



## Kindred Biosciences, Inc. (KIN, \$10.79)

Initiating Coverage with BUY Rating and \$20 Price Target: An Innovative and More Profitable Way to Make Companion Animal Drugs

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**Initiating coverage on Kindred Biosciences (“Kindred Bio”; KIN, Mkt Cap \$162MM) with a BUY rating and \$20 PT (+85% projected upside):** Kindred is a development-stage company focused on identifying and developing therapeutic medicines to treat companion animals (dogs, cats, and horses).

**Lead pipeline assets include:**

- **CereKin** for osteoarthritis, expected to be approved in 2H15.
- **AtoKin** for atopic dermatitis, expected to be approved in late 2015.
- **SentiKin** for post-operative pain, expected to be approved in 2015/2016.

**Our investment thesis is threefold:**

1. **We view KIN’s business model as having better risk/reward than its competitors.** KIN focuses on drugs approved for human use outside the United States and repurposes them for companion animals. The company, on average, spends \$3MM to \$5MM and two to three years to develop each drug, whereas its competitors spend \$5MM to \$10MM and up to 10 years per drug.
2. **Strong management team with a successful record of launching Animal Health drugs.** They have worked at larger Animal Health companies such as Merial, Merck, and Novartis. The SVP of Regulatory Affairs, Stephen Sundlof, was the former Director of Center for Veterinary Medicine (CVM).
3. **KIN’s valuation is inexpensive, in our view.** We think KIN compares favorably to Aratana (PETX), another development-stage Animal Health company. KIN has a larger pipeline, better economics on its drugs, and a faster time to expected profitability (2016 vs. 2017+). Aratana has a market cap of \$455MM whereas KIN has a market cap of \$162MM.

**We expect profitability in 2016 without an additional equity raise.**

- KIN raised \$60.3MM in its IPO, which priced on 12/11/13 at \$7.00 per share.

**Next potential stock-moving catalyst:** We expect data from pivotal studies will be released for CereKin in 2Q14, AtoKin in late 2014, and SentiKin in late 2014.

# Investment Thesis

## Kindred Bio (KIN): Initiating with BUY Rating and \$20 PT (+85% Proj. Upside)

### Our Investment Thesis:

- 1) We view KIN's business model as having better risk/reward than its competitors.** KIN focuses on drugs approved for human use outside the United States and repurposes them for companion animals. The company, on average, spends \$3MM to \$5MM and two to three years to develop each drug, whereas its competitors spend \$5MM to \$10MM and up to 10 years per drug.
- 2) Strong management team with a successful record of launching Animal Health drugs.** They have worked at larger Animal Health companies such as Merial, Merck, and Novartis. The SVP of Regulatory Affairs, Stephen Sundlof, was the former Director of Center for Veterinary Medicine (CVM).
- 3) KIN's valuation is inexpensive, in our view.** We think KIN compares favorably to Aratana (PETX), another development-stage Animal Health company. KIN has a larger pipeline, better economics on its drugs, and a faster time to expected profitability (2016 vs. 2017+). Aratana has a market cap of \$455MM whereas KIN has a market cap of \$162MM.

### Performance Drivers and Potential Stock Catalysts:

- 1) Pivotal studies for AtoKin and SentiKin begin in early 2014
- 2) Data from pivotal studies for CereKin, AtoKin, and SentiKin released in 2014
- 3) We expect possible approvals for CereKin and AtoKin in 2015 and SentiKin in 2015+
- 4) Additional pipeline advancements and/or product approvals
- 5) Partnerships and/or business development

### Guggenheim Points of Differentiation:

- 1)** We do not believe the E.U. safety review of the active ingredient, diacerein, in KIN's CereKin will affect the development and commercialization of the drug. On December 5, 2013, the drug manufacturers appealed the E.U.'s safety review of diacerein; we believe this motion will take time to resolve. According to Kindred, the gastrointestinal and liver side effects seen in humans are less frequent or absent in animals. The CVM agreed to a Protocol Concurrence (human equivalent of SPA) for CereKin with the knowledge of these reviews.
- 2)** We think KIN will be able to effectively compete against larger Animal Health companies in the industry. We believe that KIN has a better risk/reward profile when compared to these companies given its business model: targeting existing human drugs outside the United States and repurposing them for companion animals in the United States. Also, many of the large Animal Health companies focus on livestock.
- 3)** If companies like Merck or Novartis spin out their Animal Health businesses, this could create additional opportunities for KIN. We think KIN could partner with these companies to commercialize new drugs, as Merck and Novartis would no longer need to work with their parent companies for pipeline assets.

## Kindred Bio Valuation and Risks

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**We use a DCF analysis to arrive at our 12-month price target of \$20 for KIN.**

- Our valuation is conservative, in our view.
- We used a WACC of 28% and exit multiples of 6x forward EBIT.
- This compares favorably to KIN's peers, which trade, on average, at a forward EV/EBIT of 18x.
- This compares favorably to similar companies that have been acquired at an historical EV/EBITDA of 11x, which means the EV/EBIT would be even higher than 11x.

**Investment risks for KIN include the following:**

- 1) **Pipeline setbacks:** If KIN cannot obtain regulatory approval for its first two drugs, CereKin and AtoKin, by 2015, the company's cash needs and time to profitability may be greater/longer than anticipated.
- 2) **Commercial risk:** Even if KIN's drugs are approved, the company may not be able to successfully launch its drugs. KIN is a new Animal Health company and needs to either build its own salesforce or partner with a larger Animal Health company.
- 3) **Competition:** There are many larger, better capitalized Animal Health companies that are entrenched players in the market (Zoetis, Merck, Merial, Elanco, and others). If approved, CereKin and SentiKin will face competition from existing products approved for pain in dogs such as Rimadyl, Deramaxx, Previcox, and Metacam. Similarly, AtoKin will face competition from existing products such as Atopica and Apoquel and from steroids; SentiKin will also compete against other pain drugs such as Recuvyra. In addition, many of Kindred's products will face competition from various products approved for use in humans.
- 4) **Intellectual Property:** KIN does not own any issued patents covering its product candidates.

