse events in this trial were vomiting (46.6% overall), headache (29.3%), diarrhea (24.1%), nasopharyngitis (20.7%), fever (19.0%), cough (19.0%) and abdominal pain upper (17.8%). These observations were generally balanced across treatment arms and are typical of pediatric illnesses even in healthy cohorts of children of similar age. Adverse events with at least a 10% incidence in any treatment arm that were seen with increased frequency over the placebo group were nausea (12.3% for placebo, 14.0% for the ataluren 10, 10, 20 dose and 16.7% for the ataluren 20, 20, 40 dose), abdominal pain (7.0% for placebo, 12.3% for the ataluren 10, 10, 20 dose and 16.7% for the ataluren 20, 20, 40 dose), pain in extremity (10.5% for placebo, 12.3% for the ataluren 10, 10, 20 dose and 13.3% for the ataluren 20, 20, 40 dose), flatulence (7.0% for placebo, 8.8% for the ataluren 10, 10, 20 dose and 11.7% for the ataluren 20, 20, 40 dose) and nasal congestion (7.0% for placebo, 8.8% for the ataluren 10, 10, 20 dose and 10.0% for the ataluren 20, 20, 40 dose). An overview of adverse events in this trial is shown in the table below.

In previous Phase IIa trials of ataluren mild treatment emergent adverse events including transient headache and gastrointestinal complaints were noted. No drug-related serious adverse events were reported and no patients discontinued ataluren due to adverse events.

Long-Term Ongoing Studies of Ataluren in nmDMD

PTC is currently conducting two ongoing open-label extension trials to evaluate the safety and tolerability of ataluren. PTC initiated a US trial in Nov. 2010 and another in May 2012, and has nearly completed enrollment of up to 122 patients in the US trial and 96 patients across the two open-label extension trials. Patients on study will receive 10, 10, 20 mg/kg of ataluren and clinical assessments will be conducted every 12 weeks. No change in the safety profile of ataluren has been noted from these ongoing trials.

Ataluren – DMD Market Opportunity

The opportunity for ataluren in DMD is significant. Ataluren may address approximately 13% of patients with DMD. There are an estimated 31,000 patients with DMD in the US and EU. We anticipate that of the 4000 patients with nonsense mutation suppression amenable DMD approximately 80% of patients in the US and 70% of patient ex-US will receive therapy. We estimated about 20-25% of patients with DMD will be too ill to benefit from a new therapy or simply not have access. Additionally, because ataluren is an oral therapy we believe access in WW territories is also likely to be significant. At an anticipated price of $300,000 per course of annual therapy, we see peak worldwide sales of ataluren of >$800 million in a potentially large nmDMD market (Figure 13). We also note that a treatment-mediated increase in nmDMD prevalence could drive sales higher in later years as the efficacy of ataluren and other complementary therapies extends lives and expands the addressable patient population. Since nearly 500 of the 2000 patients with nmDMD are or will be in ongoing studies of ataluren, we anticipate that ataluren's uptake into the market will be rapid. Recall, ataluren is not competitive with late-stage candidates drisapersen or eteplirsen.

Ataluren – DMD Competitive Landscape

Several treatments are in development for DMD, however we note that ataluren is unique as an oral drug targeting patients with a nonsense mutation (Figure 13). No other therapy currently marketed or in development addresses the genetic mutation of the patient population targeted by ataluren (13% of those with DMD due to a nonsense mutation). Sarepta (SRPT – OUTPERFORM) and Prosensa/GSK (RNA/GSK – Not Covered) are also clinical-stage companies currently testing exon-skipping but there is no overlap in ataluren's target population and the pipelines of Sarepta and Prosensa (Figure 13).

Figure 13: Late Clinical-Stage Candidates for DMD

Company	Product	Target	% DMD Population	Stage of development	# of US boys	# of developed World boys	% of All DMD Patients	Potential Developed World Market Opportunity*
PTC	Ataluren	Nonsense mutation	13%	Phase 3	2000	6000	13%	$ 1,800,000,000
Prosensa / GSK	Drisapersen	Exon 51 skipping	13%	Phase 3	4000	10,000	15%	$ 3,000,000,000
Sarepta	Eteplirsen	Exon 51 skipping	13%	Phase 2b	4000	10,000	15%	$ 3,000,000,000
Prosensa	PRO-044	Exon 44 skipping	6%	Phase 1/2a	1600	4000	4%	$ 1,200,000,000

*at $300,000 annual cost of treatment

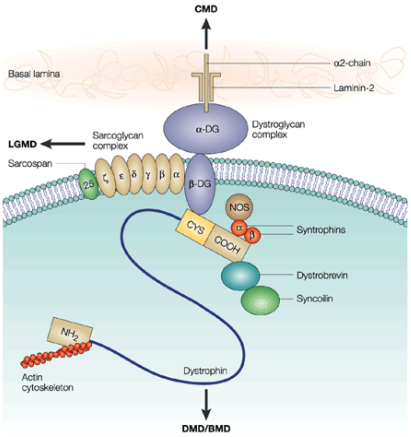
Source: Company data, Wedbush Securities, Inc.

Duchenne Muscular Dystrophy

Duchenne muscular dystrophy (DMD) is a recessive x-linked, genetic, inherited disorder that results in progressively worsening muscle weakness, loss of ambulation and death from pulmonary/heart failure (pulmonary dysfunction often results in heart complications). DMD is caused by a defective gene (the DMD gene) for the muscle protein dystrophin. Dystrophin is the largest gene in the body, comprised of 79 exons; when these are mutated or deleted the cellular translation machinery stops at the error resulting in incorrect or no-protein expression. At the cellular level, dystrophin connects the cytoskeleton of each muscle fiber to the extracellular matrix through multi-protein subunits and it is believed to function to prevent stretch and strain mediated damage to the skeletal muscle fiber (Figure 14). Muscle damage resulting from a lack of dystrophin leads to calcium build-up in muscle cell membranes resulting in a mitochondrial osmotic imbalance and destruction. In the skeletal form of the disease, mitochondrial dysfunction results in amplification of reactive oxygen species, which results in damage and eventually cell death. Muscle fibers comprised of these cells undergo necrosis and eventually become replaced with fatty or connective tissue. As a result of the progressive deterioration of muscle, loss of movement occurs and eventually leads to paralysis of patients. First onset of the disease is typically noted around 5 years of age and results in a progressive loss of ambulation and a median survival of 22 years.

Figure 14: Ataluren Results in Correctly Localized Full-Length Dystrophin

Organization of the Dystrophin–glycoprotein Complex

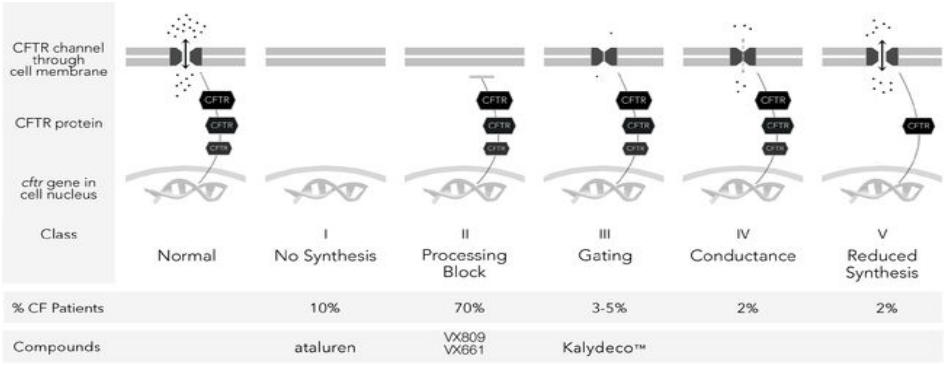


Source: Tejvir S. Khurana & Kay E. Davies Nature Reviews Drug Discovery, 2, 379-390 (May 2003)

Ataluren for nmCF

Cystic Fibrosis (CF) is a rare life-threatening genetic disorder caused by mutations in the Cystic Fibrosis transmembrane conductance regulator (CFTR) gene. This gene codes for a chloride channel protein in epithelial cells called the CFTR protein. Just as in nmDMD, in nmCF, ataluren is designed to facilitate read-through and expression of the CFTR protein in patients with the nonsense mutation-based premature stop codons.

