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EQUITY RESEARCH
Company Report

November 21, 2013

ADMA Biologics (ADMA - $ 8.05)

RSV Prevention and Treatment in Immune-compromised Patient

Healthcare/Biotechnology

Ticker:	**ADMA**
Rating:	**Buy**
Price Target:	**$ 15.00**

We are initiating coverage of ADMA Biologics, Inc. (ADMA) with a Buy rating and a 12-month price target of $15.00. With a modest hurdle for approval, substantial unmet need, limited competition and robust Phase II and real world use clinical data, we believe the outlook of RI-002 as an IVIG for preventing and treating RSV infection in immune-compromised patients is encouraging.

- **Respiratory syncytial virus (RSV) infection prevention in immune-compromised patients (PIDD and transplantation) is a substantial unmet medical need with very limited competition.** Despite that RSV infections only have relatively mild health impact on healthy individual; it could be detrimental in immune-compromised patients with consequences such as hospitalization or even death. There is no approved product currently available for managing this problem.

- **Lower hurdle for achieving positive Phase III study followed by potential approval; and encouraging results from prior clinical and pre-clinical studies support RI-002 efficacy.** With a well-established and clear path guided by the FDA for IVIG approval, we believe the risk is modest for positive Phase III results and subsequent approval. Supported by robust results from the Phase II study, compassionate use, and animal pre-clinical model plus if the Phase III study also demonstrates a high RSV antibody titer (part of secondary endpoints), we believe many practicing physicians could start use of RI-002 in appropriate patient populations (PIDD on label and transplantation off-label) for managing and preventing RSV infection.

- **RI-002 affords well differentiated product offering and high hurdle for potential competitors.** ADMA employs a series of trade secrets and know-how to protect RI-002 from potential competitors.

- **Plasma collection center operation affords steady revenue and fulfills strategic objectives as second value driver.** ADMA will build up to three centers to generate estimated $18MM sales annually for more steady revenue. ADMA's self-sourced raw material plasma could reduce the company's exposure to market fluctuations in plasma supply and pricing.

- **Substantial upside remains at the current valuation.** Our $15 target price is supported by P/E, peer comparable and risk-adjusted cash flow sum-of-the-parts analyses.

Trading Data:

Last Price (11/20/2013)	$ 8.05
52–Week High (10/17/2013)	$ 8.91
52–Week Low (10/17/2013)	$ 7.00
Market Cap. (MM)	$ 74
Shares Out. (MM)	9

Earnings Estimates: (per share)

(Dec)	1Q	2Q	3Q	4Q	FY	P/E
FY-14E	-0.35	-0.32	-0.31	-0.27	-0.91	NM
FY-13E	-0.55A	-0.83A	-0.46A	-0.37	-2.12	NM
FY-12A	-0.18	-0.20	-0.70	-0.68	-1.76	NM
FY-11A	-4.50	-6.79	-2.79	-2.64	-16.72	NM

Source: Laidlaw & Company estimates

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Investment thesis

Our $15.00 price target is based on a blended measurement of NPV driven sum-of-the-parts, P/E and comparable analyses

- **We are initiating coverage of ADMA Biologics, Inc. (ADMA) with a Buy rating and a 12-month price target of $15.00.** ADMA Biologics is an advanced clinical stage biopharmaceutical company focusing on the development of plasma based biologics as a potential treatment and prophylactics for respiratory syncytial virus, (RSV) infection in patients suffering from primary immune deficiency disease (PIDD) and also affords benefit for RSV infection management in patients undergoing stem cell and solid organ transplantation.

RSV infection could be very detrimental in both the more severe PIDD and transplantation patients

- **Preventing RSV infection in immune-compromised patients (PIDD and transplantation) represents a substantial unmet medical need with very limited competition.** Despite RSV infection only have relatively mild health impact on healthy individual; it could be very detrimental in immune-compromised patients. In both the more severe PIDD patient and patients who undergo certain types of solid organ transplantation (such as lung), hematopoietic stem cell transplant (HSTC) and bone marrow transplant (BMT), RSV infection could lead to hospitalization and potential even worse consequences, including death. There are no potentially cost-effective and approved products currently in the market to prevent RSV infection in these patient populations. As such, we view fulfilling the unmet medical need as a materially significant opportunity on a backdrop of very limited competition.

Approval hurdle is modest while prior robust clinical and pre-clinical data are very encouraging

- **Well established and clear path for a potentially successful Phase III study and subsequent approval is supported by encouraging results from Phase II study, compassionate use, and animal pre-clinical model.** We believe the combined results from 1) RI-002 Phase II study, 2) a real world compassionate use and 3) pre-clinical study are very encouraging, and together bode well for the conclusion that RI-002 possesses robust anti-RSV activities. As for the outlook of the RI-002 approval, given the ongoing pivotal Phase III study design is based on a well-established IVIG clinical development guidance issued by the FDA, and the fact that multiple IVIG products have been successfully developed; we view the hurdle for achieving a positive Phase III study outcome leading to a potential approval is relatively modest. Should the Phase III study also demonstrate a high RSV antibody titer (part of secondary endpoints), similar to the reports from earlier Phase II and compassionate use studies, we believe many practicing physicians could start use of RI-002 in appropriate patient populations (mainly in PIDD on label and transplantation patients off-label) for managing and preventing RSV infection. As the company could potentially start Phase IV studies after the product was approved, we believe the added clinical data in the future could further strengthen the traction for physicians to expand the use of RI-002 going forward. In our opinion, such a scenario is not farfetched since in current medical practice, nearly one-third and up to half of the IVIG uses

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are off-label while most prescriptions have been reimbursed by CMS and other payers.

RI-002 could be a differentiated product with know-how and trade secrets as major protections against potential competitors

- **RI-002 affords well differentiated product offering and high hurdle for potential competitors.** Although regular IVIG generally have been considered as commodity, a hyperimmune globulin, such as RI-002 could still enjoy a premium price as it provides substantial added clinical benefits to patient. In addition, RI-002 possesses several unique aspects that could elevate entry barriers for potential competitors. Several key features include 1) unique and exclusive plasma donor selection criteria; 2) exclusive methodology and know-how for formulation of donor plasma pool; and 3) validated micro-neutralization assay for anti-RSV antibody detection in human plasma and final product – all protected by trade secrets and know-how which include unique and exclusive reagents, controls, reference standards and methods used in the assay process. The company also indicated that they are aggressively seeking additional protection of its proprietary technologies. In addition, given the extensive experience of the management team in marketing and selling plasma products, we believe the company could have an advantage in RI-002 commercialization.

Fully operated plasma collection center could generate estimated $18 MM steady revenue annually and this operation also fulfills strategic objectives.

- **Plasma collection center operation affords steady revenue and fulfills strategic objectives.** In addition to RI-002 development, the company also has a second value driver of operating plasma collection centers. The company currently has one and expects to build up two more plasma collection centers over the next 12 months with combined revenue of estimated $18MM once operated near full capacity. The business could provide steady cash flow with a net margin of approximately 10%. In addition to cash inflow, plasma collection center could provide self-sourced raw material plasma for R&D, clinical trials and commercial product manufacturing. In addition, self-supplied plasma could reduce the company's exposure to market fluctuations in plasma supply and pricing. In all, plasma collection business could help hedge the higher product development risk and potentially afford a floor value for ADMA shares.

- **Substantial upside remains at the current valuation.** Based on the on track advancement of the RI-002 Phase III development, relatively lower bar for potential approval as a novel IVIG product, and encouraging Phase II and compassionate use results in reducing negative consequence of RSV infection, we are bullish on the commercial outlook of RI-002. With a rapidly expansion of plasma collection operation expected as a potential floor value for ADMA shares, we believe the overall risk of the stock is more balanced than other emerging biotech companies. Accordingly, our $15 price target is supported by a forward P/E, peer comparable and risk-adjusted cash flow sum-of-the-part analyses. We are recommending ADMA shares to long-term oriented investors with high risk tolerance.

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Company Description

ADMA Biologics is an advanced clinical stage biopharmaceutical company focusing on the development of plasma based biologics as a potential treatment for respiratory syncytial virus, (RSV) infection in patients suffering from primary immune deficiency disease (PIDD) and also affords benefit for RSV infection management in patients undergoing stem cell and solid organ transplantation.

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Anticipated milestones in 2013 and beyond

Program	Indication	Event	Timing	Importance
RI-002	RSV infection prevention in PIDD	Potential report top-line Phase III trial results	**4Q14**	*****
		Potential BLA filing	**1H15**	*****
		Potential U.S. approval	**4Q15 / 1Q16**	*****
		Potential U.S. product launch	**1H16**	*****
VZIG (Varitect)	Vicella Zoster virus infection	Potential commence Phase II/III study	**1H14**	***
		Potential report top-line Phase II/III trial results	**2H14 / 2015**	****
BioCenters		Start 2nd center build-out & FDA review process	**1H14**	****
		Start 3rd center build-out & FDA review process	**2H14**	****
		FDA approval of 2nd BioCenter	**2015**	****
		FDA approval of 3rd BioCenter	**2015**	****

***** / ***** Major catalyst event that could impact share price very significantly while *** event is more informative*

Source: Laidlaw & Company and company presentation

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Success of RI-002 is the Key Value Driver

RI-002 is a unique intravenous immunoglobulin (IVIG) product with enriched high-level neutralizing antibodies against respiratory syncytial virus (RSV)

The core investment thesis of ADMA shares is that investors could be rewarded by the encouraging RI-002 outlook. This assumption is based on 1) a successful Phase III study followed by potential approval within the next 12 to 24 months, and 2) significant commercial adoption by the medical community for the treatment and prevention of infections in primary immune deficiency disease (PIDD) patients as well as potential off-label use in patients undergoing various types of transplantations including solid organ and hematopoietic stem cell transplant (HSCT). Overall, from a clinical perspective, we view the hurdle for approval for an intravenous immune globulin (IVIG), such as RI-002 as rather modest. From the commercial prospective, we believe the unmet need for the prevention and potential treatment of RSV infection in vulnerable and highly immune compromised patient populations, such as subsets of PIDD population (i.e. SCIDS) and those undergoing transplantation, is significant given currently there are no approved and effective products to address this medical problem.