## Kindred Bio (KIN): Bull, Bear, and Base Case Analyses

**Based on our view of the probability of each scenario, we arrive at a 12-month PT of \$20**

| Scenario         | Valuation   | Investment Thesis   |
|------------------|---|---|
| <b>BULL CASE</b> | <b>2020E EPS:</b> \$5.00<br><b>12-Month Bull-Case Scenario:</b> \$30<br><b>Probability:</b> 15%<br><b>Upside/Downside Potential:</b> 178%   | <ul style="list-style-type: none"> <li>•CereKin peak sales of \$130MM in 2020</li> <li>•AtoKin peak sales of \$90MM in 2020</li> <li>•SentiKin peak sales of \$125MM in 2020</li> <li>•Launch of two to three products per year post-2H15</li> <li>•Business development</li> </ul>   |
| <b>BASE CASE</b> | <b>2020E EPS:</b> \$4.00<br><b>12-Month Base-Case Scenario:</b> \$20<br><b>Probability:</b> 75%<br><b>Upside/Downside Potential:</b> 85%    | <ul style="list-style-type: none"> <li>•CereKin peak sales of \$112MM in 2020</li> <li>•AtoKin peak sales of \$77MM in 2020</li> <li>•SentiKin peak sales of \$104MM in 2020</li> <li>•Launch of one product per year post-2H15</li> <li>•No business development</li> </ul>          |
| <b>BEAR CASE</b> | <b>2020E EPS:</b> \$2.75<br><b>12-Month Bear-Case Scenario:</b> \$9.50<br><b>Probability:</b> 10%<br><b>Upside/Downside Potential:</b> -12% | <ul style="list-style-type: none"> <li>•CereKin peak sales of \$90MM in 2020</li> <li>•AtoKin peak sales of \$55MM in 2020</li> <li>•SentiKin peak sales of \$90MM in 2020</li> <li>•Launch of one or fewer products per year post-2H15</li> <li>• No business development</li> </ul> |

Source: Guggenheim Securities, LLC.

## Investment Highlight #1: Favorable Risk/Reward

### #1: We view KIN's business model as having better risk/reward and ROIC than its competitors

- KIN only pursues molecules known to work and, when possible, that are not available for human use in the United States.
- KIN leveraged Single Cell Technology's high affinity antibody technology for vet biologics and created new biologics for dogs that target the canine counterparts of the human targets of Enbrel and Orencia.
- KIN estimates it will cost approximately \$3MM to \$5MM and two to three years to develop each drug in its pipeline and estimates peak sales of approximately \$60MM per drug per species (dog, cat, and horse). KIN has a cost-efficient drug development process that may be hard to replicate elsewhere given the expertise of its management team.
- Other animal health companies spend \$5–10MM and can take up to 10 years per drug.
  - Competitors usually work on new chemical entities (NCEs) and therefore have to set up the manufacturing and validation processes. This costs ~\$1MM+ and can take more than one year.
  - There is a lot more bureaucracy at the larger firms, so the headcount is higher and timelines much slower.
  - Most competitors (including Aratana) use CROs, which add considerable expense.

### Three near-to-market opportunities

- KIN expects to launch up to three drugs (CereKin, AtoKin, and SentiKin) by **2015**.
  - **KIND-001, CereKin:** cytokine inhibitor for osteoarthritis (OA) pain in dogs (also in development for horses), ***began pivotal on 8/6/13***
  - **KIND-002, AtoKin:** for atopic dermatitis in dogs, ***pivotal to start in early 2014***
  - **SentiKin,** for post-operative pain in dogs, ***pivotal to start in early 2014***
- KIN may make similar filings for these products in the European Union if successfully approved in the United States.

### Deep pipeline of additional drugs

- Drugs for 10 additional indications (dogs, cats, and horses), 30+ additional drugs in pre-INAD stage.
- Potential for two to four product launches each year starting in 2H15.

### Lower risk than human health drugs

- Animal drug development usually takes half the time of human drug development and may even be decreasing.
- Proof of concept can be established in the target animal; only one pivotal study is required.

Source: Kindred Bio S-1, Company Reports and Guggenheim Securities, LLC



## Investment Highlight #2: Strong Management Team

### #2: Strong management team with record of success launching Animal Health drugs

- Members of the executive management team and Kindred's Board of Directors have extensive experience in Animal Health and have successfully launched a number of new drugs into the market.
- They have worked at larger Animal Health companies such as Merial, Merck, and Novartis.
- The SVP of Regulatory Affairs was the former Director of Center for Veterinary Medicine.

| Name, Position  | Formerly   |
|---|--|
| <b>Dr. Richard Chin</b><br>President and CEO                      | Genentech (Head of Clinical Research, Biotherapeutics), Elan (SVP Global Dev), Oxigene (CEO), ~50 INDs; Lucentis, Xolair, Tysabri, Rituxan   |
| <b>Stephen S. Galliker</b><br>Chief Financial Officer             | Dyax (EVP of Finance & Administration and CFO), Excel Switching Corporation (CFO), Director at Galena Biopharma and Mitomics, Inc.           |
| <b>Dr. Kevin Schultz</b><br>Chief Scientific Officer, Head of R&D | Merial (CSO and Head of R&D) and also worked at Merck, Frontline Plus, Oncept, Previcox, Gastrogard  |
| <b>Denise Bevers</b><br>Founder & COO                             | Founder of SD Scientific, also worked at Elan, Quintiles, Skyepharma, and Scripps Clinic, 25 years in biotech/pharma; 35 products/9 launches |
| <b>Stephen Sundlof, DVM, PhD</b><br>SVP of Regulatory Affairs     | Former Director of the Center for Veterinary Medicine (CVM) at the U.S. Food and Drug Administration (FDA)                                   |
| <b>Ernest Mario</b><br>Director                                   | Former CEO of GlaxoSmithKline, also worked at Reliant and Alza   |
| <b>Ervin Veszpremi</b><br>Director                                | Former Global Head of Marketing, Novartis Animal Health, also worked at Medichem   |