Figure 15: Different Classes of Cystic Fibrosis



Source: Company data, Wedbush Securities, Inc.

Absence of, or dysfunctional CFTR protein creates pathological changes in tissues where it is expressed. Specifically, in CF epithelial secretory cells produce abnormal mucus excretions. These predominantly affect sinuses, lungs, pancreas, liver, and reproductive tract with the most noticeable symptoms in the lungs and pancreas. Lung infection is the most common cause of morbidity as secretions in the lungs produce an ideal environment for infection. Cystic Fibrosis patients frequently suffer from destruction of the airways caused by chronic bacterial infections. Additionally, in more severe forms of CF, the pancreas ducts are severely obstructed by mucus and there is insufficient pancreatic enzyme secretion. This impedes digestion and causes steatorrhea and malnutrition. Current treatments for the disease only address the symptoms of CF and do not treat the underlying cause; this disease is fatal. Patients with CF have an average lifespan for patients of 37 years.

The CFTR gene is large with over 180,000 base pairs, and more than 1000, unique mutations cause CF. Class 1 CF is caused by nonsense mutations and results in the most severe form of the disease, in which CFTR protein is not synthesized at all (Figure 15). Patients with Class 1 disease have more severe symptoms, including exocrine pancreatic insufficiency and no CFTR channel protein activity. It is estimated that 10% of the CFTR mutations are caused by nonsense mutations, impacting about 3,000 patients in the US and 3,700-4,200 in the EU.

The Planned Phase III Trial in nmCF

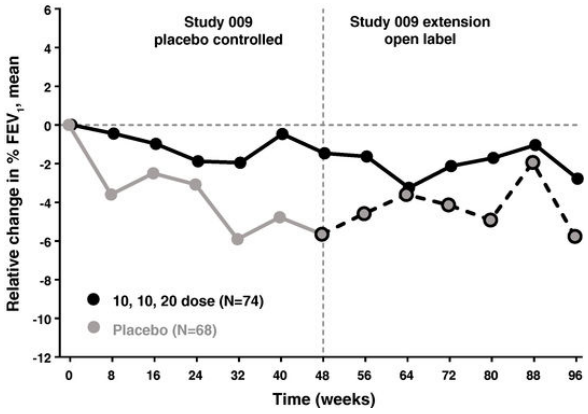
PTC will begin an additional Phase III trial for ataluren in nmCF. The study is currently designed as a multicenter, double-blind, randomized (1:1), placebo-controlled Phase 3 clinical trial to evaluate the safety and efficacy in ~210 patients with nmCF. The primary endpoint of this trial is pulmonary function by FEV1 (the volume of air exhaled at the end of the 1st second of forced expiration). Patients will be excluded in the trial if they are receiving chronic inhaled aminoglycoside (TOBI). Exclusion of TOBI/aminoglycoside is, in our opinion, the most significant change between this Phase III trial and the prior Phase III and is, in our opinion, likely to enrich the study design to demonstrate ataluren's benefit vs. placebo in nmCF patients.

In PTC's previous Phase III trial for CF, a subgroup that did not receive aminoglycosides achieved a substantial mean change in FEV1 from baseline. Conversely, patients in the aminoglycoside group, did not exhibit an FEV1 benefit compared to the control group. Therefore, due to the evidence this trial provided, along with additional mechanistic discoveries of ataluren, it is believed that inhaled aminoglycosides used to treat CF interfere with ataluren's mechanism of action. Similar to the ongoing Phase III trial in nmDMD we believe that PTC has dramatically risk reduced their trial of ataluren in patients with nmCF.

Extension Study Shows Ataluren Maintains Lung Function Over 2 Years

In addition to the ongoing Phase III trial, PTC is conducting an open-label extension study following their prior Phase III in patients with nmCF. This trial is designed to provide supportive long-term safety and efficacy information with additional patient data on long-term effects of ataluren on pulmonary function and pulmonary exacerbations. 191 patients have enrolled in this study to receive 10,10,20 mg/kg dose of ataluren for a 96-week treatment period, and assessments are made every 8 weeks (Figure 16).

Figure 16: Lung Function Maintained – Change in FEV1 over 96-Weeks



Source: Company data, Wedbush Securities, Inc.

The result of the extension study suggests to us that ataluren maintains lung function (as assessed by FEV1) over 96 weeks and also stabilizes lung function in patients previous receiving placebo (Figure 16). AE's experienced in this trial included CF pulmonary exacerbation (79.1%), cough (27.2%) and viral upper respiratory tract infection (25.7%) and are consistent with those seen in past clinical trials in CF. Serious AE's observed during the study that were, by investigator judgment, possibly related to ataluren included abdominal pain, back pain, difficulty urinating, hydronephrosis, interstitial nephritis, kidney stones, pancreatitis and renal failure.

We find the preservation of lung function over 96-weeks and activity in formerly placebo treated patients to be impressive. Importantly, we believe that these results compare favorably to ataluren from current inhaled antibiotics which do not conistently maintain improvements in FEV1 over time. Although, ataluren is not competitive with antibiotics for CF, we believe it is likely investors may compare benefits provided by antibiotics (FEV1) to ataluren to assess potential patient clinical meaningfulness of the benefit of the drug relative to others for this disease. Additionally, it is possible, that ataluren's effect on pulmonary function outcome measures such as FEV1 is more robust over time vs. antibiotics given the low chances for resistance to develop. Recall, resistance to antibiotics develops with respect to CF lung infections which ultimately lead to deterioration in lung function (measured by FEV1). In our opinion, this separates ataluren significantly not just by mechanism but by clinical benefit from current treatments for patients with CF and that patients with nmCF would, therefore, be likely to derive significant value beyond current therapies from ataluren. Additionally, despite contraindication with popular aminoglycosides for CF, such as TOBI, we believe patients may resort to ataluren in off-times, periods when they are not receiving TOBI to treat lung infections.

Previous Phase III Trial of Ataluren in nmCF

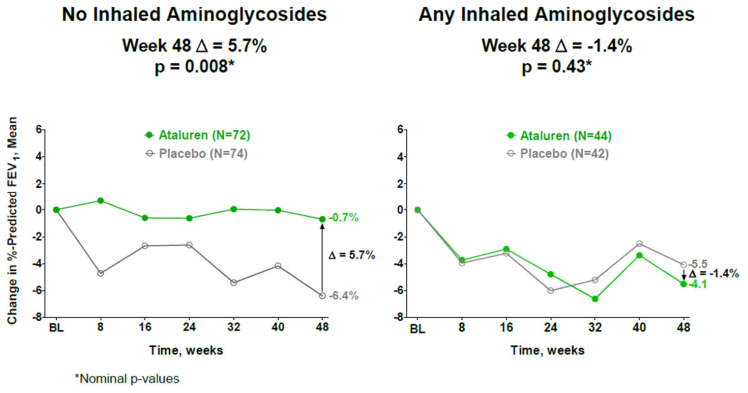
PTC previously announced the results of a randomized, double-blind placebo controlled Phase 3 trial of ataluren in 238 patients with cystic fibrosis caused by a nonsense mutation (nmCF). Patients enrolled in the study were confirmed by gene sequencing to have nmCF, with a nonsense in at least one copy of the CFTR gene, were at least six years of age, weighed at least 16 kg, had a percent-predicted FEV1 of 40-90%, and sweat chloride in excess of an undisclosed but specified level, and resting oxygen saturation in blood (unspecified level). Patients were excluded if they had a change in prophylaxis treatment for CF-related conditions within 4 weeks of study treatment start, had evidence of pulmonary exacerbation or acute upper or lower respiratory tract infection, were treated with IV antibiotics or had major complications of lung disease.