What is RI-002?

RI-002 is an intravenous immune globulin (IVIG) with high titer of anti-RSV antibodies.

RI-002 belongs to a drug class, called intravenous immune globulin (IVIG). IVIG is a sterilized solution derived from pooled human blood, in which contains great varieties of naturally occurring polyclonal antibodies (immunoglobulin) in order to protect individual against different bacterial, fungal and viral infections. The current approved IVIG products are used in several circumstances for boosting immunity, such as replacement therapy for patients with antibody-deficiency disease, adjunct therapy in patients with poor antibody-producing capabilities, prophylaxis against certain types of infections, and several autoimmune disorders, including idiopathic thrombocytopenic purpura (ITP) and Kawasaki disease. Typical IVIG is comprised of a broad spectrum of antibodies to provide general immunity enhancement. By comparison, RI-002, which can be further sub-categorized as hyperimmune globulin, has an added immunity against specific pathogen (in this case, RSV) in addition to general immunity enhancement provided from its regular IVIG components.

RI-002 is produced via typical IVIG production process from human plasma enriched with high levels of naturally occurring polyclonal antibodies, such as *Streptococcus pneumoniae*, *H. influenza* type B, CMV, measles, tetanus, etc. The additional manufacture process for RI-002 is to identify and use human plasma containing high levels of RSV-targeted antibodies via a proprietary micro-neutralization assay. With the added potential clinical benefit, hyperimmune globulin product in general can be priced at a premium compared to other more "generic" IVIG. As an example and based on information from a plasma product distributor, FFF Enterprise, the prices of IVIG range from $60 to $90 per gram, while a hyperimmune globulin (Cytogam as prophylaxis of

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cytomegalovirus disease associated with transplantation of kidney, lung, liver, pancreas and heart) product could cost $400+ per gram.

RI-002 clinical development path

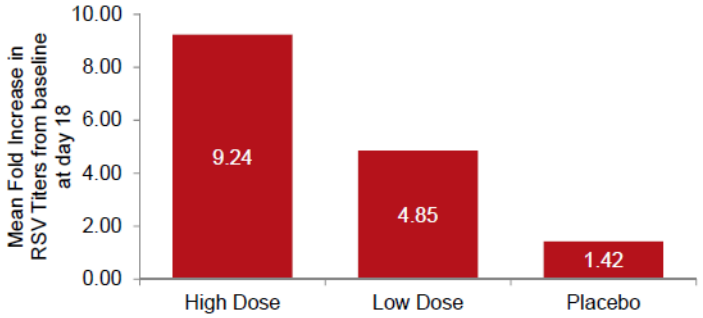
Earlier Phase II study demonstrated that RI-002 could generate 9.2x and 4.9x increase of anti-RSV from baseline. RI-002 was well tolerated and no serious drug-or infusion-related adverse events reported

The company commenced a Phase II dose finding study evaluating RI-001 (an earlier version of the current RI-002) in immune-compromised patients. It was a randomized, double blinded, placebo-controlled and 21-patient study. Primary endpoint is to define the dose which produced a > 4 fold rise in neutralizing titer at day 18 compared to baseline. All patients have undergone either bone marrow transplant (BMT) / HSCT or solid organ transplantation within two year prior to randomization and were on concurrent immunosuppressive therapy. Patients were randomized 1:1:1 in high dose (at 1,500 mg/kg on day 1, followed by 750 mg/kg on two days later), low dose (at 750 mg/kg on day 1 and day 3) or placebo.

The results from the Phase II study and a real world compassionate use analysis were presented at the 2013 RSV Vaccines for the World Conference (RSVVW) in October 2013.

The study met its primary endpoint and mean fold of anti-RSV titer increases from baseline was 9.2x and 4.9x of high and low dose treatment, respectively (Figure 1). Further, 86% in high dose group and 43% in the low dose group achieved > 4 fold rise in neutralizing titer. From the safety side, RI-002 was well tolerated and no serious drug- or infusion-related adverse events reported during the trial.

Figure 1 Encouraging RI-001 Phase II study results



95% Confidence interval	4.07-21.02	2.22-10.59	0.64-3.17
P-value (relative to placebo)	0.0043	0.0268	NA
% of patients experiencing ≥4-fold increase in RSV titers	**85.7%**	**42.9%**	**0.0%**

Source: Company presentation

Prior compassionate use outcome is very encouraging with improved survival and it is more likely to be a real world experience

The company also provided RI-001 for compassionate use from unsolicited requests from April 2009 to February 2012 in 15 patients who were unresponsive to other therapies with high probability of mortality. All these patients were immune-suppressive (all in ICU care) and have been diagnosed with RSV associated lower respiratory tract infection (RSV LRI) for one day to four weeks. The treatments received include Ribavirin (a standard treatment for RSV infection) or standard IVIG. Three children also have received Synagis (palivizumab), which is a monoclonal antibody indicated for the prevention of

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RSV infection in infants. The treatment protocol was identical to the high dose regimen of the prior Phase II study.

The outcome from this compassionate use study was very encouraging as 73% (11/15) survived RSV infection while four died. In this analysis, pre and post infusion serum samples obtained from 12 patients. Further, samples obtained and tested showed that all patients had > 4 fold rise in RSV antibody titers from baseline after RI-001 administration (day 8-18) (Figure2). On the safety side, RI-001 was well-tolerated in all 15 patients and without any reports of serious adverse events attributable to RI-001. Given the high mortality (in the 70% range) rate of these patients, the robust survival outcome is highly encouraging. Given this study illustrating a real world use of RI-001, we believe this positive outcome bodes well for the future commercial outlook in managing RSV infection in different immune compromised patient populations despite the sample size is relatively small.

Figure 2 All patients not received Synagis showed >4 fold rise in neutralizing titer vs. baseline

	2	3	4	5	6	7	8	9	12	15
Day 8	4	76	16	11	32	12		11	11	8
Day 18	8	19	4	4	16	8	6	11	3	16

Source: Falsey, A.R., et. al. presentation at 2013 RSVVW (October 2013)

In addition, the compassionate use study suggested that receiving treatment earlier could result in more favorable outcome (Figure 3). For instance, the mean days between the last RSV drug treatment and the administration of RSV IVIG (RI-001) was 8.3 days and 20 days for patients who survived and died, respectively. Further, majority of expired patients (75% or 3/4) and only 10% of surviving patient received RSV IVIG greater than three weeks after the RSV therapy. Both measures exhibited statistical significance. It is also noted that 50% (2/4) of patients died suffering from respiratory failure; while none occurred in surviving patients. In addition, for patients who did not receive Synagis earlier all have generated > 4 fold rise in RSV neutralizing titer (day 8 – 18).

To use RI-002 early after RSV infection identified could have greater clinical benefit as judged by the compassionate use experience

Figure 3 Survival results from the compassionate use study

	Survival #	Death #	P value
Mean days from RSV Tx to RSV IVIG	8.3 ± 8.4	19.8 ± 9.5	0.05
# of days > 21 from RSV Tx to RSV IVIG	1/10 (10%)	3/4 (75%)	0.04
Respiratory failure	0/11	2/4 (50%)	0.06

Source: Falsey, A.R., et. al. presentation at 2013 RSVVW (October 2013)

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Clinical hurdle for pivotal trial is modest as the FDA guidance provides a clear path for approval with many successful prior cases.

Next Step. The company is conducting a Phase III registration trial evaluating RI-002 in primary immune deficiency disease (PIDD). It is a multicenter, open-label and 60-patient study. Patients will be administrated a dose between 300 mg/kg to 800 mg/kg according to their current IVIG dose. Each patient will be dosed every 21 or 28 days based on patient's requirement for a total of one year (Figure 4). The study design is based on "Guidance for Industry: Safety, Efficacy and Pharmacokinetic Studies to Support Marketing of Immune Globulin Intravenous (Human) as a Replacement Therapy for Primary Humoral Immunodeficiency" issued by the FDA's CBER in June 2008. The primary endpoint is to achieve serious infection rate per person year of less than one. Secondary endpoints include:

- Safety, which include incidence of all infections (serious & non-serious), lost days of work or school, any hospitalizations, ER visits, antibiotic use; and
- PK profile of total IgG and specific antibody level testing for H. flu type B, CMV, measles, tetanus and RSV

Figure 4 Study design of pivotal RI-002 Phase III trial

Patient Population	▪ Primary Immune Deficiency Disease (PIDD)
Primary Endpoint	▪ *Serious infection rate per person-year of < 1
Secondary Endpoints	▪ Safety, incidence of all infections (serious & non-serious), lost days of work or school, any hospitalizations, ER visits, antibiotic use etc. ▪ PK profile of total IgG and specific antibody level testing for H. flu type B, CMV, measles, tetanus and RSV
# of Patients	▪ ~60 (>50% of patients enrolled)
# of Sites	▪ Approximately 10 sites in the US
Treatment Duration	▪ 12 months
Patient Follow-up	▪ 30 days beyond final dose for adverse events ▪ 90 days beyond final dose for viral testing
Dosing	▪ 300 mg/kg to 800 mg/kg, based on current IGIV dose ▪ 21 or 28 day dosing based on patients requirements

*A serious infection is defined by FDA to be: bacteremia / sepsis, bacterial meningitis, osteomyelitis / septic arthritis, bacterial pneumonia and visceral abscess.