Source: Kindred Bio S-1, Company Reports and Guggenheim Securities, LLC



## Investment Highlight #3: Compares Favorably to Aratana

### #3: KIN compares favorably to Aratana, a similar company w/ successful IPO

- Aratana (PETX) is also a companion Animal Health company
- Aratana's IPO was on 6/27/13 and the stock is up 218.3% since its IPO (vs. 13.5% for the S&P 500)\*

| Metrics        | Kindred Bio             | Aratana   |
|----------------|-------------------------|---|
| Valuation      | \$162MM                 | \$455MM   |
| INADs          | 12                      | 6 (at the time of its IPO)  |
| First Launch   | 2015                    | 2014, but the launch is based on a conditional license, full license is expected 2016 |
| Pipeline       | 30+ additional products | 12+ products (with acquisition of Vet Therapeutics)                                   |
| Product Source | Internally developed    | In-licensed   |
| Royalties Out  | Low/none                | Mid-single digits to mid-20s  |

Source: Kindred Bio S-1, Aratana Company Reports, and Guggenheim Securities, LLC

\* We acknowledge that the stock performance of PETX provides no bearing on the future stock performance of KIN.

## Kindred Bio Company Overview

## What Is Kindred Bio?

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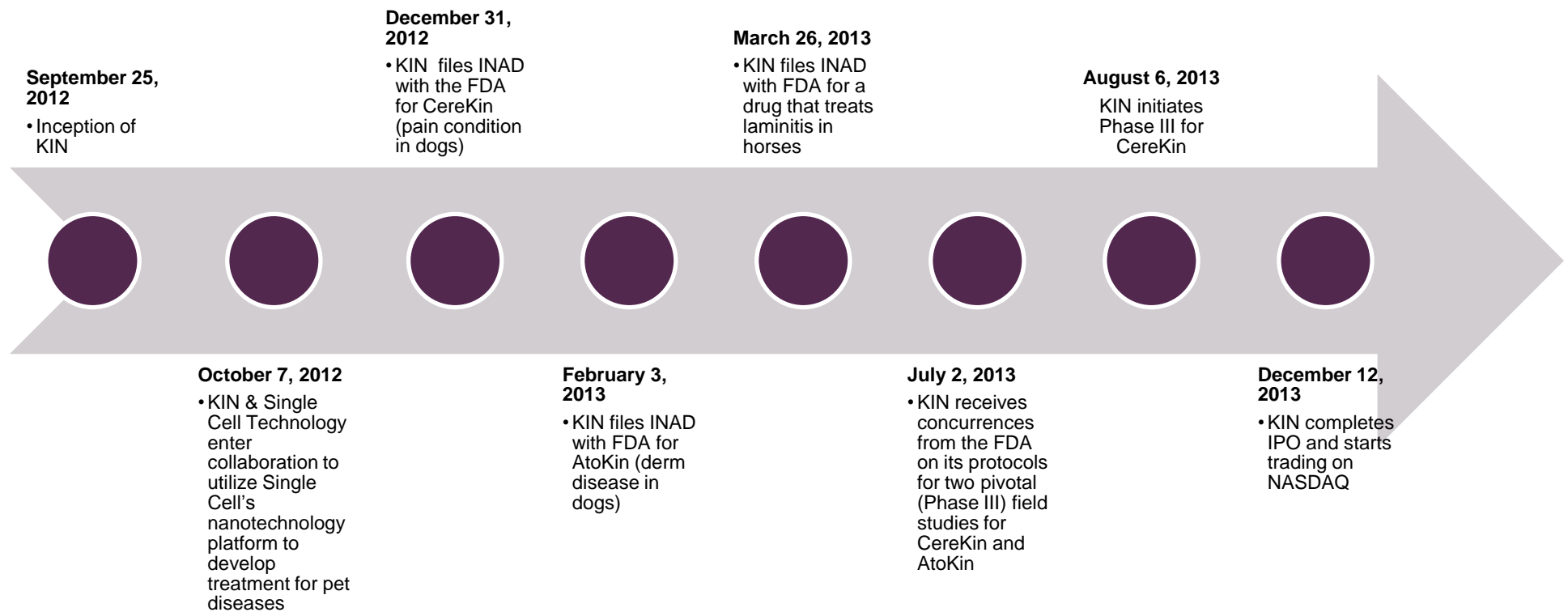
**Kindred's mission is to bring to pets the same kinds of safe and effective medicines that human family members enjoy.**

**Key elements of its business strategy are as follows:**

- Advance CereKin, AtoKin, SentiKin, and its other product candidates.
- Continue to focus on execution of cost-effective research and development.
- Leverage its antibody and biologics experience.
- Leverage its current product pipeline in additional animal species.
- Expand its pipeline with additional product candidates.
- Commercialize drugs with its own sales force in the United States and distributors in other regions.

Source: Kindred Bio S-1, Company Reports and Guggenheim Securities, LLC

# Kindred Bio History


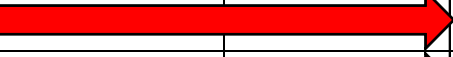
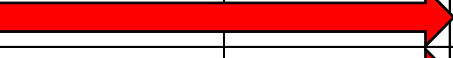







Source: Guggenheim Securities, LLC and Company Reports






## Key Pipeline Drugs

### Kindred has a pipeline of 10 drugs in development for up to three species for each drug

- The three key species are dogs, cats, and horses.
- The company expects to receive approval and launch up to three drugs in 2H15.
- Kindred expects to launch two to four new products each year starting in 2H15.