Patients were randomized 1:1 to receive placebo or ataluren at 10 mg/kg in the morning, 10 mg/kg at midday and 20 mg/kg in the evening (10,10,20), for a daily dose of 40 mg/kg. The trial protocol specified a clinic visit every eight weeks to assess FEV1. The treatment duration was 48 weeks. Additionally, patients were stratified by baseline %-predicted FEV1 and chronic use of inhaled antibiotics. The primary objective PTC's Phase III trial in nmCF was to evaluate the effect of ataluren on pulmonary function relative to placebo, by relative change in %-predicted FEV1 and was assessed every 8 weeks over 48 weeks. The trial was designed to detect a mean relative change in %-predicted FEV1 from baseline at 48 weeks of at least 6% (ataluren vs. placebo). Of the 238 total patients, 120 patients received ataluren and 118 patients received placebo, with 34 patients withdrawing prematurely, including 20 patients on ataluren and 14 patients on placebo.

Ataluren Demonstrated a Statistically Significant Difference in Change in %-Predicted FEV1

Analysis of the Phase III trial's primary endpoint, relative change in %-predicted FEV1, showed a 3.0% difference, as evidenced by a 2.5% decrease in the ataluren arm vs. 5.5% decrease in the placebo arm at week 48 (p=0.124). Additionally, ataluren showed a statistically significant difference of 2.5% vs. placebo (1.8% decrease on ataluren, 4.3% decrease on placebo; p=0.0478) based on the average treatment effect across all post-baseline visits. An analysis of relative change in %-predicted FEV1 based on the average treatment effect across all post-baseline visits showed a statistically significant difference of 2.5% favoring ataluren compared to placebo 1.8% decrease on ataluren, 4.3% decrease on placebo (p=0.0478) (Figure 17). Analysis of absolute change in %-predicted FEV1 at week 48 showed a 1.8% difference, 1.3% decrease on ataluren, 3.1% decrease on placebo (p =0.136). We find the %-predicted benefit in FEV1 to be impressive, given that %-predicted measures may better represent actually benefit as it accounts for factors beyond simple lung function (potentially important in a heterogeneous patient population).

Figure 17: Ataluren's Benefit in % Predicted was Greater In Those Not Receiving Aminoglycoside Antibiotics



Source: PTC Therapeutics. Action Duchenne 10th International Conference 2012.

Ataluren Demonstrated Statistically Significant Lowering of Pulmonary Exacerbation Rate

Beyond FEV1, patients not receiving chronic inhaled tobramycin had a 41% lower pulmonary exacerbation rate on ataluren than placebo (nominal p=0.005) (Figure 17). Similar to FEV1, patients receiving chronic inhaled tobramycin did not show a benefit in pulmonary exacerbation rate on ataluren vs. placebo (23% lower, p=0.099).

Ataluren Showed an Impressive Statistically Significant 6.7% Benefit in %-Predicted FEV1 in Patients Not Receiving Inhaled Aminoglycoside Antibiotics

For the subgroup of patients not receiving chronic inhaled or systemic aminoglycosides, the difference in mean relative changes from baseline in %-predicted FEV1 at week 48 was 6.7% favoring ataluren (nominal p=0.013). The average treatment effect in %-predicted FEV1 across all post-baseline visits was 5.4% (nominal p=0.0014). Additionally, between these groups the absolute change in %-predicted FEV averaged across all post-baseline visits was 3.1% (nominal p=0.003).

Given what is now known about ataluren's mechanism of action, it is likely that the inhaled antibiotic tobramycin interfered with ataluren's mechanism of action. Both tobramycin (aminoglycoside) and ataluren's mechanism of action involves modulation of the ribosomal machinery. Additional in vitro experiments (cell-based assays) show that ataluren-induced read-through of premature stop codons is reduced in the presence of aminoglycosides (tobramycin (TOBI) or gentamicin). This effect is not seen when non-aminoglycoside antibiotics colistin or aztreonam were combined with ataluren in cell-based experiments. Importantly, Cayston (aztreonam) and colistin are also available and suitable replacement non-aminoglycoside antibiotics for TOBI. Antibiotics also tend to be cycled, to avoid potential resistance and potentially enhance efficacy, this results in "off-periods" when patients are not on TOBI or other antibiotics and represents a time during which ataluren may be used.

Tobramycin Receiving Patients Did Worse Than Those Receiving Other Antibiotics

Approximately 37% of patients in the trial were receiving the chronic inhaled antibiotic tobramycin, and approximately 45% of patients were not receiving chronic inhaled antibiotic therapy, including colistin and aztreonam. An analysis of changes in FEV1 was performed comparing patients not receiving chronic inhaled tobramycin to patients receiving chronic inhaled tobramycin.

Ataluren's Safety in nmCF

Ataluren was generally well tolerated the Phase III nmCF trial, and similar to trials in nmDMD, AEs were balanced between the ataluren and placebo arms. Most treatment-emergent adverse events were mild or moderate in severity.

The most serious adverse events were cystic fibrosis pulmonary exacerbations unrelated to study drug treatment. Relevant to the recently initiated Phase III trial of nmCF, the most common adverse events typical of CF in the prior Phase III included cystic fibrosis pulmonary exacerbation, cough, and viral upper respiratory tract infection (78.2%, 25.6% and 21.0% respectively). Eleven patients prematurely discontinued treatment because of adverse events, including eight in the ataluren arm and three in the placebo arm. AEs with at least a 10% incidence in any treatment arm that were seen with higher frequency in the ataluren arm were headache (16.7% vs. placebo 11.9%), abdominal pain (15.0% vs. placebo 12.7%), sinusitis (12.5% vs. placebo 11.9%) and vomiting (8.5% vs. placebo 11.7%).

There were 19 patients with at least one treatment-emergent renal adverse event, including 15 patients receiving ataluren and 4 patients receiving placebo. In the ataluren arm, five adverse events that involved the renal system led to discontinuation and the ataluren treatment arm also had a higher incidence of adverse events of creatinine elevations, which can be an indication of impaired kidney function. Creatinine elevations were generally mild and transient and in the ataluren treatment arm, clinically meaningful creatinine elevations of grade 3-4 were observed in conjunction with cystic fibrosis pulmonary exacerbations and its treatment (with antibiotics). Antibiotics with potential nephrotoxicity are now contraindicated with ataluren and this appears to have alleviated significant AEs.

Of these 34 patients, nine withdrew because of adverse events, one was lost to follow-up for unexplained reasons, 18 withdrew consent, one was withdrawn based on an investigator decision, two were withdrawn because of protocol noncompliance and three withdrew for other unspecified reasons.

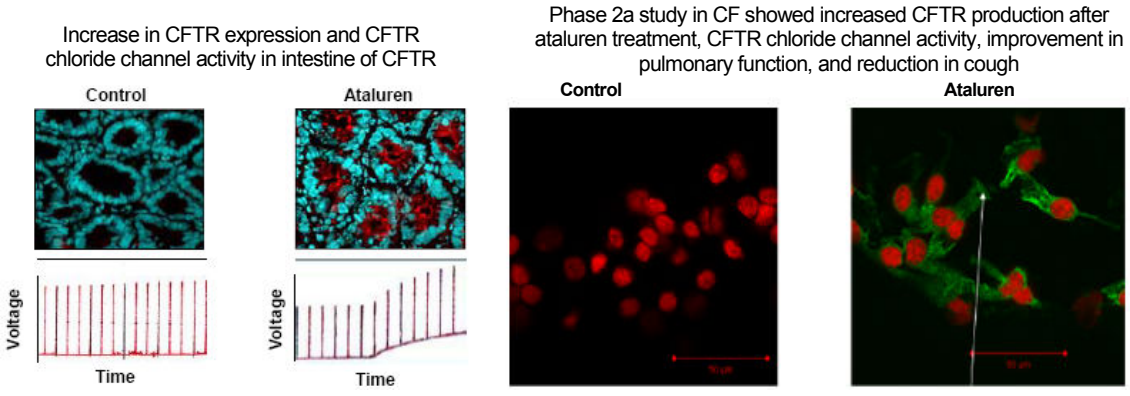
Ataluren Produces CFTR and Increased CFTR Chloride Channel Activity - Phase II Trial nmCF

PTC examined ataluren's ability to restore CFTR production via sweat chloride concentration and nasal-transepithelial potential difference (TEPD) endpoints. TEPD is the voltage across an epithelium, and is the sum of the membrane potentials for the outer and inner cell membranes. Nasal TEPD results were positive in Phase 2 clinical trials, but sweat chloride results did not show a difference in either Phase 2 or Phase 3 clinical trials.