Source: Company presentation

Potential product label will not include clinical information regarding the reduction or treatment of RSV infection given the Phase III trial lacks relevant clinical endpoints.

Given the trial design and primary endpoint is mainly based on the requirement for the approval of a typical IVIG, we anticipate RI-002 could be potentially approved as an IVIG. The secondary endpoint of the study could provide information regarding the antibody titer against RSV, which we believe should be significantly higher than general IVIG. We do not expect the potential product label includes clinical information regarding the reduction or treatment of RSV infection given the Phase III trial lacks relevant clinical endpoints. That said, we believe the hurdle of approval for RI-002 in PIDD is relatively modest since multiple IVIGs have been approved based on the FDA guidance. Assuming with high titer of anti-RSV antibodies, we believe practicing physicians recognize the added clinical value for preventing RSV infection

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during RSV season (from November to next March) by RI-002 vs. regular IVIG in more vulnerable PIDD patients.

The company recently reported that patient recruitment has completed and we estimate top-line results could be available in 4Q14 with possible BLA filing in early 2015 and possible approval in late 2015 or early 2016.

Pre-clinical animal protection model study illustrated effectiveness of RI-002

The company conducted a pre-clinical study evaluating anti-RSV enriched IVIG (ADMA) in a cotton rat protection model to determine the efficacy of the product. In this study, 25 male cotton rats were divided into five groups with intraperitioneal infusion in day one of ADMA of 500 mg/kg, 750 mg/kg and 1000 mg/kg plus a reference RSV IVIG of 750 mg/kg and saline as control. All rats were challenged with RSV at $3.0X10^7$ pfu/ml in day 2 followed by scarifying all animal in day 5 to examine the viral titers on the nose and lung and RSV neutralizing antibodies in serum.

The results demonstrated that all doses of ADMA have eliminated RSV (0/5) in the lung while the reference RSV IVIG was slightly less effective (1/5). For the nasal RSV titer detection, ADMA also were more effective than the reference RSV IVIG with the 750 mg/kg and 1000 mg/kg doses eliminated viral titer completely. The increases of RSV neutralizing antibodies in day one were substantially greater for the ADMA 750 mg/kg and 1000 mg/kg groups in comparison to the ADMA 500 mg/kg group and the reference RSV IVIG.

Together, we believe the results illustrated that ADMA IVIG (RI-002) is very effective in eliminating RSV in animal model. We believe this outcome is consistent with the potential effectiveness of ADMA IVIG illustrated in the ensuring clinical studies. Given the reference RSV IVIG could have been used commercially before, we believe this could bode well for the future commercial use of the product if it received approval by the FDA.

Respiratory syncytial virus (RSV) infection

Respiratory syncytial virus (RSV) is an enveloped, non-segmented, single stranded RNA virus and was discovered in 1956. For healthy adults and children, RSV is not a major concern as it ordinarily leads to only mild, cold-like symptoms. In high-risk groups, such as immune-compromised adult or pre-term infant, RSV can lead to a more serious infection and may even cause death. A recent analysis suggested that each year, approximately 170,000 hospitalizations and 10,000 deaths are associated with RSV in people 65 years or older in the U.S. According to Dr. Janet A. Englund of University of Washington, potential populations who might need treatment for RSV infection include:

- Healthy children of which 1) infant < 6 months and 2) children < 2-3 years
- Individual (both pre-term infant and adult) with underlying lung disease, such as cystic fibrosis or COPD;

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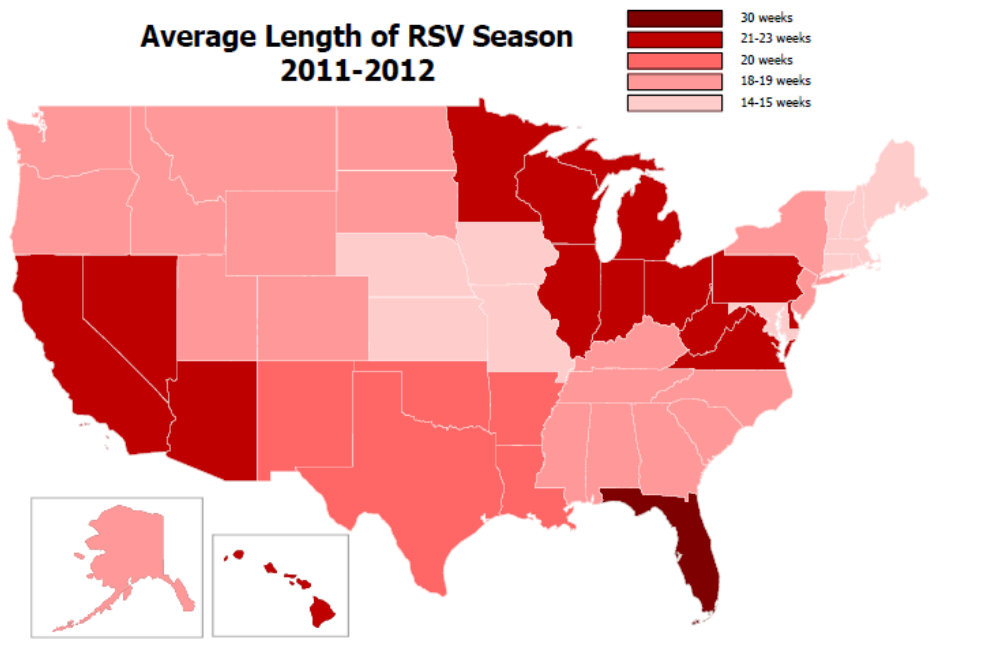
- Elderly; and
- Immune-compromised patients, such as HSCT and lung and heart transplant patients.

RSV infection could cause a broad spectrum of illnesses. Symptoms experienced by older children and adults from RSV infection are usually mild, such as experiencing a "bad cold" lasting one to two weeks, which might include fever, nasal congestion, and cough. For babies, toddlers and immune-compromised adults, RSV can produce severe pulmonary diseases, including bronchiolitis and pneumonia.

Impacts of RSV infection are usually being felt mostly during the winter season. Figure 5 illustrates the RSV season in the U.S. for 2011 to 2012. The most recognized product by investors for RSV management is Synagis (palivizumab) – a monoclonal antibody initially developed by Medimmune, substantially acquired by AstraZeneca (AZN, NR) as prophylaxis against RSV infection in infants that are high-risk because of prematurity or with medical problems such as congenital heart disease. RespiGam, an anti-RSV titer boosted IVIG and a predecessor of Synagis for same prophylaxis indication in infants, is no longer available in the U.S. market. RespiGarm was also developed by Medimmune.

Figure 5 RSV season in the U.S. for 2011-2012



Source: Company presentation

For patients already infected with RSV and suffering with severe pulmonary diseases, the most common treatment nowadays is ribavirin or combination of ribavirin and IVIG or Synagis. All of these treatment options are used off-label. Ribavirin could be delivered via aerosol or IV and have been demonstrated to be reasonably effective.

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Primary immune deficiency disease (PIDD) patients are vulnerable to many types of infections

Primary immune deficiency disease (PIDD) is referred to a constellation of disorders, of which patients' immune system; either their innate immune responses or adaptive immune responses have been impaired mostly due to hereditary defects. According to information from the National Institute of Allergy and Infectious Disease of NIH, there are more than 150 different forms of PIDDs affecting about 500,000 people in the U.S. Among them, 5,000 to 20,000 are considered to be severely affected. The annual incidence is approximately 5,000. Almost all of each of the 150 forms of PIDD is considered rare as each affecting fewer than 200,000 people in the U.S.

Despite each of the 150 forms of PIDD is considered rare as each affecting fewer than 200,000 people in the U.S, the combined patient size is still significant (500,000 in total and annual incidence of approximately 5,000

Given their deficiency in the immune system, most of PIDD patients could experience frequent recurring infections and associated complications if their immunity status are not properly managed. Their morbidity, mortality and medical costs could be high. Modest to sever PIDD patients is commonly taking regular IVIG to boost their general immunity preventing common infections. It is estimated that approximately 125,000 PIDD patients are regularly treated with IVIG. The patient usually is treated with IVIG once a month for many years and sometime for a lifetime. Figure 6 illustrates selected sets of PIDD patients the company believes could be most beneficial from RI-002 treatment as many of them are already undergoing routine IVIG treatments.

Figure 6 Breakdown of selected primary immune deficiency disease (PIDD) sub-populations

Class	Est. Incidence (US population)	Comments	Target Population Numbers
Common Variable Immune Deficiency (CVID)	1 in 25,000 to 1 in 50,000 (7,000-14,000 patients)	30% to 50% of these patients have both T-Cell and B-cell deficiencies	2,000 to 5,000 patients
Severe Combined Immune Deficiency Syndrome (SCID)	New diagnoses of ~100 cases reported each year	SCID patients lack T and B -cell function, many receive bone marrow transplant upon diagnosis, many require IGIV treatments post transplant	500-1000 patients on IGIV post transplant
Wiskott-Aldrich Syndrome (WAS)	4 in every 1 million males has the disorder - sometimes not diagnosed until adulthood	WAS patients lack T-cell function, many receive bone marrow transplant upon diagnosis, many require IGIV treatments post transplant	600 patients on IGIV therapy
DiGeorge Syndrome (DGS)	1 in 4,000 births suffers from DGS (700-800 patients)	70%+ of these patients have both T-Cell and B-cell deficiencies	1,000 patients receive IGIV therapy
Ataxia Telangiectasia (AT)	1 in 40,000 to 1 in 100,000	Patients typically have neuromuscular issues along with T-cell immunodeficiency; pts are more susceptible to infection and to cancer	3,000 to 8,000 patients
X-Linked Hyper IgM Deficiency (XHMD)	2 in every 1,000,000 males	Patients have low levels of three other classes of antibodies: immunoglobulin G (IgG), immunoglobulin A (IgA), and immunoglobulin E (IgE)	350 patients receive IGIV therapy
X-Linked Agammaglobulinanemia (XLA)	1 in 10,000 are diagnosed with XLA (35,000 patients)	The absence of functional BTK protein blocks B cell development, many patients require more frequent IGIV infusions (3 weeks v. 4 weeks)	3,500 patients are more susceptible to viral infections

Source: Laidlaw & Company and multiple PIDD websites

Given substantial portions of PIDD patients need to be treated with IVIG routinely to maintain their immunity status, it would be logical to consider replacing their regular IVIG with RI-002 only during the winter months (October – April) to further protect the patients from RSV infection. Despite we have modeled RI-002 priced at a premium (vs. regular IVIG) and a combination

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of regular IVIG and Synagis could potentially achieve a similar clinical benefit, the costs of the combination regimen, however, could be substantially higher than RI-002 alone.