| Small Molecule Product Candidates                   | Indication                       | Pilot/Formulation  | INAD Filed | Pivotal Study | NADA                       |
|---|----------------------------------|--|------------|---------------|----------------------------|
| CereKin (KIND-001) - IL-1 Inhibitor                 | Osteoarthritis pain in dogs      |    |            |               | Anticipated filing in 2014 |
|   | Osteoarthritis pain in horses    |    |            |               |                            |
| AtoKin (KIND-002) - Anti-allergic drug              | Atopic dermatitis in dogs        |    |            |               | Anticipated filing in 2014 |
| SentiKin - Centrally acting analgesic               | Post-operative pain in dogs      |    |            |               | Anticipated filing in 2014 |
|   | Post-operative pain in horses    |    |            |               |                            |
| KIND-007 - Bruton's tyrosine kinase (BTK) inhibitor | Cancer & immune disease in dogs  |    |            |               |                            |
|   | Cancer & immune disease in cats  |    |            |               |                            |
| KIND-006 - Proton pump inhibitor                    | Gastrointestinal disease in cats |  |            |               |                            |

Source: Guggenheim Securities, LLC and Company Reports

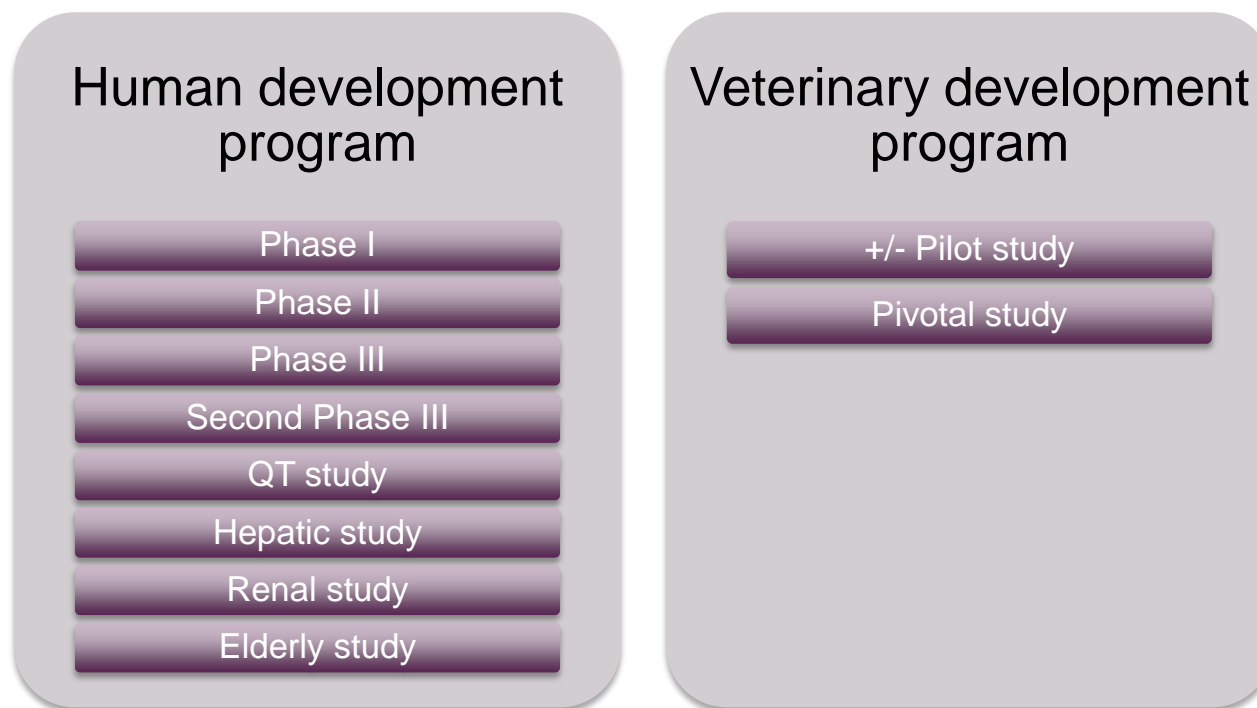
| Biologic Product Candidates         | Indication                    | Discovery/Process Development  | Manufacturing Process Development | Pivotal Study | PLA |
|-------------------------------------|-------------------------------|--|-----------------------------------|---------------|-----|
| KIND-502 - Anti-IgE antibody        | Allergic diseases in dogs     |  |                                   |               |     |
| KIND-506 - TNFR-Ig fusion protein   | Inflammatory diseases in dogs |  |                                   |               |     |
| KIND-507 - CLTA4-Ig fusion protein  | Autoimmune diseases in dogs   |  |                                   |               |     |
| KIND-504 - Cancer vaccine           | Cancer in dogs                |  |                                   |               |     |
| KIND-501 - Anti-VEGF fusion protein | Cancer in dogs                |  |                                   |               |     |

Source: Kindred Bio S-1, Company Reports and Guggenheim Securities, LLC

## Animal Drug Development Takes Half the Time of Human Drug Development



Source: Guggenheim Securities, LLC and Company Reports



Source: Kindred Bio S-1, Company Reports and Guggenheim Securities, LLC

## CereKin Opportunity

### **We believe CereKin has peak sales potential for dogs and horses of \$130MM by 2020; we expect it to be approved in 2H15**

- Kindred is developing CereKin for osteoarthritis pain and inflammation in dogs.
- It is approved ex-U.S. for the treatment of human osteoarthritis; its active ingredient is diacerein.
- The NSAID segment has been one of the fastest-growing categories in pet therapeutics over the last 15 years.
- Since 2005, the NSAID segment has continued to expand with four new NSAID approvals and the approval of generic Rimadyl (or carprofen).
  - Rimadyl remains the leading prescription NSAID, with 2012 U.S. sales of \$90MM and nearly 40% market share
  - Carprofen sales were ~\$20MM in 2012

### **CereKin has demonstrated disease-modifying efficacy in dogs and humans and could be an alternative to NSAIDs**

- NSAIDs are currently the only approved treatment for canine osteoarthritis.
- Canine osteoarthritis is a chronic joint disease diagnosed in 20% of dogs.
- Veterinarians recommend NSAID therapy for 83% of the dogs they treated with osteoarthritis; ~60% receive treatment.
- Given the side effects and required monitoring needed for NSAIDs, ~50% of chronically ill dogs cannot be treated.
- Some dogs have a sensitivity to NSAIDs (renal, hepatic/GI, toxicity, death).
- CereKin has a different mechanism of action than NSAIDs
  - Cytokine inhibitor and downregulates TNF
  - Oral, chewable, beef-flavored formulation of diacerein, an interleukin-1 beta inhibitor

### **CereKin may be used second line or in combination with other drugs**

- No need for liver or kidney monitoring, as compared to NSAIDs.
- Evidence of possible additive efficacy with NSAIDs.
- Dog toxicology studies already performed (by original sponsor).