PTC conducted three Phase 2 clinical trials consisting of 28-days of ataluren treatment over two treatment cycles. Each cycle consisted of a two-week period of continuous ataluren treatment, followed by two-week follow-up period without ataluren treatment. Patients received either 4, 4, 8 or 10, 10, 20 mg/kg ataluren daily. The primary endpoint of these trials was change in CFTR-mediated chloride conductance in respiratory cells from baseline (pre-treatment). CFTR-mediate chloride conductance was determined by patient's TEPD as expressed in millivolts, or mV. A chloride conductance equal to or more electrically negative than -5.0 mV is generally considered to be in the normal range.

Results for adults in Israel, France and Belgium, showed statistically significant improvements at the end the treatment cycle in mean total chloride conductance and in the total patients with conductance response of at least a -5.0 mV improvement. There were also improvements in the percentage of patients with a chloride conductance in the normal range at the end of treatment. These results are suggestive of ataluren's pharmacological activity in this patient population and note that this data was also seen preclinically (Figure 18).

Figure 18: Ataluren Increased CFTR Expression and Chloride Channel Activity in Preclinical and Clinical Studies



Source: Sermet-Gaudelus et al. Am J Respir Crit Care Med, Vol. 182, 1262-1272 (July 2010). Du et al. PNAS, Vol 105, 2064-2069 (Feb 2008)

CF Competitive Landscape

There are currently no disease-modifying drugs that are being developed or on the market for the nmCF patient population targeted by PTC's ataluren. However, inhaled aminoglycosides are the current standard of care in cystic fibrosis; and are contraindicated for simultaneous use with ataluren. While this presents some potential difficulties in the concomitant treatment of nmCF patients, we note that non-aminoglycoside antibiotics such as Cayston (a non-aminoglycoside) could be utilized in these patients to treat common lung infections. Other therapies in development, such as Vertex's Kalydeco, VX-809, VX-661, and VX-983 all target the cause of other types of CF and do not represent competition to the ataluren for the treatment of nmCF.

Ataluren Market Opportunity in nmCF

The opportunity for ataluren in CF is significant. Ataluren may address approximately 10% of all patients with CF. There are an estimated 3,000 patients in the United States and approximately 3,700 patients in the European Union with nmCF. We anticipate that of the entire patient population with nonsense mutation suppression amenable CF, approximately 40% of patients will receive therapy on an ongoing basis annually. We estimated about 30% of patients with CF will not want to switch from TOBI (a contraindicated aminoglycoside antibiotic, be too ill to benefit from a new therapy or simply not have access) and thus may choose intermittent ataluren treatment during off-antibiotic periods. Additionally, because ataluren is an oral therapy we believe access in WW territories is also likely to be significant. At an anticipated price of $300,000 per course of annual therapy, we see peak worldwide sales of ataluren in CF of >$800 million. Since many patients have had experience with ataluren, we anticipate that ataluren's launch will be rapid.

SMN2 Program for Spinal Muscular Atrophy

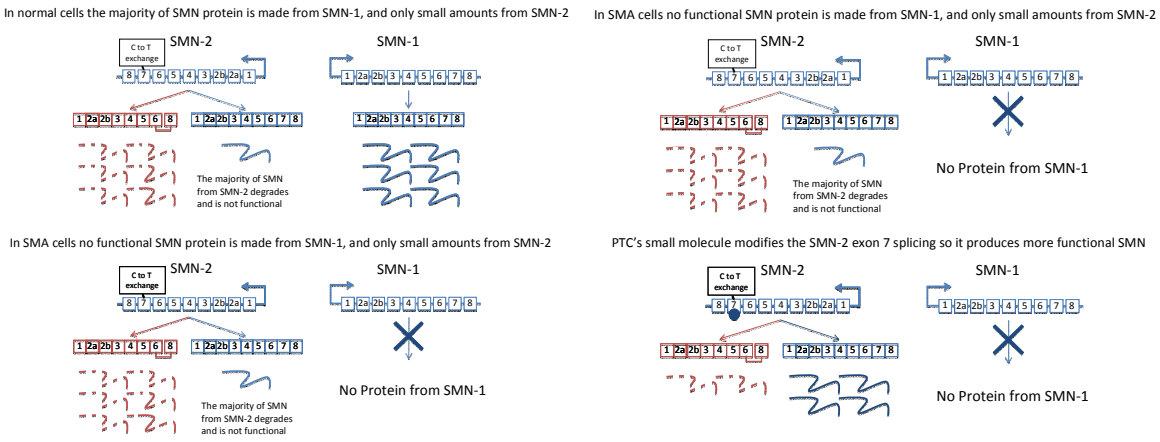
PTC's Compound for SMA Extends the Lifespan of delta7 SMA Mouse Models by 800%

PTC is developing a compound for the treatment of Spinal Muscular Atrophy (SMA). PTC and Roche anticipate selecting a lead development compound in H2:13. Using PTC's alterative splicing technology, the company identified several small molecule candidates that increase the levels of SMN protein produced by the SMN2 gene. Their oral, small molecule candidate modifies splicing at very low concentrations in non-clinical studies involving cells from patients with spinal muscular atrophy. It was also shown to increase both the inclusion of exon 7 in the SMN2 mRNA and the levels of SMN protein produced by SMN2. In mouse models of SMA, with only the SMN2 gene, the candidates have been shown to penetrate the blood-brain barrier and increase full-length SMN mRNA and protein in various tissues. Additionally, treatment with these compounds resulted in a survival benefit, restoration of body weight, prevention of motor neuron loss and improved motor function in mouse models. We believe that positive clinical result in even just a few children could be sufficient for a regulatory filing in the SMA setting.

SMA Candidate Mechanism of Action: Alternative Splicing

Alternative splicing is a regulated multi-step process during gene expression that results in a single gene coding for multiple proteins (Figure 20). In alternative splicing, exons can be included or excluded from the final produced mRNA that is ultimately translated into proteins, resulting in either different proteins being produced or different regulation of the mRNA. Approximately 94% of all human genes undergo splicing and altered regulation of alternative splicing is the direct cause of many human diseases, including many forms of cancer, Riley-Day syndrome (familial dysautonomia), myotonic dystrophy and spinal muscular atrophy. PTC uses their alternative splicing technology to identify molecules that modulate mRNA splicing. PTC's candidate for SMA functions by including the normally skipped exon 7 in the SMN2 gene facilitating production of a more functional SMN protein from this gene, potentially replacing the lack of SMN caused in SMA by defects in the SMN1 gene.

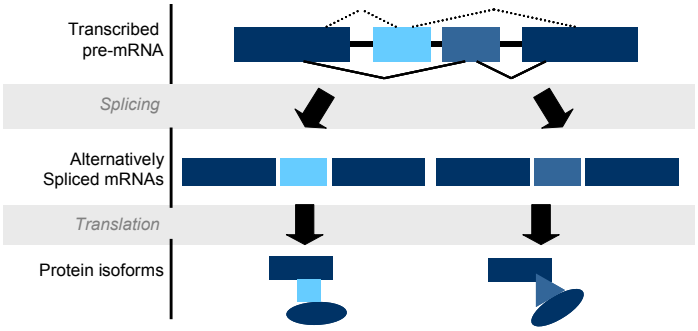
Figure 19: Modifying the splicing mechanism in the SMN-2 gene can promote translation of the SMN protein



Source: Company data, Wedbush Securities, Inc.

Directed alternative splicing is broadly believed to be applicable to RNA repair in genetic disease (Figure 21). Alternative splicing induced by therapeutics may facilitate the up- or down-regulation of desired proteins, the production of novel proteins, and the remodeling of proteins. The human genome consists of approximately ~26,000 genes which contain the genetic information required to build proteins; however, the proteome (all the proteins in the human body), consists of as many as 150,000 proteins, and the process which facilitates this ratio is known as alternative splicing. In humans, approximately ~95% of multiexonic genes are alternatively spliced. Alternative spicing occurs during RNA splicing (the modification of RNA following transcription) by which exons (protein coding regions) of RNA, produced by transcription of a gene, are reconnected in multiple ways. As a result of alternative splicing, multiple mRNA's may be translated into different protein isoforms (different isoforms or structures may have different functions) and thus a single gene may code for multiple proteins. Multiple modes of alternative splicing exist, the most common of which is exon skipping by which exons may be included in some instances and not in others.