Figure 7 illustrates our RI-002 in PIDD revenue model. We assumed conservatively that only 5% of the current IVIG regular users (~6,000) have severe enough symptoms that potentially require taking additional protection, such as RI-002 during the RSV infection period. Should RI-002 use gained greater traction on the severe PIDD patients, we believe the use could be further expanded to broader PIDD patient cohorts. We projected the peak penetration is slightly over one-third of eligible patients with three treatments per season. We priced RI-002 at $450 per gram (which was the same price as RespiGam when it was voluntarily withdrew from the market by the CSL Behring (CSL.AX, NR) nearly a decade ago. This price is also on par with Cytogam (another hyperimmune globulin). Given IVIG is dosed by body weight, we model an average weight of 40 kg per patient assuming patients include both adults and children.

Figure 7 RI-002 in PIDD market model

RI-002 in PIDD revenue model	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
U.S. population (000s)	324,270	327,513	330,788	334,096	337,437	340,811	344,219	347,661	351,138	354,649	358,196
Total primary immune deficiency disease (PIDD) population (000s)	250	252	255	257	260	262	265	268	270	273	276
Total PIDD population taking IVIG (000s)	125	126	127	129	130	131	133	134	135	137	138
Total PIDD taking IVIG with combined immune deficiency	6,005	6,065	6,126	6,187	6,249	6,311	6,374	6,438	6,503	6,568	6,633
RI-002 price ($/gm)	450	460	471	482	493	504	516	528	540	552	565
RI-002 price per patient / dose($)	12,150	12,429	12,715	13,008	13,307	13,613	13,926	14,246	14,574	14,909	15,252
RI-002 price per year / 3 dose($)	36,450	37,288	38,146	39,023	39,921	40,839	41,778	42,739	43,722	44,728	45,757
RI-002 penetration	5%	12%	18%	24%	30%	35%	36%	36%	37%	37%	36%
RI-002 treated patients	300	728	1,103	1,485	1,875	2,209	2,295	2,337	2,373	2,397	2,415
RI-002 PIDD revenue ($ MM)	**10.9**	**27.1**	**42.1**	**57.9**	**74.8**	**90.2**	**95.9**	**99.9**	**103.8**	**107.2**	**110.5**

Source: Laidlaw & Company estimates

Unmet needs in RSV infection in transplant (hematopoietic stem cell and solid organ) could also be helped by RI-002

An estimated 20% – 30% of bone marrow transplant (BMT) recipients with acute respiratory symptoms are infected with a respiratory virus. Mortality rate in BMT recipients with RSV pneumonia was estimated to be 50% – 75 %.

In addition to PIDD, we believe RI-002 could potentially benefit patients undergoing hematopoietic stem cell transplant (HSTC) and bone marrow transplant (BMT) as well as selected solid organ transplantation patients based on well documented information regarding the risk of RSV infection in these patient cohorts.

For example, according to an analysis by Dr. Walter T. Hughes from University of Tennessee, it has been estimated that 20% – 30% of bone marrow transplant (BMT) recipients with acute respiratory symptoms are infected with a respiratory virus (which include RSV, influenza and parainfluenza viruses) and among them, approximately 50% of the cases have pneumonia with a mortality rate of 50%. Further, the mortality rate in BMT recipients with RSV pneumonia was estimated to be 50% – 75 % based on data from radiography.

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Another analysis by Drs. D. Muir and D. Pillay from Birmingham Heartlands Hospital in England indicated that in immune-compromised patients, a respiratory virus infection could lead to an estimated 60% – 80% of cases to develop pneumonia subsequently. Among them, 10% – 40% (up to 80% in the case of RSV) will die either as a direct or an indirect effect of their respiratory viral infection.

The lung, lung and heart, liver and several other organ transplantations are particularly susceptible to RSV infection.

Additional analyses also suggested that a poor prognosis in RSV-infected HSCT patients has led 41% of untreated patient progressed to lower respiratory tract (LRT) disease with 40% mortality rate. Further, 20% – 27% of patients treated with ribavirin progress to LRT disease.

In cases where the patient undergoes solid organ transplantation, RSV infection could create devastating impact on certain organ transplant cases. Among them, the lung, lung and heart, liver and several other organ transplantations are particularly susceptible. Other organ transplantation, such as kidney, for instances, are not as vulnerable to RSV infection. Lung transplant patients infected with RSV are at risk for both acute rejection and a bronchiolitis obliterans syndrome (BOS); with the latter could result in loss of transplanted lung function and an approximately 50% mortality within five years.

Figure 8 RI-002 in transplantation market model

RI-002 in transplant revenue model	2016	2017	2018	2019	2020	2021	2022	2024	2025	2026
The U.S. Solid OrganTransplantation (SOT)										
Annual case of lung transplantation	1,508	1,545	1,584	1,624	1,664	1,706	1,748	1,837	1,883	1,930
Costs of each treatment ($)	18,225	18,644	19,073	19,512	19,960	20,420	20,889	21,861	22,364	22,878
Average treatment duration	3	3	3	3	3	3	3	3	3	3
Costs per annual treatment ($)	$54,675	$55,933	$57,219	$58,535	$59,881	$61,259	$62,668	$65,583	$67,092	$68,635
Penetration (%)	3%	8%	16%	24%	31%	35%	35%	35%	36%	36%
RI-002 treated lung transplantation patients	51	128	253	390	516	597	617	650	670	691
Total revenue from lung transplantation ($ MM)	**$2.8**	**$7.2**	**$14.5**	**$22.8**	**$30.9**	**$36.6**	**$38.7**	**$42.6**	**$45.0**	**$47.4**
Annual case of other solid organ transplantation	9,288	9,567	9,854	10,149	10,454	10,768	11,091	11,766	12,119	12,483
Penetration (%)	0%	2%	4%	7%	7%	8%	8%	8%	8%	8%
RI-002 treated solid organ transplantation patients	0	191	434	660	774	851	832	977	1,006	1,036
RI-002 penetration of total solid organ transplantation patients	0%	3%	6%	9%	11%	12%	11%	12%	12%	12%
Total revenue from solid organ transplantation ($ MM)	**$0.0**	**$10.7**	**$24.8**	**$38.6**	**$46.3**	**$52.1**	**$52.1**	**$64.0**	**$67.5**	**$71.1**
Total US SOT revenue ($MM)	**$2.8**	**$17.9**	**$39.3**	**$61.4**	**$77.2**	**$88.7**	**$90.8**	**$106.7**	**$112.5**	**$118.5**
The U.S. Stem Cell Transplantation (SCT)										
Annual case of stem cell transplantation	21,772	22,035	22,302	22,571	22,845	23,121	23,401	23,970	24,261	24,554
Costs of each treatment ($)	18,225	18,644	19,073	19,512	19,960	20,420	20,889	21,861	22,364	22,878
Average treatment duration	3	3	3	3	3	3	3	3	3	3
Costs per annual treatment ($)	$54,675	$55,933	$57,219	$58,535	$59,881	$61,259	$62,668	$65,583	$67,092	$68,635
Penetration (%)	0%	1%	1%	1%	2%	2%	2%	2%	2%	2%
Camvia treated stem cell transplantation patients	65	132	156	248	343	393	398	407	412	417
Total U.S. SCT revenue ($MM)	**$3.6**	**$7.4**	**$8.9**	**$14.5**	**$20.5**	**$24.1**	**$24.9**	**$26.7**	**$27.7**	**$28.6**
Total Transplantation revenue ($MM)	**$6.4**	**$25.3**	**$48.2**	**$76.0**	**$97.7**	**$112.8**	**$115.7**	**$133.4**	**$140.1**	**$147.2**

Source: Laidlaw & Company estimates

In the U.S. annual solid organ transplantation has reached a total of 28,000+ with kidney transplants of 16,485 in 2012 based on the data from Organ Procurement and Transplantation Network (OPTN). Further, it is estimated that a total of approximately 20,000+ bone marrow transplantations (including autologous and allogeneic) in the U.S. Figure 8 illustrates our RI-002 in transplantation revenue model. We broke down the solid organ transplantation

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into two sub-groups: lung and others. Given the more severe RSV infection impact on lung transplant patients, we estimate RI-002 could penetrate this cohort more significantly while we projected a modest penetration in other solid organ transplants and BMT.

Together, Figure 9 illustrates our RI-002 total revenue model.

Figure 9 RI-002 total revenue model

RI-002 revenue breakdown	2016	2017	2018	2019	2020	2021	2022	2024	2025	2026
Total Transplantation revenue ($MM)	$6.4	$25.3	$48.2	$76.0	$97.7	$112.8	$115.7	$133.4	$140.1	$147.2
Total PIDD revenue ($MM)	$10.9	$27.1	$42.1	$57.9	$74.8	$90.2	$95.9	$103.8	$107.2	$110.5
Total RI-002 revenue ($MM)	$17.3	$52.4	$90.3	$133.9	$172.6	$203.0	$211.6	$237.2	$247.3	$257.7

Source: Laidlaw & Company estimates

In addition to the transplantation patient, it is also possible that some cancer patients undergoing chemotherapy could also benefit from RI-002 treatment during the winter months to prevent or treat RSV infection given these patients could very susceptible to infection as their immune system is substantially weakened due to chemotherapy.