Source: Kindred Bio S-1, Company Reports and Guggenheim Securities, LLC



## CereKin Opportunity

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### **The pivotal study for CereKin began on 8/6/13**

- The pivotal trial is a multi-center, randomized double-blind, placebo-controlled study of both safety and efficacy of CereKin.
- KIN intends to enroll at least 300 dogs aged one year or older and test two oral doses of CereKin.
  - 5 mg/kg twice daily and 20 mg/kg twice daily, versus placebo, for eight weeks

### **The primary endpoint of the pivotal trial will be the change in Canine Brief Pain Inventory, or CBPI, at eight weeks**

- The CBPI is a validated pain scoring system consisting of 10 questions asked of dog owners to evaluate the severity of their dog's pain and how much the pain interferes with the dog's normal behavior.
- For each question, scores can range from 0 to 10, with 10 being the most severe.
- Each dog will be scored on day one and at two-week intervals for eight weeks, with the endpoint measuring the change from day one to week eight.
- **Secondary endpoints** will include the change in score on the investigator's Dog Osteoarthritis Scoring Sheet, or DOSS, CBPI trends over the course of the study, and severity of individual signs of osteoarthritis from the DOSS.
  - DOSS is a six question investigator scoring system with scores ranging from zero to four, with four being the most severe

Source: Kindred Bio S-1, Company Reports and Guggenheim Securities, LLC

## AtoKin Opportunity

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**We believe AtoKin has peak sales potential of \$90MM for dogs by 2020; we expect it to be approved in late 2015**

- Anti-allergic drug for atopic dermatitis and approved for human use in allergic diseases.
- High-dose, oral, chewable, beef-flavored formulation of fexofenadine.
- If approved, AtoKin could be effective as both a first-line therapy and as a long-term maintenance therapy for chronic atopic dermatitis in dogs, with a safety profile superior to currently approved therapeutics.

**Atopic dermatitis is second most common dermatologic disease in dogs, after flea allergies**

- Affects 10% of all dogs.
- Dogs and owners both have extremely poor quality of life.
- Some dogs are put down because of the disease.
- Current therapies (steroids, cyclosporin, JAK2 inhibitor) are effective.
- But current therapies have side effects from long-term use (immunosuppression, osteoporosis, cataracts, etc.).
- Strong need for a good maintenance drug for atopic dermatitis.

Source: Kindred Bio S-1, Company Reports and Guggenheim Securities, LLC

## AtoKin Opportunity

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### **AtoKin's pivotal study is scheduled to begin in early 2014**

- The pivotal trial is a multi-center, randomized double-blind, placebo-controlled study.
- KIN intends to enroll at least 200 dogs one year of age or older with atopic dermatitis.
  - Will test 20 mg/kg oral doses of AtoKin once daily in addition to placebo

### **The co-primary endpoints of the pivotal trial are based on the Canine Atopic Dermatitis Lesion Index, or CADLI, and Pruritus Visual Analog Score, or PVAS**

- The CADLI score is a validated composite index of six clinical symptoms associated with canine atopic dermatitis evaluated in five specified body regions.
- At each specified body region, each parameter is scored by the investigator from 0 to 5.
- A score of 0 is defined as no lesion and a score of 5 is defined as a severe/extensive lesion.
- PVAS is scored by the pet owner using a 0 to 10 analog scale, with a score of 0 representing no pruritus/chewing and a score of 10 equating to incessant and intense pruritus/chewing.

Source: Kindred Bio S-1, Company Reports and Guggenheim Securities, LLC

## SentiKin Opportunity

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**We believe SentiKin has peak sales potential of \$125MM+ for dogs and horses by 2020; we expect it to be approved in late 2015**

- Oral, non-NSAID, non-opioid analgesic, formulation of flupirtine.
- It is being developed for management of post-operative pain in dogs and horses.
- If approved, SentiKin may provide post-operative pain relief that is superior to NSAIDs and comparable to some opioids, without the potential for opioid addiction or the risk of possible diversion and abuse by pet owners.
- The active ingredient in SentiKin is approved for the treatment of pain in humans in multiple countries outside the United States and has demonstrated potency superior to NSAIDs and comparable to weaker opioids such as tramadol.

### **No standard of care for the use of pain medications following dog surgeries**

- The only drugs currently approved for the treatment of post-operative pain in dogs are NSAIDs and fentanyl.
- NSAIDs are generally less effective than opioids in controlling pain and have side effects.
- Fentanyl is a controlled narcotic drug, and pets are often kept in the hospital.

Source: Kindred Bio S-1, Company Reports and Guggenheim Securities, LLC

## SentiKin Opportunity

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### **We believe there is a potentially large market opportunity for SentiKin**

- Veterinarians perform approximately 19MM dog surgeries each year.
- ~50% of dog surgeries are spays and neuters.
- Other surgeries include cancer surgery, declawing, cruciate repairs, and bone fracture repairs.
- There is no established protocol for the use of pain medications following these surgeries, and pain management practices have traditionally been based on the veterinarian's views on the level of pain associated with a specific surgical procedure.
- As pet owners have increasingly requested medications for their pets' post-operative pain, veterinarians have made recent advances in treating pain in pets.
- Some drugs used for post-operative pain in dogs have been approved by the FDA, while others are used extra-label.
- The only drugs approved for the treatment of post-operative pain in dogs are NSAIDs and fentanyl.
  - In 2012, Nexcyon received FDA approval for a transdermal fentanyl solution in dogs, but its use in this format has not been widely accepted by veterinarians.
  - Its mechanism of action is believed to be via selective opening of the potassium channel in cells that make neurons less susceptible to activation.