Figure 20: Alternative Splicing In Protein Production



Source: Wedbush Securities, Inc.

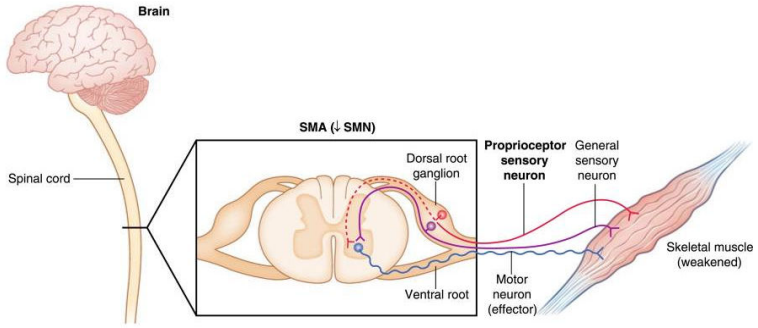
PTC developed a powerful high-throughput drug discovery platform that relies on a sensitive quantification of mRNA directly in human cells or tissue samples and enables the identification small molecule modifiers of pre-mRNA splicing. PTC's assay has led to the successful identification of oral small molecules that correct splicing of the Survival Motor Neuron 2, or SMN2, gene. Additionally, PTC's alternative splicing technology may be able to identify other small molecule drug candidates that correct alternative splicing of genes and promote inclusion of specific exons into mRNA or force exon-skipping in mature mRNA. We believe PTC's technology is potentially widely applicable to a large number of target genes in many therapeutic areas, with focus on cancers, rare disorders (including Duchenne muscular dystrophy), Riley-Day syndrome (familial dysautonomia) and myotonic dystrophy.

Spinal Muscular Atrophy

Spinal muscular atrophy (SMA) is an autosomal recessive neurodegenerative condition with a wide clinical spectrum characterized by muscle wasting and weakness. The disease generally manifests early in life. Spinal muscular atrophy is caused by defects in the Survival Motor Neuron 1 (SMN1) gene that encodes the survival motor neuron (SMN) protein. The mechanism by which SMN1 deletion/defects causes SMA remains unknown; however, two hypotheses have been proposed. The first hypothesis is that deletion of SMN1 disrupts small nuclear ribonucleoproteins that are important for motor neuron circuits. The second hypothesis is that SMN1 deletion results in deficits of mRNA transport in neurons. A homozygous deletion in the SMN1 gene mapped to chromosome 5q13 was found to cause SMA in 98.6% of patients. In approximately 67% of type 1 SMA chromosomes, the gene for neuronal apoptosis inhibitory protein was found to be deleted. Disease severity may be associated with deletion of this protein; however, the mechanism leading to increased disease severity is still not well understood.

The SMN protein is critical to the health and survival of the nerve cells in the spinal cord responsible for muscle contraction (Figure 20). When SMN is not present α-motor neurons of the anterior horn of the spinal cord are selectively destroyed, manifestations typical of SMA, including proximal muscle and trunk weakness occur. A second gene, SMN2, is very similar to SMN1, except that the former produces less effective SMN protein because, unlike SMN1, SMN2 does not include a particular nucleotide sequence known as exon 7. It is believed that by including exon 7 in SMN2 translation, SMN protein produced by the SMN2 gene may replace defective SMN in patients with SMA. There is currently no marketed therapy approved to treat the underlying cause of spinal muscular atrophy. Currently available treatments for spinal muscular atrophy are only palliative.

Figure 21: The Physiological Impact of Lower SMN from SMA



Source: Swoboda KJ. Curr Neurol Neurosci Rep. 2012 Feb;12(1):42-53

SMA Prognosis is Dependent on SMN2 and SMN

Spinal muscular atrophy is the leading genetic cause of death in infants and toddlers. The mean ages of onset for types I, II, and III SMA are about 3.1, 8.7, and 21.1 months, respectively (Figure 22). Among SMA type 1 children, 45% survive to 1 year of age, 38% to year 2 and 29% to year three. Type I infants with symptom onset after 2 months of age have significantly increased survival compared to those with earlier onset, reinforcing the prognostic value of age at onset of symptoms, which has been consistently demonstrated across and within subtypes as a significant predictor of phenotypic severity.

Figure 22: Clinical Classification Criteria for Spinal Muscular Atrophy

SMA Type	Onset	Motor Milestones	Outcome	SMN2 copies
0	Neonatal	Severe weakness and arthrogryposis	Death in first weeks	1
I	Before 6 mos.	Cannot sit	Death in first 2 years	2
II	6-18 mos.	Cannot walk	Respiratory problems and scoliosis complicating survival	3
III	After 18 mos.	Eventually loses walking ability	Adult life but with respiratory problems and scoliosis	3 or 4
IV	Adult life	Usually can walk	No major complications	4

Source: Wedbush Securities, Inc.

In SMA, the observation that SMN2 mRNA level remains the most potent modifier of phenotype, with an inverse relationship between SMN2 mRNA and disease severity has been critical in driving therapeutic development. Nevertheless, phenotype correlation with SMN2 levels remains insufficient for use in clinical practice for prognosis, a point worth emphasizing given the increasingly widespread application of this assay to newly diagnosed patients. Current molecular techniques used to determine SMN2 mRNA levels typically do not detect intact copies, but rather target exon 7 only, providing potentially incomplete genotypic data. Although one must be cautious about using SMN2 dosage for prognosis, the identification of two SMN2 copies in a child with early infantile onset, particularly if respiratory muscle weakness is already apparent, is helpful to predict SMA type 0.

Current Treatment of SMA

There is no known cure for SMA, current treatment is symptomatic and focuses on nutritional, respiratory, cardiac and muscle skeletal-directed therapy. We highlight the diagnostic process for patients suspected to have SMA (Figure 23).

Figure 23: Diagnosis of SMA

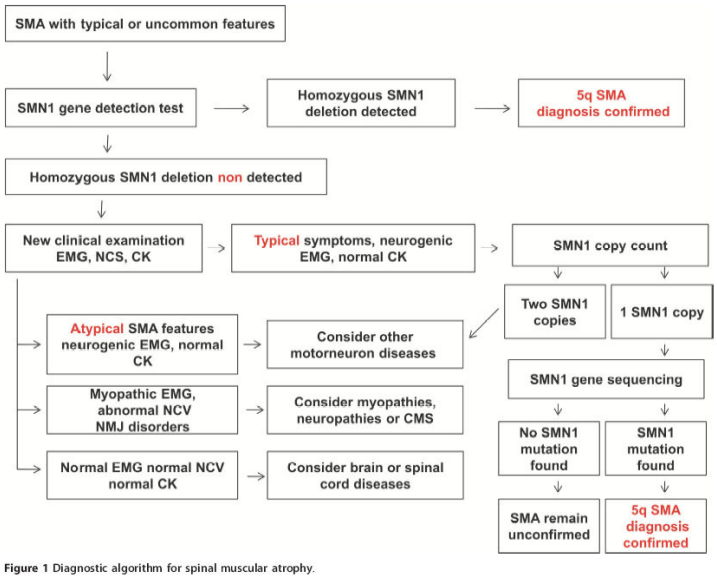


Figure 1 Diagnostic algorithm for spinal muscular atrophy.

Source: Bertini E. Orphanet J Rare Dis. 2011 Nov 2;6:71. doi: 10.1186/1750-1172-6-71.