RI-002 manufacturing and plasma supply

The company has entered into a long term manufacturing and licensing agreement with Biotest AG (BIO DE, NR) to produce RI-002 exclusively for ADMA. In it, the company has secured a 10 year agreement with two five year extensions for the manufacture of RI-002 from Biotest Pharmaceuticals' (the U.S. subsidiary of Biotest AG) FDA approved manufacturing facility. Further, Biotest will supply plasma from their FDA approved plasma collection centers for 10 years.

Potential RI-002 commercialization strategy

ADMA plans to commercialize RI-002 via a small team of specialty sales reps (possibly with n=25) with emphasis on medical liaisons to target hospital-based infectious disease specialists and immunologists

Given RI-002 mainly is a hospital-based product and treatment physicians are generally very concentrated on several specialist groups, the company plans to commercialize RI-002 by themselves. The company plans to hire a small team of specialty sales representatives (possibly with n=25) with emphasis on medical liaisons to target hospital-based infectious disease specialists and immunologists that focus on immune-compromised patients. The specific focus will be on the top 500 programs and potentially with the top 50 that potentially could treat half of the total eligible PIDD patients. Our discussion with management indicated that the company plans to employ a more knowledge and science driven selling strategy, which could potentially derive deeper and more persistent buy-in by physicians. In addition, the company will leverage a network of national distributors for product order fulfillment. Given the senior management and several board members have extensive experience in the marketing and sales of plasma derived products; we believe the company is in a good position for RI-002 commercialization once the product is approved:

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In addition, the company has granted Biotest AG an exclusive, royalty-bearing license to market and sell RI-002 in Europe and selected territories in North Africa and the Middle East.

Solid intellectual property and other protection for RI-002

Although we are not aware of any issued patent protection for RI-002, we believe manufacturing know how and trade secrets could provide a sufficient barrier against potential competitors. Specifically, RI-002 possesses several unique aspects that could elevate entry barriers for potential competitors, which include: 1) a unique and exclusive plasma donor selection criteria; 2) exclusive methodology and formulation of donor plasma pool; and 3) validated micro-neutralization assay for anti-RSV antibody detection in human plasma and final product. Trade secrets or know-how protected items include unique and exclusive reagents, controls, reference standards and methods used in the assay process. In addition, the company indicated that they continue to seek protection of its proprietary technologies aggressively.

A snapshot of the IVIG market

Despite its longer history, plasma products remain a major component of the pharmaceutical industry as these therapeutic products can manage many types of disorders effectively. Many manufactures (sometimes called fractionators) produce both plasma- and recombinant protein-derived products as the latter typically have greater profit margin. Plasma-derived products mainly comprised of IVIG, albumin and various types of factors (such as Factor VIII, anti-thrombin III and fibrin sealant) for the treatment of various disorders. In the U.S., the total market for the combined plasma- and recombinant protein-derived products in 2011 was nearly $7.9 billion; while the plasma products alone accounted for $5.3 billion. The IVIG portion, which includes both the regular IVIG, hyperimmune globulin and others accounted for approximately $4 billion ($3.1 billion for IVIG and $250 MM for hyperimmune globulin).

The plasma product and particularly the IVIG fractionator is overall a more concentrated sector. In the U.S., four companies (Baxter, Grifols, CSL Ltd and Octapharma) together have taken a dominant major market shares:

Comparing to other subsectors of the healthcare or pharmaceutical industry, the plasma product manufacturer and particularly the IVIG fractionator overall is a much more concentrated sector. In the U.S., four companies together have taken a dominant major market shares: Baxter (BAX: NR), Grifols [GRLS.MC: NR), it become even greater after it acquired Talecris in June 2011], CSL Ltd (CSL.AX: NR) and much smaller privately owned Octapharma.

Besides in PIDD patients, IVIGs have been approved in several other indications, which include idiopathic thrombocytopenic purpura (ITP), B cell chronic lymphocytic leukemia (CLL), Kawasaki's disease, bone marrow transplantation (BMT), and chronic inflammatory demyelinating polyneuropathy (CIDP). It is also noted that near 33% and potentially up to half of the IVIG uses are of non-label indications (off-label use). Equally interesting is that almost all IVIG uses have been reimbursed under government payer guidelines issued by the CMS.

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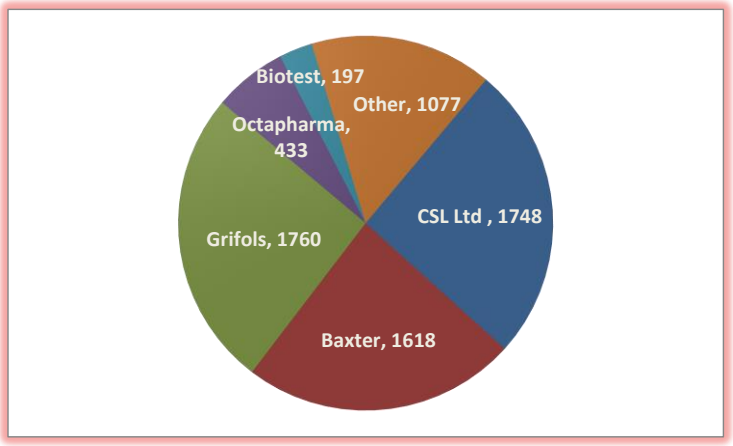
From the global prospective, plasma-based products (IVIG and non-IVIG) generated approximately $6.8 billion revenue in 2012. Again, near three quarter of revenue were generated from the top three companies: Baxter, Grifols and CSL Ltd (Figure 10).

Figure 10 Global plasma product market and major players ($MM)



Source: Laidlaw & Company estimates

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Plasma Collection Centers Provide Near Term Revenue and Fulfill Strategic Objectives

In addition to the development of RI-002, ADMA Biologics also participated in operating plasma collection centers as second value driver for ADMA shareholders. The company currently operates one plasma collection center located in Norcross, which is in metropolitan Atlanta Georgia (Figure 11). The center recently (June 2013) has received certification from the GHA –which allows collected plasma be imported by European Union (EU) and processed by European plasma fractionators. The company entered into long term agreement to sell source plasma to Biotest Pharmaceuticals (Biotest AG's U.S. subsidiary). Supported by the recent financing, we believe the company plans to build and operate two more plasma collection centers over the next few years. We estimate the company will start the process in 2014. Given it usually takes approximately 18 months from the start to generating initial revenue, we estimate the second center could begin generating revenue in 2015.

We estimate once operated in near full capacity; each center could generate approximately $6MM revenue and a pre-tax income of $950+k.

We estimate once operated in near full capacity; each center could generate approximately $6MM revenue. Assuming a COGS of approximately 60%, we projected each center could potentially generate a pre-tax income of $950+k.

Figure 11 Inside view of the company's current plasma center

Source: Company presentation

We view the plasma collection center business also is an important element to fulfill the company's strategic objective. First, given the importance of plasma material source in fractionator's product development, owning plasma collection centers in-house could secure the source of raw material without fully depending on the external sources and associated exposure of market fluctuations in plasma supply and pricing. In addition, collected plasma could generate relatively sustainable revenue to offset product development and

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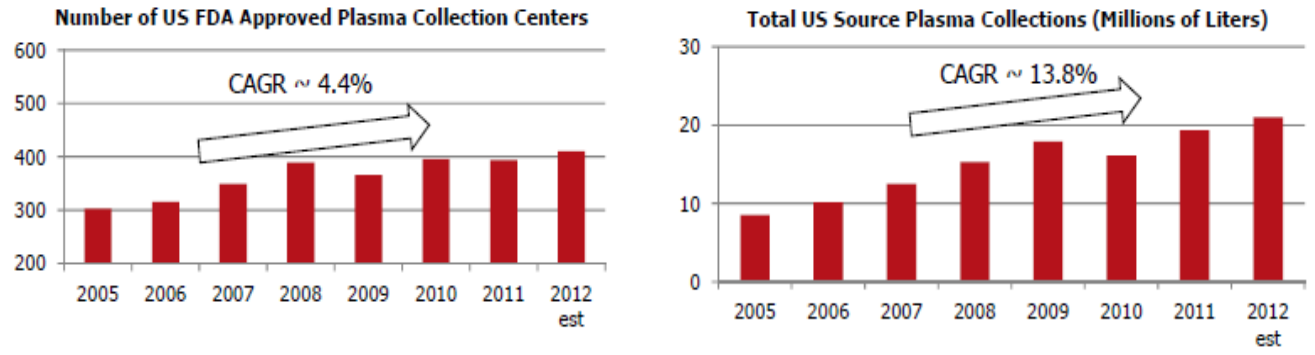
operational expenditures. This operation also can modestly balance the higher risk associated with RI-002 development.

Further, from a valuation prospective, plasma collection centers are an important asset, which has a more established value. By using a 2.5x price / sales multiple, the total combined revenue from all three centers could represent a potential value of approximately $45MM (18 X 2.5) once all are in full operation. Even after applying some discounting measures since the development is still ongoing, this asset at the current stage could potentially account for a meaningful portion of the current enterprise value of ADMA shares. As such, the potential value of plasma collection centers also could be considered as a floor value of ADMA shares, in our opinion.