Source: Kindred Bio S-1, Aratana Company Reports and Guggenheim Securities, LLC

# Management

## Kindred Bio (KIN): Experienced Management Team

| Name, Position  | Formerly   |
|---|--|
| <b>Dr. Richard Chin</b><br>President and CEO                      | Genentech (Head of Clinical Research, Biotherapeutics), Elan (SVP Global Dev), Oxigene (CEO), ~50 INDs; Lucentis, Xolair, Tysabri, Rituxan   |
| <b>Stephen S. Galliker</b><br>Chief Financial Officer             | Dyax (EVP of Finance & Administration and CFO), Excel Switching Corporation (CFO), Director at Galena Biopharma and Mitomics, Inc.           |
| <b>Dr. Kevin Schultz</b><br>Chief Scientific Officer, Head of R&D | Merial (CSO and Head of R&D) and also worked at Merck, Frontline Plus, Oncept, Previcox, Gastrogard  |
| <b>Denise Bevers</b><br>Founder & COO                             | Founder of SD Scientific, also worked at Elan, Quintiles, Skyepharma, and Scripps Clinic, 25 years in biotech/pharma; 35 products/9 launches |
| <b>Stephen Sundlof, DVM, PhD</b><br>SVP of Regulatory Affairs     | Former Director of the Center for Veterinary Medicine (CVM) at the U.S. Food and Drug Administration (FDA)                                   |
| <b>Ernest Mario</b><br>Director                                   | Former CEO of GlaxoSmithKline, also worked at Reliant and Alza   |
| <b>Ervin Veszpremi</b><br>Director                                | Former Global Head of Marketing, Novartis Animal Health, also worked at Medichem   |

Source: Kindred Bio S-1, Company Reports and Guggenheim Securities, LLC



## Kindred Bio: Executive Compensation Plan

| Executive  | Annual Base Salary | Cash Bonus                      | Option Awards   | Other  |
|--|--------------------|---------------------------------|---|--|
| <b>Richard Chin, M.D.</b><br>Chairman and CEO  | \$300,000          | 50% of then-current base salary | Awarded option to purchase 400,000 shares of common stock at exercise price of \$0.36 per share | Entitled to receive 24 months of annual base salary if employment ends without cause |
| <b>Stephen S. Galliker</b><br>Chief Financial Officer  | \$220,000          | 30% of then-current base salary | Awarded option to purchase 25,000 shares of common stock at exercise price of \$1.37 per share  | Entitled to receive 6 months of annual base salary if employment ends without cause  |
| <b>Kevin Schultz, D.V.M., Ph.D.</b><br>Chief Scientific Officer & Head of Research & Development | \$220,000          | 30% of then-current base salary | Awarded option to purchase 50,000 shares of common stock at exercise price of \$1.37 per share  | Entitled to receive 6 months of annual base salary if employment ends without cause  |
| <b>Stephen Sundlof, D.V.M., Ph.D.</b><br>Senior Vice President President of Regulatory Affairs   | \$220,000          | 30% of then-current base salary | Awarded option to purchase 50,000 shares of common stock at exercise price of \$1.37 per share  | Entitled to receive 6 months of annual base salary if employment ends without cause  |
| <b>Denise Bevers</b><br>Chief Operating Officer  | \$220,000          | 30% of then-current base salary | Awarded option to purchase 96,092 shares of common stock at exercise price of \$1.37 per share  | Entitled to receive 6 months of annual base salary if employment ends without cause  |

Source: Kindred Bio S-1, Guggenheim Securities, LLC and Company Reports

- (1) The executive officers named in the table above held no unexercised options, unvested stock, or equity incentive plan awards as of 12/31/12.
- (2) CEO's bonus determined by individual and corporate goals determined by BOD within 30 days of the beginning of the fiscal year.
- (3) Executive bonuses determined by CEO and BODs.

# Animal Health Market

## Competition: Animal Health Market

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### **Animal Health is a \$92–102B industry; KIN competes in a \$22B segment of this market**

- The \$22B segment of the market is forecasted by Vetnosis to grow 6% a year from 2011 through 2016.
- Animal Health competition varies by region of the world, species, and product category.
- Quality, price, and service are ways for companies to differentiate themselves.
- Primary competitors to KIN include Animal Health medicines and vaccines companies:
  - Zoetis (formerly part of Pfizer)
  - Merck Animal Health (formerly known as Intervet/Schering-Plough)
  - Merial, the animal health division of Sanofi S.A.
  - Elanco, the animal health division of Eli Lilly
  - Bayer Animal Health
  - Novartis Animal Health
  - Boehringer Ingelheim Animal Health
  - Perrigo may develop generic companion animal drugs, but this is at least several years away
  - Aratana
  - In addition to the top players, there are hundreds of other Animal Health companies worldwide

### **There is lower risk of generic competition for Animal Health drugs. Reasons for this include:**

- The smaller average market size of each product opportunity.
- The importance of direct distribution and education to veterinarians and livestock producers.
- Companion animal health products are often directly prescribed and dispensed by veterinarians.
- The primarily self-pay nature of the business .
- Only 7% of FDA CVM approved medicines for dogs and cats have a veterinary generic equivalent.
- Generic competition is higher in Europe and in certain emerging markets than in the United States.