Market Opportunity

According to the SMA Foundation, spinal muscular atrophy is the leading genetic cause of death in infants and toddlers. The SMA Foundation estimates that spinal muscular atrophy affects approximately 10,000 to 25,000 children and adults in the United States and that between one in 6,000 and one in 10,000 children are born with the disease. The α-motor neurons of the anterior horn of the spinal cord are selectively destroyed, which leads to manifestations typical of SMA, including proximal muscle and trunk weakness. In SMA 0, the most the most severe form manifests in the first months of life, usually with a quick and unexpected onset ("floppy baby syndrome"). Rapid motor neuron death results in inefficiency of organs - especially of the respiratory system. Pneumonia-induced respiratory failure is the most frequent cause of death. 60% of births are type I or 0 SMA. Babies diagnosed with SMA type 0 do not generally live past two years of age with death occurring as early as within weeks in the most severe cases. We believe that the opportunity in SMA for PTC is substantial even with low-double digit royalties from their partner Roche. We believe that their SMA candidate could be approved in 2016 and see peak US sales of $3.5 billion owing to the deadliness of the disease in children. We conservatively estimate these royalties to be worth $350,000 million to PTC annually with no expenses associated with them beyond low single-digit royalties to the SMA foundation for their initial financial support.

SMA Competitive Landscape

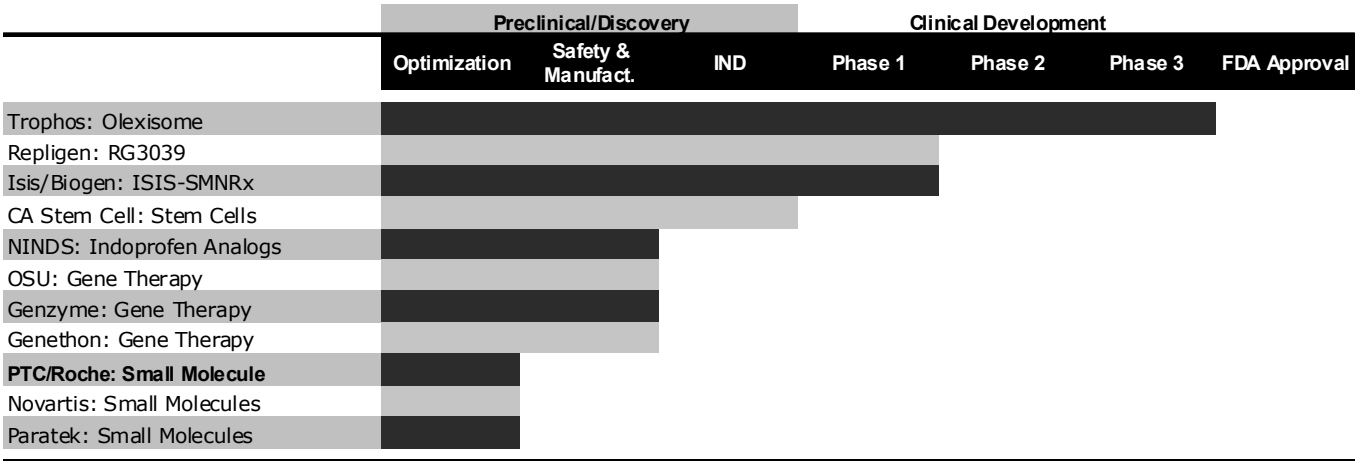
There are no approved treatments for the underlying cause of spinal muscular atrophy with currently available therapies for spinal muscular atrophy are only palliative. A substantial amount of research is focusing on new therapeutic possibilities in SMA. These efforts primarily fall under two main strategies: SMN dependent approaches focus on attempts to address the genetic defect via SMN2 stimulation by drugs or via SMN1 replacement by gene therapy. SMN independent approaches aims to provide motor neuron protection and improve skeletal muscle function. It is likely, similar to other genetic disorders that one therapeutic solution alone will not be sufficient and combined therapeutic strategies may be considered.

There are several SMA treatments in development, three of which are in the clinic, including Trophos' olesoxime, mitochondrial pore modulator in Phase 3 trials, Repligen's RG3039, a DcpS inhibitor in Phase I trials, an ISIS Pharma's/Biogen Idec's SMNRX an antisense therapy. Therapies in development for SMA are summarized in Figure 24.

Figure 24: SMA Therapies in Development

Mechanism	Developer	Drug type (name)	Phase
SMN splicing	Isis Pharmaceuticals & Biogen Idec	Antisense oligonucleotide (ISIS-SMNRx)	1b/2a and 2
	Roche & PTC Therapeutics	Small molecule	Preclinical
	Novartis	Small molecule	Preclinical
	Paratek Pharmaceuticals	Small molecule	Preclinical
SMN translation	Repligen	Small molecule (RG3039)	1b
SMN stabilization	NINDS	Small molecule (ALB-111)	Preclinical
SMN gene therapy	Genzyme	Viral vector	Preclinical
	Généthon & INSERM	Viral vector	Preclinical
	Nationwide Children's Hospital	Viral vector	Preclinical
Neuroprotection	Trophos	Small molecule (olesoxime)	3

*Olesoxime, a mitochondrial pore modulator, is designed to protect neurons but does not affect SMN levels.



Source: Company data, Wedbush Securities, Inc.

Intellectual Property, Partnerships and Agreements

PTC owns or exclusively licenses a total of 55 U.S. patents and 73 U.S. patent applications as well as numerous foreign counterparts to many of these patents and patent applications.

The company holds 13 issued U.S. patents relating to ataluren including composition of matter, methods of use, formulation and methods of manufacture and multiple pending patent applications relating to composition of matter, methods of use, formulation, dosing and methods of manufacture. Ataluren's U.S. patents relating to composition of matter and method of use expire in 2024 and 2027 respectively. PTC also owns two issued EU patents relating to dosing and methods of manufacture of ataluren, and multiple pending European patent applications relating to composition of matter, methods of use, formulation, dosing and methods of manufacture of ataluren and scheduled to expire in 2026 and 2027 respectively. Additionally, any European patent that issues from the pending European patent application relating to composition of matter would currently be expected to expire in 2024. All of these patent rights are also the subject of pending counterpart patent applications in a number of other jurisdictions, including Europe and Japan. The anticipated expiration dates do not include any potential patent term extension, patent term adjustment or other market exclusivity.

Roche and the SMA Foundation Partnership

In November 2011, PTCT entered into a license and collaboration agreement with Roche and the SMA Foundation to develop and commercialize compounds for SMA. PTCT received $30M in upfront payments from Roche, additionally PTCT is eligible to receive up to $135M in payments based on development and regulatory milestones and up to $325M in payments if sales milestones are reached as well as single-digit to mid-teen royalties on worldwide net sales. During the research phase of the collaboration Roche provides funding for an undisclosed number of FTE's for a minimum of 2-years. Roche is responsible for worldwide clinical development and commercialization of the compounds. Additionally, under a SMA Foundation research agreement PTCT received $13.3M in sponsored research funding and may be obliged to pay single-digit royalties on worldwide sales of their SMA product.

Management

Stuart W. Peltz, Ph.D. - Chief Executive Officer

Dr. Stuart Peltz has served as the Chief Executive Officer and a member of the board of directors since he co-founded PTC in 1998. Dr. Peltz has published over 80 articles on post-transcriptional control processes and has been recognized by the scientific community, receiving awards such as a Fellow of the American Academy for the Advancement of Science. Prior to founding PTC, Dr. Peltz was a professor in the Department of Molecular Genetics & Microbiology at the Robert Wood Johnson Medical School, Rutgers University. He also serves as Director of BioNJ and Emerging Companies Section Governing Board at Biotechnology Industry Organization (BIO). He received his Ph.D. from the McArdle Laboratory for Cancer Research at the University of Wisconsin.

Cláudia Hirawat – President

Cláudia Hirawat has served as the President of PTC Therapeutics since April 2012, and has been with the company since September 2000. She most recently served as Senior VP, corporate development from 2006-2012. Before joining PTC, Ms. Hirawat was a Vice President at the biopharmaceutical-focused management consulting firm LedbetterStevens.

Shane Kovacs, MBA, CFA - Chief Financial Officer

Shane Kovacs joined PTC in June 2013, as the Chief Financial Officer. He most recently served as Managing Director, Health Care Investment Banking at Credit Suisse, where he advised life science companies on transactions ranging from equity and debt financing to mergers and acquisitions. Prior to Credit Suisse, he worked in investment banking at National Bank Financial in Toronto. Mr. Kovacs received his MBA from the University of Western Ontario and a Bachelors of Engineering in Chemical Engineering and a BS in Life Sciences from Queen's University.