A snapshot of the U.S. plasma collection market

In the U.S., currently there are 438 plasma collection centers. From 2005, the number of plasma collection center has increased in the U.S. with a CAGR of 4.4% (Figure 12, left). In 2011, a total of 19.3 million liters of blood were collected in the U.S. This represents CAGR of 13.5% from 2005 (Figure 12, right) for the plasma collected during the seven-year period. An average volume for a collection center is approximately 49,000 liters annually; while several super large one could collect over 100,000 liter per year. Further, many plasma fractionators also own substantial numbers of plasma collection centers as part of vertical integration since securing plasma source is a critical element for safeguarding fractionator's operation. Plasma collection centers owned by major fractionators include: BioLife (Baxter), Biomat and PlasmaCare (Grifols), CLS plasma, Biotest, Cangene Plasma, Kedrion Plasma, Life Resource, Octapharma and Ortho Clinical Diagnostics. Among them, plasma collection centers owned by the top four players, Grifols, CLS, Baxter and Octapharma accounted for near 60% of total plasma collection centers. It is noted that all plasma products sold in the U.S. have to be manufactured only from plasma collected at U.S. approved source plasma centers.

Figure 12 Growth pattern of plasma center (left) and plasma collected (right) in the U.S.



Source: Company presentation

Additional pipeline

In addition to the lead product, RI-002, the company recently in-licensed the North America rights for a second product, Varitect, a hyperimmune globulin against varicella-zoster virus (VZIG), from Biotest AG. The company anticipates finalizing the contract in 4Q13.

Only one VZIG product is available in the U.S. as Cangene's product recently received an FDA approval.

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Financial projections and valuation

With the recent IPO financing of ~$26.5M, the company recently reported cash and cash equivalent of approximately $32MM (pro forma), which should support the company's operations into 2016, by our estimate.

IPO financing use of proceeds

Use of Proceeds	$ MM	%
Completion of clinical trials and BLA submission for RI-002	12.5	49.6
Preliminary development expenses for commercial organization in anticipation of FDA approval of RI-002	1.0	4.0
Expansion of approved uses of RI-002 and development of additional plasma-derived products	2.0	7.9
Expansion of plasma collection program including dvelopment of additional plasma facilities	4.0	15.9
Working capital and other general corporate purposes	5.7	22.6
Total	25.2	100

Source: Company SEC filing

The P/E analysis is based on our 2018 fully diluted GAAP EPS estimate of $1.09 and an average from a range of multiples and discount rates. The multiples we use range from 26x to 30x, and discount rates range from 18% to 22%.

Our probability-adjusted-NPV-driven, sum-of-the-part analysis illustrates a breakdown of value for each potential value driver, with RI-002 in PIDD and transplantation accounting for 42% and 37% of the total value, respectively, while plasma collection center revenue and debt-free cash projected by YE 2014 accounts for 11% and 10%, respectively.

We recognize this analysis could under-estimate the value of plasma collection center business given the risk / reward nature of the business is very different from that of the drug development operation. From a more conventional valuation prospective, and via a 2.5x price / sales multiple, the combined all three centers could represent a potential value of approximately $45MM (18 X 2.5) once all are in full operation. Assuming an 18% discount rate and first year full capacity operation by 2017, we estimate a one-year value of $27.5MM, which accounts for a substantial portion of the current enterprise value of ADMA shares. Further, the potential value of plasma collection centers also could be considered as a floor value of ADMA shares, in our opinion.

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For the peer comparable analysis, we have chosen a group of companies conducting Phase III clinical studies of different indications and disease areas given plasma sector is highly concentrated and major players are in multi-billion dollar market cap with a conglomerate business operation model. From our analysis, we believe a fair one-year valuation target of the company is $14.67. As such, we believe an acquisition premium value may exist, and it has not been factored in at our current valuation.

Together with the projected one-year target prices of $15.03, $15.01 and $14.67, we derived a blended one-year price target of **$15** for ADMA.

P/E valuation

Year earnings based	2018
Earnings	$1.09
Target Year	2014
Discount period (year)	4.0
Fair value	**$15**
Current price	$8.15
Upsides	85%

Discount rate (%)	Forward P/E multiples 24	26	28	30	32
14%	15.86	17.15	18.45	19.74	21.04
16%	14.79	16.00	17.21	18.42	19.62
18%	13.81	**14.94**	**16.07**	**17.20**	18.33
20%	12.91	**13.97**	**15.03**	**16.08**	17.14
22%	12.09	**13.08**	**14.06**	**15.05**	16.04
24%	11.33	12.25	13.18	14.10	15.03
26%	10.62	11.49	12.36	13.23	14.10

Source: Laidlaw & Company estimates

NPV driven probability-adjusted sum-of-the-part analysis

RI-002	**PIDD**			
		NPV =	156.4	
		Prob. Adj. NPV =	62.6	
		Value per share =	**$6.24**	**42%**
RI-002	**Transplantation**			
		NPV =	191.9	
		Prob. Adj. NPV =	55.7	
		Value per share =	**$5.55**	**37%**
Plasma centers				
		NPV =	18.2	
		Prob. Adj. NPV =	17.3	
		Value per share =	**$1.72**	**11%**
Debt-free cash				
		Value in end-2014 =	15.0	
		Value per share =	**$1.50**	**10%**
		Total =	**$15.01**	**100%**

Source: Laidlaw & Company estimates

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Comparable analysis

Company	Ticker	Rating	Target Price ($)	Price ($) (11/8/13)	Shares Outstanding (MM)	Market Cap ($ MM)	Cash ($ MM)	Debt ($ MM)	Tech Value ($ MM)	Most Advanced Development Stage	Major Indication
CytRx	CYTR	NR	NA	2.16	42	91	45	0	46	Phase II/ III	Oncology
Oncothyreon	ONTY	NR	NA	1.91	63	121	66	0	56	Phase III	Oncology
Vanda Pharmaceuticals	VNDA	NR	NA	6.24	28	178	142	0	36	Phase III / NDA	CNS
Fibrocell Science	FCSC	NR	NA	3.50	28	96	67	0	29	Marketed	Cell therapy
Actinium Pharmaceuticals	ATNM	NR	NA	4.75	24	112	6	0	107	Phase III	Oncology
Oncolytics Biotech	ONCY	NR	NA	2.44	85	207	31	0	175	Phase III	Oncology
Tetraphase Pharmaceuticals	TTPH	NR	NA	10.12	25	254	117	0	137	Phase III	Infection
Northwest Biotherapeutics	NWBO	NR	NA	3.50	34	119	20	0	99	Phase III	Oncology
Enanta Pharmaceuticals	ENTA	NR	NA	20.01	18	358	115	0	244	Phase III	Infection (HCV)
OvaScience	OVAS	NR	NA	9.67	17	163	54	0	109	Phase III	Infertility
Average						**170**	*66*	*0*	**104**		
Adma Biologics	**ADMA**	**Buy**	**15.00**	**8.15**	**9**	**75**	**32**	**0**	**43**	**Phase III**	**Infection**
						Additional tech value from peer average=			**60**		
						ADMA share fair value matching its Phase III peers =			**$14.67**		

Source: Laidlaw & Company estimates

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Major risks

Clinical risks of clinical study failure could have a major impact on ADMA share value. Despite a well-established path for IVIG approval, risks still exist as RI-002 might not be approved by the FDA if the pivotal study does not meet its endpoints. Given that the majority of upside for ADMA shares is currently based on the assumption that the product can be approved before its commercial potential can be realized, an unsuccessful approval application would have a significant negative impact on ADMA share value.

Commercial success of the RI-002 in PIDD and potentially in transplantation is less predictable. We believe that the potential product label for RI-002, if approved, would likely to indicate as a regular IVIG; and higher titer of anti-RSV antibodies could appear on the label if the pivotal study met the relevant secondary endpoint. As such, the company may not promote the product directly for the prevention or treatment of RSV infection, but instead, it will base on the understanding that receiving high titer RSV antibodies should reduce probability of RSV infection. With more limited sales and marketing tactics available, the sales ramp up could be slower than projected. The risk could also exists as more rapid sales expansion might only occur after the company conducting more clinical studies and demonstrating positive clinical outcome.

Developments by competitors may render RI-002 or relevant technologies obsolete or un-competitive. Despite that the manufacturing processes of RI-002 are protected by proprietary technology, trade secrets and know-how, it is possible that other competitors develop similar processes to produce similar or even better anti-RSV IVIG. As such, the company might not enjoy the competitive edge and potentially damage RI-002's commercial outlook

Plasma collection center operations might not perform as expected. The company currently operates one and expects to expand into three plasma collection centers over the next 12 months. Although plasma collection operation is business with relatively sustainable positive cash inflow and ADMA management appears to have substantial experience, risks of mis-management as well as internal and external factors could change, resulting in sub-par business performance. Albeit the plasma collection operation might not be the main reason for investing in ADMA shares, a less successful performance could negatively impact on the expected cash flow and strategic objective of diversifying plasma sources for RI-002 production.

Limited product diversity could increase overall risk. Given the nascent stage of the corporate development, majority of the product pipeline value mainly resides on RI-002. The second potential pipeline product, an anti-Vicella Zoster virus immunoglobin, is in very early development stage with market potential possibly much smaller. As such, we believe the company at the current stage has very limited diversification potential in its product pipeline.

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Lack of cash could impede corporate development. Despite the company's recent successful IPO to raise $26.5MM cash, ADMA could potentially need more financial resources going forward if they want to expand and further develop its pipeline. Should the product not receive FDA approval or product revenue does not reach expectations, the company might have to issue new equity to raise additional cash. Under such a scenario, the share value of existing shareholders could be diluted.

Limited trading liquidity limits shareholder options. Given ADMA shares only entered the public market recently; daily trading volume and name recognition are relatively low. With relatively illiquid trading volume, shareholders wanting to increase or reduce their positions in a volatile stock market may face constraints.