Source: Zoetis S-1, Company Reports and Guggenheim Securities, LLC

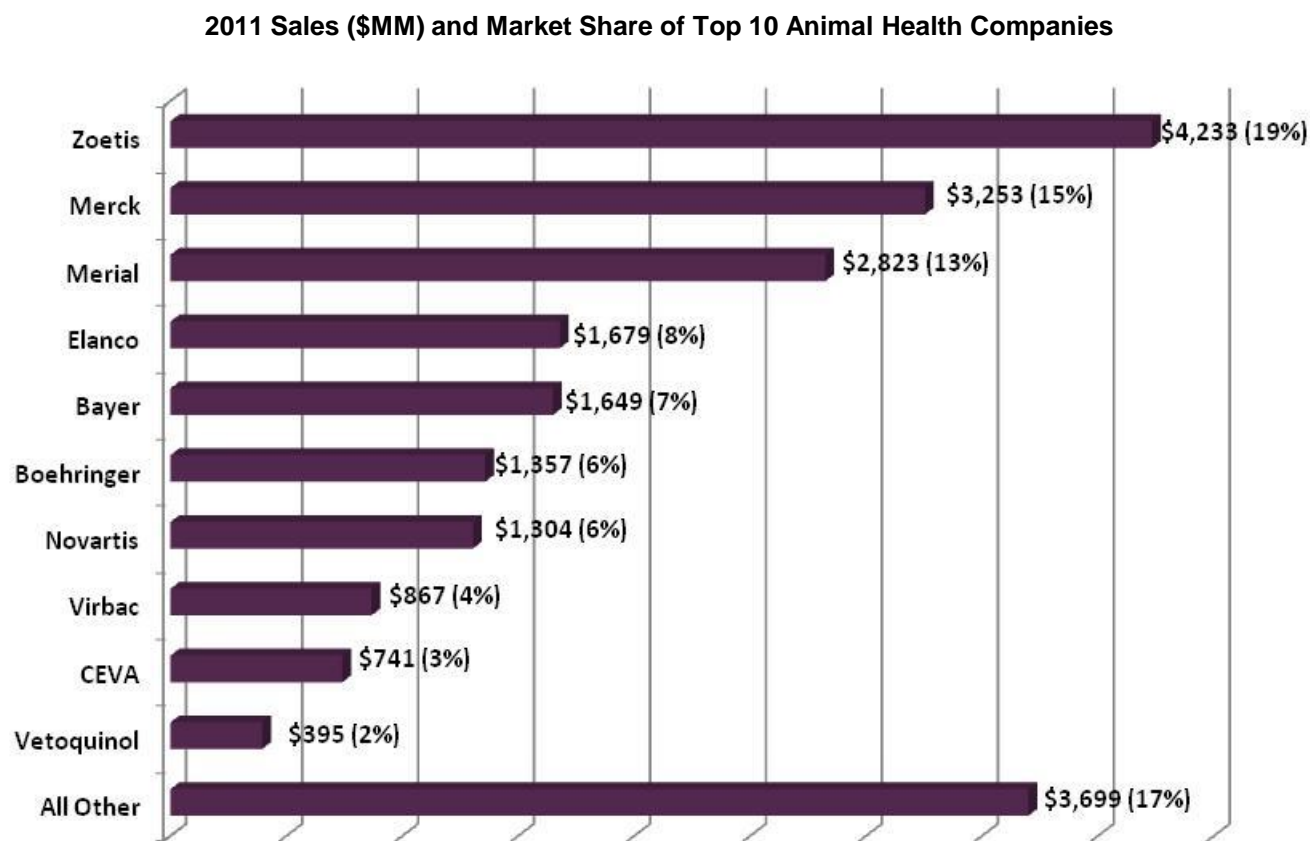
## Competition: Animal Health Market (cont.)

**There are many unmet or underserved needs in the companion animal market, and we expect this market to grow significantly as new, safe, and effective therapeutics are identified and developed**

- As an example, the market for therapeutics treating osteoarthritis for dogs has grown from less than \$10MM to over \$450MM since 1997, driven by the introduction of NSAIDs, such as Rimadyl.
- We expect continued market growth as new pet therapeutics are developed and owners grow more familiar with treating their pets with drugs.
- This continues a trend reported by the American Pet Products Association, or APPA, which found approximately 78% of U.S. dog owners treated their dogs with medications in 2010 versus 50% in 1998.
- There are 83MM owned dogs and 96MM owned cats in the United States, according to the Humane Society.
- Animal health companies have been relatively slow to develop new therapeutics for pets and have tended to focus primarily on the larger market for the treatment of livestock and other farm animals.
- On average, only approximately 11 NADAs were filed annually for animal therapeutics, compared to an average of approximately 123 NDAs filed annually for human therapeutics, over the five-year periods ended 6/30/12 and 12/31/11, respectively.
- In 2012, human pharmaceutical companies received FDA approval for 39 new drugs, while pet therapeutics companies received FDA approval for only 11 new drugs, six of which were for use in dogs or cats.
- In the European Union, human pharmaceutical companies received EMA approval for 52 drugs in 2012, compared to only three approvals for pet therapeutics companies.

Source: Kindred Bio S-1, Company Reports and Guggenheim Securities, LLC

## Competition: Animal Health Market (cont.)



Source: Zoetis S-1, Company Reports and Guggenheim Securities, LLC

## Event Calendar

## Kindred Bio Events Calendar

| Date                 | Driver              | Upcoming Event                             |
|----------------------|---------------------|--|
| <b>2014</b>          |                     |  |
| Early 2014           | AtoKin for Dogs     | Start pivotal study in atopic dermatitis   |
| Early 2014           | SentiKin for Dogs   | Start pivotal study in post-operative pain |
| 2Q14                 | CereKin for Dogs    | Data from pivotal study                    |
| Mid-2014             | CereKin for Dogs    | File NADA                                  |
| Mid-2014             | SentiKin for Horses | Start pivotal study in post-operative pain |
| 2014                 | Pipeline            | Start pivotal studies on 2 more drugs      |
| 2014                 | Pipeline            | File INADs on additional drugs             |
| 2014                 | CereKin for Horses  | Start pivotal study for OA pain            |
| 2014                 | CereKin for Horses  | Announce data from pivotal study           |
| Late 2014            | AtoKin for Dogs     | Data from pivotal study                    |
| Late 2014            | AtoKin for Dogs     | File NADA                                  |
| Late 2014            | SentiKin for Dogs   | Data from pivotal study                    |
| Late 2014            | SentiKin for Dogs   | File NADA                                  |
| <b>2015+</b>         |                     |  |
| Starting 2H15        | New products        | Expect 2 to 4 new launches a year          |
| 2H15                 | CereKin for Dogs    | Approval and launch expected               |
| Late 2015            | AtoKin for Dogs     | Approval and launch expected               |
| Late 2015/Early 2016 | SentiKin for Dogs   | Approval and launch expected               |
| 2016                 | CereKin for Horses  | Approval and launch expected               |
| 2032                 | NOLs                | Start to expire                            |