Mark Rothera, MBA - Chief Commercial Officer

Mark Rothera has served as Chief Commercial Officer of PTC Therapeutics since April 2013. Most recently, Mr. Rothera served as Global President of Aegerion Pharmaceuticals Inc. from April 2012 to January 2013. Prior to that, from January 2006 to March 2012, he served at Shire Human Genetic Therapies as Vice President and General Manager for the commercial operations and operational marketing and sales roles at Glaxo Wellcome's French and UK operations. Mr. Rothera received his MA in Natural Science from Cambridge University and an MBA from the European Institute for Business Administration.

Mark E. Boulding - Executive Vice President and Chief Legal Officer

Mark Boulding has served as Executive Vice President and Chief Legal Officer of PTC since March 2012. He has been at the company since April 2002 when he became Senior Vice President and General Counsel. Prior to PTC, he served as General Counsel, Executive Vice President and Secretary at Medscape Inc., a health care information and records software company, and then at MedicaLogic/Medscape, Inc. when it acquired Medscape Inc. Mr. Boulding also spent time as a partner in two Washington D.C.-based law firms. He received a JD from University of Michigan and a BA from Yale.

Robert Speigel, MD, FACP - Chief Medical Officer

Dr. Robert Speigel has served as Chief Medical Officer since March 2011. Prior to PTC, he gained over 25 years of experience in clinical operations at Schering-Plough, where he served as Chief Medical Officer. During that time, he filed over 30 NDA submissions, regularly interacted with US and worldwide regulatory authorities, and served on Schering-Plough's executive committees overseeing all research projects and drug licensing activities. Joining Schering-Plough in 1983, he started as Director, Clinical Research, and progressed to Vice President of Clinical Research, Senior Vice President of Worldwide Clinical Research and ultimately Chief Medical Officer in 1998. He continues to serve on the Board of Directors and Scientific Advisory Committees of a number of companies and serves as an Advisor at Warburg Pincus. Dr. Speigel received his undergraduate degree, cum laude, from Yale University and his MD from University of Pennsylvania.

Jay Barth, MD - Vice President of Clinical Development

Dr. Jay Barth has been with PTC since 2009 and served as Vice President of Clinical Development since January 2011. Prior to PTC, he was Executive Director of Clinical Research at Merck and prior to that he was Vice President, Clinical Research and Medical Affairs at Altana Pharma US, Inc. Dr. Barth received his BA from Columbia University and his MD from University of Pennsylvania.

Financial Model

WEDBUSH
PACGROW LIFE SCIENCES

Christopher N. Marai Ph.D.

7/16/2013

PTC Therapeutics, Inc.

Annual Financial Results & Projections
($ in thousands except per share data)
Ticker: PTCT (Nasdaq)

	FY:12A	Q1:13	Q2:13	Q3:13	Q4:13	FY:13E	FY:14E	FY:15E	FY:16E	FY:17E	FY:18E	FY:19E
Revenue:												
Ataluren Sales US - DMD	0	0	0	0	0	0	0	0	49,618	216,553	313,599	335,577
Ataluren Sales EU - DMD	0	0	0	0	0	0	0	0	35,543	185,637	310,494	345,451
Ataluren Sales ROW - DMD	0	0	0	0	0	0	0	0	715	10,692	47,266	93,713
Ataluren Sales US - CF	0	0	0	0	0	0	0	0	0	94,984	267,911	344,683
Ataluren Sales EU - CF	0	0	0	0	0	0	0	0	0	37,354	185,142	367,238
Ataluren Sales ROW - CF	0	0	0	0	0	0	0	0	0	0	1,010	12,187
Grant and other revenues	5,167	1,070	1,100	1,100	1,100	4,370	5,600	4,000	0	0	0	0
Collaboration revenue	28,779	6,072	5,000	5,000	5,000	21,072	20,500	18,000	1,000	1,000	1,000	1,000
Total Revenues	**$33,946**	**$7,142**	**$6,100**	**$6,100**	**$6,100**	**$25,442**	**$26,100**	**$22,000**	**$86,876**	**$546,221**	**$1,126,423**	**$1,499,849**
Cost and Expenses:												
Costs of goods sold	0	0	0	0	0	0	0	0	8,588	54,522	112,542	149,885
Research and Development	46,139	11,257	11,500	12,000	12,000	46,757	51,000	57,000	62,305	66,497	67,837	69,204
Sales, General and Administrative	14,615	4,461	6,500	6,000	6,500	23,461	30,000	31,500	43,000	52,000	53,313	55,478
Other	0	0	0	0	0	0	0	0	0	0	0	0
Total Costs and Expenses	**$60,754**	**$15,718**	**$18,000**	**$18,000**	**$18,500**	**$70,218**	**$81,000**	**$88,500**	**$113,893**	**$173,019**	**$233,692**	**$274,566**
Operating Income (loss)	(26,808)	(8,576)	(11,900)	(11,900)	(12,400)	(44,776)	(54,900)	(66,500)	(27,017)	373,202	892,731	1,225,283
Net Interest Income (Expense)	(1,210)	(6,162)	151	516	479	(5,016)	1,499	1,075	1,760	3,009	8,935	18,346
Other income / (Expense)	1,783	53	0	0	0	53	0	0	0	0	0	0
Income Before Income Taxes	(26,235)	(14,685)	(11,749)	(11,384)	(11,921)	(49,739)	(53,401)	(65,425)	(25,256)	376,211	901,665	1,243,629
Net Income	**$133,341**	**($14,685)**	**($11,749)**	**($11,384)**	**($11,921)**	**($49,739)**	**($53,401)**	**($65,425)**	**($25,256)**	**$350,598**	**$707,425**	**$932,721**
GAAP Net Income	**$133,341**	**($29,543)**	**($11,749)**	**($11,384)**	**($11,921)**	**($64,597)**	**($53,401)**	**($65,425)**	**($25,256)**	**$340,598**	**$697,425**	**$922,721**
GAAP Basic EPS with sFAS123	**220**	**(0.91)**	**(0.68)**	**(0.42)**	**(0.44)**	**(2.51)**	**(2.13)**	**(2.50)**	**(0.93)**	**12.83**	**25.80**	**33.89**
GAAP Diluted EPS with sFAS123	**42.50**	**(0.91)**	**(0.68)**	**(0.42)**	**(0.44)**	**(2.28)**	**(1.97)**	**(2.32)**	**(0.86)**	**11.95**	**24.03**	**31.57**
Weighted shares outstanding	3	14,180	15,290	24,934	24,959	19,841	24,984	26,121	27,221	27,321	27,421	27,521
Fully diluted shares outstanding	17	16,100	17,220	26,954	26,979	21,813	27,041	28,141	29,241	29,341	29,441	29,541
Cash Burn		(14,685)	(11,749)	(11,384)	(11,921)	(49,739)	(53,401)	(65,425)	(25,256)	-	-	-
Cash Balance	2,726	50,247	172,100	159,716	146,795	146,795	91,969	110,464	170,140	504,863	1,197,502	2,122,935

Source:Wedbush Securities and PacGrow Life Sciences

Covered Companies Mentioned

Covered public companies mentioned in this report (Intraday 06/28/13):

Company	Ticker	Price	Rating	Fair Value/PT
Sarepta Therapeutics Inc	SRPT	$ 44.52	OUTPERFORM	$ 60

Analyst Biography

Chris Marai is an Analyst covering the Biotechnology/Biopharmaceuticals/BioDefense sector. Prior to Wedbush PacGrow Life Sciences, Dr. Marai was at Morgan Stanley where he specialized in quantitative modeling; he has also consulted for structure-based drug design companies and biotechnology startups.
Dr. Marai holds a B.S. in Chemistry from Trinity College, University of Toronto and a Ph.D. in Biochemistry and Structural Biology from Stony Brook University, New York.
Christopher's Edge: Dr. Marai has a strong quantitative background and has covered a wide range of disease areas including gastrointestinal, CNS, oncology and rare diseases. His quantitative background has translated into an exceptional track record predicting binary events and assessing risk as a sell-side analyst.