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Management

Adam S. Grossman is a founder and has served as President and CEO of ADMA Biologics since October 2011. He has serviced as Chief Operating Officer between 2007 and October 2011. Prior to ADMA Biologics, he was the Executive Vice President of National Hospital Specialties and GenesisBPS, between 1994 and 2011. Previously, he worked at MedImmune, Inc., on marketing teams for RSV and CMV immunoglobulins. Prior to MedImmune, he worked at the American Red Cross and launched new products with the Biomedical Services division. Mr. Grossman received a B.S. in Business Administration, from American University. Mr. Grossman is the son of Dr. Jerrold B. Grossman, ADMA Biologics' Vice Chairman.

Brian Lenz has served as CFO of ADMA Biologics since May 2012. Prior to joining ADMA Biologics Mr. Lenz served as Chief Financial Officer of CorMedix Inc. since February 2010 and Chief Operating Officer and Chief Financial Officer from January 2012. Prior to joining CorMedix, Mr. Lenz was CFO of Arno Therapeutics from July 2008 to February 2010, CFO of VioQuest Pharmaceuticals from April 2004 to June 2008, Controller of Chiral Quest, Inc. from October 2003 to March 2004, Controller of Smiths Detection from July 2000 to October 2003, and senior auditor at KPMG, LLP from October 1998 to July 2000. Mr. Lenz received a B.S. from Rider University; an M.B.A. from Saint Joseph's University

James Mond, M.D., Ph.D. has served as Chief Scientific and Medical Officer of ADMA Biologics since July 2012. Prior to joining ADMA Biologics, he serviced as Chief Scientific Officer and Executive Vice President and functioned as its Chief Medical Officer at Biosynexus, from December 1999 through June 2011. Prior to joined Biosynexus, Dr. Mond was professor of Medicine, Rheumatology and Immunology at the Uniformed Services University of the Health Sciences in Bethesda, Maryland with focuses on internal medicine, rheumatology and Immunology. Dr. Mond holds M.D. and Ph.D. from the New York University Medical School.

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Income Statement

ADMA Biologics – Income Statement

($ '000)	2012	1Q13	2Q13	3Q13	4Q13E	2013E	1Q14E	2Q14E	3Q14E	4Q14E	2014E	2015E	2016E	2017E	2018E
Revenue															
Product revenue	1,118	793	737	1,088	544	3,163	816	1,143	1,303	1,694	4,956	7,929	12,211	16,607	17,554
RI-002 revenue (projected)	-	-	-	-	-	-					-	-	17,318	52,409	90,303
RI-002 revenue (probability-adjusted)													6,290	18,437	31,297
License revenue	-	-	6	19	10	35	15	25	40	33	113	200	300	300	300
Total Revenue	1,118	793	743	1,107	554	3,198	831	1,168	1,343	1,727	5,069	8,129	18,801	35,344	49,151
Cost of product revenue	669	529	486	726	359	2,100	539	754	860	1,118	3,271	5,392	8,304	11,293	11,937
Cost of RI-002													1,887	5,531	9,389
Gross revenue (RI-002)													4,403	12,906	21,908
Gross revenue (Biocenter)	449	264	251	362	185	1,062	278	389	443	576	1,685	2,537	3,908	5,314	5,617
Total gross revenue	449	264	251	362	185	1,062	278	389	443	576	1,685	2,537	8,310	18,220	27,525
Research and development	3,469	1,468	3,470	1,409	1,508	7,855	1,538	1,569	1,600	1,632	6,338	6,782	7,053	7,335	7,702
Plasma center operating expenses	1,747	515	540	658	704	2,417	718	732	740	769	2,959	3,107	3,231	3,457	3,526
General and administrative	3,142	1,431	1,090	845	938	4,305	1,004	1,044	1,117	1,162	4,327	4,500	4,680	4,868	5,033
Marketing and sales													8,100	8,505	8,845
Total Operating Expenses	8,358	3,414	5,101	2,912	3,150	14,576	3,260	3,345	3,457	3,563	13,624	14,389	23,064	24,165	25,107
Operating Income (loss)	(7,909)	(3,150)	(4,843)	(2,531)	(2,955)	(13,479)	(2,967)	(2,931)	(2,974)	(2,954)	(8,555)	(6,260)	(4,264)	11,179	24,044
Interest income	21	1	3	2	9	15	10	10	10	10	40	64	102	164	197
Interest expense	(31)	(129)	(159)	(163)	(162)	(613)	(162)	(162)	(162)	(162)	(648)	(648)	(648)	(648)	(648)
Change in fair value of stock warrants	-	37	21	3	(300)	(239)	(100)	90	150	(140)	-	(700)	(100)	(100)	(100)
Other income	-	-	82	-	20	102	2	2	2	2	8	8	8	8	8
Total other expenses	(10)	(92)	(52)	(158)	(433)	(735)	(250)	(60)	-	(290)	(600)	(1,276)	(638)	(576)	(543)
Income (loss) before tax expense	(7,919)	(3,242)	(4,895)	(2,689)	(3,388)	(14,214)	(3,217)	(2,991)	(2,974)	(3,244)	(9,155)	(7,536)	(4,901)	10,603	23,501
Income tax expense-State income tax benefit	618	-	-	-	-	-	-	-	-	-	-	-	-	3,923	8,695
Net Incomes (Losses)	(7,301)	(3,242)	(4,895)	(2,689)	(3,388)	(14,214)	(3,217)	(2,991)	(2,974)	(3,244)	(9,155)	(7,536)	(4,901)	6,680	14,806
Net Earnings (Losses) Per Share—Basic	($1.76)	($0.55)	($0.83)	($0.46)	($0.37)	($2.12)	($0.35)	($0.32)	($0.31)	($0.27)	($0.91)	($0.74)	($0.39)	$0.51	$1.09
Net Earnings (Losses) Per Share—Diluted	($1.76)	($0.55)	($0.83)	($0.46)	($0.37)	($2.12)	($0.35)	($0.32)	($0.31)	($0.27)	($0.91)	($0.74)	($0.39)	$0.51	$1.09
Shares outstanding—basic	4,146	5,871	5,871	5,871	9,224	6,709	9,304	9,384	9,464	11,964	10,029	10,229	12,729	13,129	13,529
Shares outstanding—diluted	4,146	5,871	5,871	5,871	9,224	6,709	9,304	9,384	9,464	11,964	10,029	10,229	12,729	13,129	13,529
Margin Analysis (% of Revenue)															
Gross	40%	33%	34%	33%	34%	34%	34%	34%	34%	34%	32%	32%	32%	32%	32%
Cost of RI-002													30%	30%	30%
R&D	310%	185%	467%	127%	272%	246%	185%	134%	119%	95%	125%	83%	38%	21%	16%
Plasma operation	156%	65%	73%	60%	129%	76%	88%	64%	57%	45%	60%	39%	26%	21%	20%
G&A	281%	180%	147%	76%	169%	135%	121%	89%	83%	67%	85%	55%	25%	14%	10%
M&S													43%	24%	18%
Operating Income (loss)	-707%	-397%	-652%	-229%	-533%	-422%	-357%	-251%	-221%	-171%	-169%	-77%	-23%	32%	49%
Pretax	-708%	-409%	-659%	-243%	-611%	-444%	-387%	-256%	-221%	-188%	-181%	-93%	-26%	30%	48%
Tax Rate	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	34%	0%	34%	34%
Net Income	-653%	-409%	-659%	-243%	-611%	-444%	-387%	-256%	-221%	-188%	-181%	-93%	-26%	19%	30%
Financial Indicator Growth Analysis (Y/Y)															
Product (Biocenter) revenue	47%	17921%	220%	202%	4%	183%	3%	55%	20%	211%	57%	60%	54%	36%	6%
RI-002 revenue (projected)	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	203%	72%
RI-002 revenue (probability-adjusted)	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	193%	70%
Total Revenue	47%	17921%	223%	207%	6%	186%	5%	57%	21%	212%	59%	60%	131%	88%	39%
Research and development	436%	1694%	1842%	-27%	19%	126%	5%	-55%	14%	8%	-19%	7%	4%	4%	5%
Plasma center operating expenses	50%	12%	42%	34%	68%	38%	39%	36%	12%	9%	22%	5%	4%	7%	2%
General and administrative	119%	112%	48%	-18%	35%	37%	-30%	-4%	32%	24%	1%	4%	4%	4%	3%
Marketing and sales														5%	4%
Operating incomes	71%	160%	301%	-22%	32%	70%	-6%	-39%	17%	0%	-37%	-27%	-32%	-362%	115%
Pretax Income	27%	167%	306%	-17%	50%	79%	-1%	-39%	11%	-4%	-36%	-18%	-35%	-316%	122%
Net Income	24%	443%	306%	-17%	50%	95%	-1%	-39%	11%	-4%	-36%	-18%	-35%	-236%	122%
EPS - Basic	-89%	211%	308%	-34%	-46%	20%	-37%	-62%	-31%	-26%	-57%	-19%	-48%	-232%	115%
EPS - Diluted	-89%	211%	308%	-34%	-46%	20%	-37%	-62%	-31%	-26%	-57%	-19%	-48%	-232%	115%
Shares outstanding—basic	1074%	75%	-1%	26%	179%	62%	58%	60%	61%	30%	49%	2%	24%	3%	3%
Shares outstanding—diluted	1074%	75%	-1%	26%	179%	62%	58%	60%	61%	30%	49%	2%	24%	3%	3%

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Source: Bloomberg LP; Company reports; Laidlaw & Company estimates

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ADMA Biologics – Balance Sheet