Analyst Certification
I, Christopher N. Marai, Ph.D., Gregory R. Wade, Ph.D., David M. Nierengarten, Ph.D., certify that the views expressed in this report accurately reflect my personal opinion and that I have not and will not, directly or indirectly, receive compensation or other payments in connection with my specific recommendations or views contained in this report.

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Investment Rating System:
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Wedbush Equity Research Disclosures as of July 16, 2013

Company	Disclosure
PTC Therapeutics Sarepta Therapeutics	1,3,5,7 1,3,4,5,7

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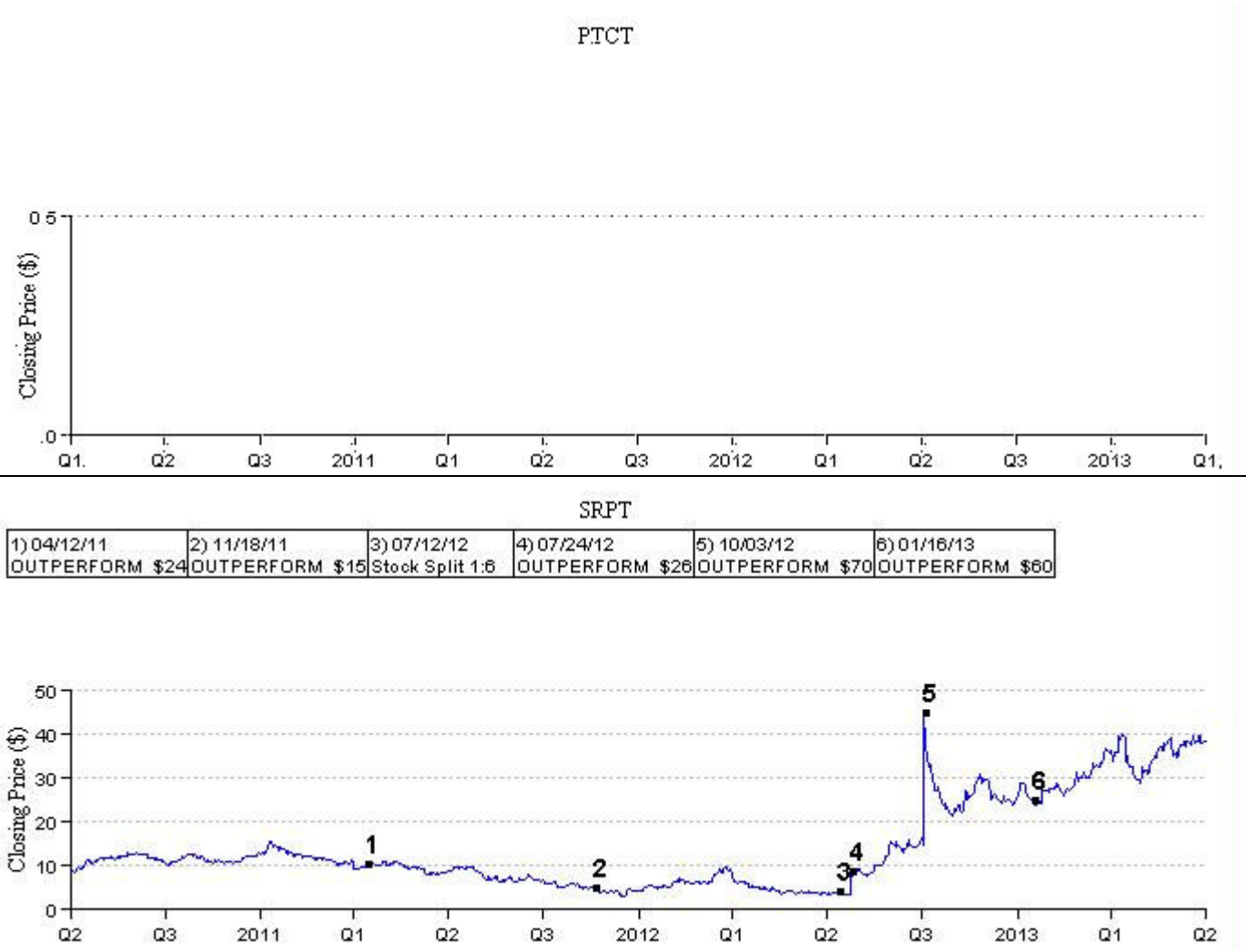

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OTHER DISCLOSURES

RESEARCH DEPT. * (213) 688-4505 * www.wedbush.com
EQUITY TRADING Los Angeles (213) 688-4470 / (800) 421-0178 * EQUITY SALES Los Angeles (800) 444-8076
CORPORATE HEADQUARTERS (213) 688-8000

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WEDBUSH

EQUITY RESEARCH DEPARTMENT

(213) 688-4529

DIRECTOR OF RESEARCH

Mark D. Benson (213) 688-4435

MANAGER, RESEARCH OPERATIONS

Ellen Kang (213) 688-4529

RETAIL AND CONSUMER

Consumer Products

Rommel T. Dionisio (212) 938-9934
Kurt M. Frederick, CFA CPA (415) 274-6822

Footwear, Apparel and Accessories

Corinna Freedman (212) 668-9876
Alicia Reese (212) 938-9927

Healthy Lifestyles

Kurt M. Frederick, CFA CPA (415) 274-6822

Restaurants

Nick Setyan (213) 688-4519
Colin Radke (213) 688-6624

Specialty Retail: Hardlines

Joan L. Storms, CFA (213) 688-4537
John Garrett, CFA (213) 688-4523

Specialty Retail: Softlines

Betty Chen (415) 273-7328
Alex Pham (415) 273-7315

RETAIL/CONSUMER MARKET RESEARCH

Gabriella Santaniello (213) 688-4557

INDUSTRIAL GROWTH TECHNOLOGY

Clean Technology

Craig Irwin (212) 938-9926
Min Xu (212) 938-9925

Environmental Services / Building Products

Al Kaschalk (213) 688-4539

Industrial Biotechnology

Liana Moussatos, Ph.D. (415) 263-6626
Christopher N. Marai, Ph.D. (415) 274-6861

Water and Renewable Energy Solutions

David Rose, CFA (213) 688-4319

TECHNOLOGY, INTERNET, MEDIA & SOCIAL MEDIA

Communications and Application Software

Shyam Patil, CFA (213) 688-8062

Communications Equipment

Rohit Chopra (212) 668-9871
Sanjit Singh (212) 938-9922
Ryan Flanagan (212) 938-9942

Computer Services: Financial Technology

Gil B. Luria (213) 688-4501
Aaron Turner (213) 688-4429

Enterprise Software

Steve Koenig (415) 274-6801

Entertainment: Retail

Michael Pachter (213) 688-4474
Nick McKay (213) 688-4343

Entertainment: Software

Michael Pachter (213) 688-4474
Nick McKay (213) 688-4343

Internet and E-Commerce

Michael Pachter (213) 688-4474
Nick McKay (213) 688-4343

Media

James Dix, CFA (213) 688-4315

Movies and Entertainment

Michael Pachter (213) 688-4474
Nick McKay (213) 688-4343

Semiconductors

Betsy Van Hees (415) 274-6869
Ryan Jue, CFA (415) 263-6669

LIFE SCIENCES

Biotechnology/Biopharmaceuticals/BioDefense

Gregory R. Wade, Ph.D. (415) 274-6863
David M. Nierengarten, Ph.D. (415) 274-6862
Christopher N. Marai, Ph.D. (415) 274-6861

Emerging Pharmaceuticals

Liana Moussatos, Ph.D. (415) 263-6626
Richard Lau (415) 274-6851
Christopher N. Marai, Ph.D. (415) 274-6861

Healthcare Services - Managed Care

Sarah James (213) 688-4503
Daniel Patt (212) 938-9937

Medical Devices

Tao Levy (212) 938-9948

Medical Diagnostics and Life Sciences Tools

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EQUITY SALES		EQUITY TRADING	
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CORPORATE HEADQUARTERS

1000 Wilshire Blvd., Los Angeles, CA 90017-2465
Tel: (213) 688-8000 www.wedbush.com