($'000)	2010	2011	2012	1Q13	2Q13	3Q13	4Q13E	2013E	2014E	2015E
Assets										
Cash and cash equivalents and marketable securities	**229**	**88**	**12,536**	**10,321**	**7,653**	**5,380**	**27,253**	**27,253**	**16,310**	**7,377**
Cash and cash equivalents	229	88	12,536	10,321	7,653	5,380	27,253	27,253	16,310	7,377
Accounts receivable	0	0	39	326	237	335	320	320	331	350
Inventories	3,390	1,147	1,266	1,007	915	1,205	1,087	1,087	1,157	1,181
Prepaid expenses	65	59	108	651	367	223	377	377	368	396
Total Current Assets	3,685	1,294	13,948	12,306	9,173	7,144	29,038	29,038	18,165	9,304
Property and equipment at cost, net	1,081	861	779	802	850	811	811	811	811	931
Deferred financing costs	427	421	363	245	203	282	262	262	262	62
Restricted cash	0	337	452	452	452	452	452	452	452	46
Deposits	13	13	13	13	13	13	13	13	13	13
Total other assets	440	771	828	710	668	747	727	727	727	120
Total Assets	**5,205**	**2,926**	**15,555**	**13,817**	**10,690**	**8,702**	**30,576**	**30,576**	**19,704**	**10,356**
Liabilities and Stockholders' Equity										
Accounts payable	842	1,303	1,059	1,379	1,159	1,483	1,386	1,386	1,344	1,350
Accrued expenses	242	538	747	677	753	911	783	783	808	812
Accrued interests	650	0	0	33	35	35	37	37	39	41
Current portion of deferred revenue	0	0	0	0	69	76	76	76	76	76
Current portion of leasehold improvement loan	10	11	12	12	12	12	12	12	12	12
Notes payable - related parties	7,116	450	0	0	0	0	0	0	0	0
Total Current Liabilities	8,860	2,302	1,817	2,101	2,029	2,517	2,294	2,294	2,279	2,292
Notes payable, net of debt discount		0	3,774	4,794	4,817	4,841	4,831	4,831	4,251	2,546
Warrant liability		0	229	193	172	169	379	379	385	385
End of term liability, notes payable		0	106	133	133	133	133	133	133	133
Deferred revenue		0	0	0	1,624	1,599	1524	1,524	1,221	1,146
Deferred rent liability	172	150	128	122	117	111	161	161	139	117
Leasehold improvement loan	99	89	78	75	72	69	210	210	198	186
Total Liabilities	**9,132**	**2,540**	**6,132**	**7,417**	**8,962**	**9,438**	**9,531**	**9,531**	**8,605**	**6,804**
Preferred stock	3	8	0	0	0	0	0	0	0	0
Common stock	0	0	1	1	1	1	1	1	1	1
Additional paid-in capital	19,974	30,185	46,532	46,751	46,974	47,199	72,368	72,368	71,577	71,565
Accumulated deficit	(23,905)	(29,808)	(37,109)	(40,351)	(45,246)	(47,935)	(51,323)	(51,323)	(60,478)	(68,014)
Total Stockholders' Equity	**(3,927)**	**386**	**9,424**	**6,401**	**1,728**	**(736)**	**21,045**	**21,045**	**11,099**	**3,552**
Total Liabilities and Stockholders' Equity	**5,205**	**2,926**	**15,555**	**13,817**	**10,690**	**8,702**	**30,576**	**30,576**	**19,704**	**10,356**

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Source: Bloomberg LP; Company reports; Laidlaw & Company estimates

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ADMA Biologics – Cash Flow Statement

($ '000) Cash Flows From Operating Activities:	2010	2011	2012E	1Q13	2Q13	3Q13	4Q13E	2013E	2014E	2015E
Net profit (loss)	(5,948)	(5,903)	(7,301)	(3,242)	(4,895)	(2,689)	(3,388)	(14,214)	(9,155)	(7,536)
Adjustments to reconcile net loss to net cash used in operating activities:										
Depreciation and amortization	220	220	182	44	61	55	55	214	199	204
Noncash stock-based compensation	35	23	627	219	223	225	225	892	981	991
Warrant liability	0	0	0	(37)	(21)	(3)	(10)	(71)	(78)	(85)
Amortization of debt discount	133	741	3	20	23	24	24	91	91	91
Amortization of deferred financing costs	0	0	3	21	25	26	26	98	98	98
Amortization of license revenue	0	0	0	0	(6)	(19)	(19)	(44)	(58)	(72)
Noncash interests expense related notes payable	563	847	2							
Loss on sale of inventory	0	1,935	0							
Loss on disposal of equipment	0	1	18							
Changes in operating assets and liabilities:										
Account receivables	0	0	(39)	(287)	89	(98)	15	(281)	(11)	(19)
Inventory	(233)	308	(118)	258	92	(290)	118	178	(70)	(24)
Prepaid expenses	16	6	(49)	(544)	284	144	(154)	(270)	9	(28)
Other assets		90	(115)	195	(54)	(9)	10	142	(20)	(20)
Accounts payable	553	40	(245)	320	(220)	324	(96)	328	(42)	6
Accured expenses	(130)	285	151	(70)	76	90	(128)	(33)	25	4
Accured interests			0	33	2	0	2	37	0	0
Deferred revenue			0	0	1,700	0	0	1,700	0	0
Deferred rent liability	(22)	(22)	(22)	(6)	(6)	(6)	50	33	(22)	(22)
Net Cash (used in) Provided by Operating Activities	**(4,813)**	**(1,431)**	**(6,904)**	**(3,075)**	**(2,627)**	**(2,226)**	**(3,270)**	**(11,198)**	**(8,053)**	**(6,411)**
Cash Flows From Investing Activities:										
Capital expenditures	(3)	(0)	(119)	(66)	(109)	(16)	(25)	(216)	(2,100)	(250)
Net Cash (used in) Provided by Inveting Activities	**(3)**	**(0)**	**(119)**	**(66)**	**(109)**	**(16)**	**(25)**	**(216)**	**(2,100)**	**(250)**
Cash Flows From Financing Activities:										
Proceeds from issuance of common stock and warrants, net of offering cos	0	0	17,287	0	0	0	28,490	28,490	100	0
Proceeds from Hercules debt not payable	0	0	0	1,000	0	0	0	1,000	0	0
Payments of equity issurance costs	0	0	(1,338)	(72)	72	(28)	(3,318)	(3,347)	0	0
Proceeds from notes payable		0	3,906			0		0		
Debt issurance costs		0	(25)			0				
Repurchase of common stock		0	(150)			0				
Proceeds from convertible notes payable	2,300	1,500	0			0				
Payments of notes payable	0	(200)	(200)	0	0	0	0	0	(880)	(2,260)
Payments of leasehold improvement loan	(9)	(10)	(10)	(3)	(3)	(3)	(3)	(12)	(12)	(12)
Net Cash Provided by Financing Activities	**2,291**	**1,290**	**19,471**	**926**	**69**	**(31)**	**25,169**	**26,132**	**(791)**	**(2,272)**
Net increase (decrease) in cash	**(2,525)**	**(141)**	**12,448**	**(2,215)**	**(2,667)**	**(2,274)**	**21,874**	**14,718**	**(10,944)**	**(8,933)**
Cash at beginning of period	2,754	229	88	12,536	10,321	7,653	5,380	12,536	27,253	16,310
Cash at end of period	**229**	**88**	**12,536**	**10,321**	**7,653**	**5,380**	**27,253**	**27,253**	**16,310**	**7,377**

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Source: Bloomberg LP; Company reports; Laidlaw & Company estimate

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DISCLOSURES:

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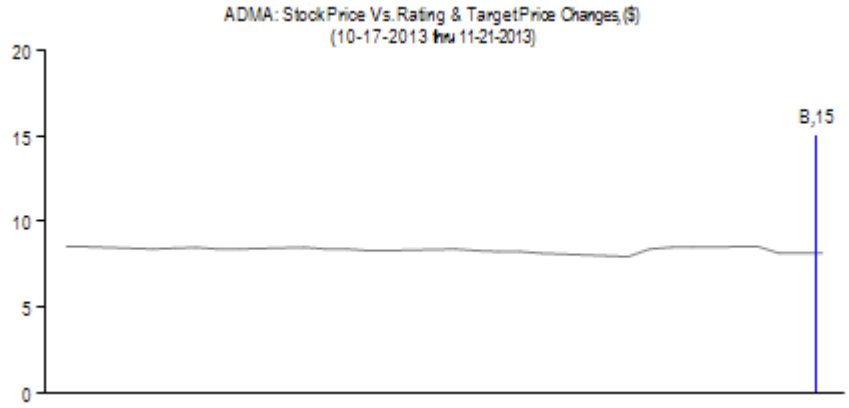
RATINGS INFORMATION

Rating and Price Target Change History



3 Year Rating Change History

Date	Rating	Closing Price ($)
11/21/2013	Buy (B)	8.15*

3 Year Price Change History

Date	Target Price ($)	Closing Price, ($)
11/21/2013	15.00	8.15*

** Previous Close11/19/2013*

Source: Laidlaw & Company **Created by: Blue-Compass.net**

Laidlaw & Company Rating System*		% of Companies Under Coverage With This Rating	% of Companies for which Laidlaw & Company has performed services for in the last 12 months	
			Investment Banking	Brokerage
Strong Buy (SB)	Expected to significantly outperform the sector over 12 months.	0.00%	0.00%	0.00%
Buy (B)	Expected to outperform the sector average over 12 months.	90.00%	40.00%	10.00%
Hold (H)	Expected returns to be in line with the sector average over 12 months.	10.00%	0.00%	0.00%
Sell (S)	Returns expected to significantly underperform the sector average over 12 months.	0.00%	0.00%	0.00%

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ADDITIONAL COMPANIES MENTIONED

AstraZeneca (AZN: NR)
CSL Behring (CSL.AX: NR)
Biotest AG (BIO DE: NR)
Baxter (BAX: NR)
Grifols (GRLS.MC: NR)
CSL (CSL.AX: NR)

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