Source: Guggenheim Securities, LLC and Company reports



## Kindred Bio Financial Model

# Income Statement 2012 to 2020E

## Kindred Bio - Quarterly Income Statement Analysis 2012-2020E

| (\$ in Millions)               |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |        |          |        |        |        | CAGR    |
|--------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|--------|----------|--------|--------|--------|---------|
| (Year Ended December 31)       | 2012     | 1Q13A    | 2Q13A    | 3Q13A    | 4Q13E    | 2013E    | 1Q14E    | 2Q14E    | 3Q14E    | 4Q14E    | 2014E    | 1Q15E    | 2Q15E    | 3Q15E    | 4Q15E    | 2015E    | 2016E  | 2017E    | 2018E  | 2019E  | 2020E  | 16E-20E |
| <b>Total Revenue</b>           | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 3.0      | 7.2      | 10.2     | 84.4   | 169.3    | 259.2  | 335.5  | 404.6  | 48.0    |
| COGS                           | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 1.8      | 4.3      | 6.1      | 46.4   | 91.4     | 137.4  | 174.5  | 206.4  |         |
| Gross Profit                   | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 1.2      | 2.9      | 4.1      | 38.0   | 77.9     | 121.8  | 161.0  | 198.3  |         |
| R&D                            | 0.1      | 0.2      | 0.3      | 1.0      | 1.3      | 2.6      | 1.3      | 1.3      | 1.4      | 1.5      | 5.5      | 1.4      | 1.5      | 1.5      | 1.6      | 6.0      | 6.5    | 9.0      | 10.0   | 13.0   | 15.0   |         |
| SG&A                           | 0.0      | 0.1      | 0.1      | 0.3      | 0.4      | 0.8      | 0.6      | 0.8      | 2.0      | 3.0      | 6.4      | 5.5      | 6.5      | 7.5      | 8.5      | 28.0     | 31.4   | 35.1     | 39.7   | 45.6   | 53.4   |         |
| Other (Income)/Expense         | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0    | 0.0      | 0.0    | 0.0    | 0.0    |         |
| <b>Total Operating Expense</b> | 0.1      | 0.2      | 0.4      | 1.2      | 1.7      | 3.5      | 1.9      | 2.1      | 3.4      | 4.5      | 11.9     | 6.9      | 8.0      | 9.0      | 10.1     | 34.0     | 37.9   | 44.1     | 49.7   | 58.6   | 68.4   |         |
| <b>Operating Income</b>        | (0.1)    | (0.2)    | (0.4)    | (1.2)    | (1.7)    | (3.5)    | (1.9)    | (2.1)    | (3.4)    | (4.5)    | (11.9)   | (6.9)    | (8.0)    | (7.8)    | (7.2)    | (29.9)   | 0.1    | 33.8     | 72.1   | 102.4  | 129.9  | 467.0   |
| Interest Income                | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0    | 0.0      | 0.0    | 0.0    | 0.0    |         |
| Interest Expense               | 0.0      | 0.0      | 0.0      | (0.0)    | 0.0      | (0.0)    | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0    | 0.0      | 0.0    | 0.0    | 0.0    |         |
| <b>Non-Operating Items</b>     | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0    | 0.0      | 0.0    | 0.0    | 0.0    |         |
| Pre-tax Income                 | (0.1)    | (0.2)    | (0.4)    | (1.2)    | (1.7)    | (3.5)    | (1.9)    | (2.1)    | (3.4)    | (4.5)    | (11.9)   | (6.9)    | (8.0)    | (7.8)    | (7.2)    | (29.9)   | 0.1    | 33.8     | 72.1   | 102.4  | 129.9  |         |
| Tax Rate                       | 0.0%     | 0.0%     | 0.0%     | 0.0%     | 0.0%     | 0.0%     | 0.0%     | 0.0%     | 0.0%     | 0.0%     | 0.0%     | 0.0%     | 0.0%     | 0.0%     | 0.0%     | 0.0%     | 0.0%   | 40.0%    | 40.0%  | 40.0%  | 40.0%  |         |
| Taxes                          | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0    | 13.5     | 28.9   | 41.0   | 51.9   |         |
| <b>Net Income</b>              | (\$0.1)  | (\$0.2)  | (\$0.4)  | (\$1.2)  | (\$1.7)  | (\$3.5)  | (\$1.9)  | (\$2.1)  | (\$3.4)  | (\$4.5)  | (\$11.9) | (\$6.9)  | (\$8.0)  | (\$7.8)  | (\$7.2)  | (\$29.9) | \$0.1  | \$20.3   | \$43.3 | \$61.4 | \$77.9 | 399.1   |
| Average Shares Diluted         | 2.7      | 4.0      | 4.2      | 5.9      | 8.9      | 6.4      | 16.2     | 16.2     | 16.2     | 16.3     | 16.2     | 16.3     | 16.3     | 16.4     | 16.4     | 16.3     | 17.9   | 18.3     | 18.7   | 19.1   | 19.5   |         |
| <b>Adjusted Diluted EPS</b>    | (\$0.04) | (\$0.06) | (\$0.09) | (\$0.21) | (\$0.19) | (\$0.54) | (\$0.12) | (\$0.13) | (\$0.21) | (\$0.27) | (\$0.73) | (\$0.43) | (\$0.49) | (\$0.48) | (\$0.44) | (\$1.83) | \$0.01 | \$1.11   | \$2.32 | \$3.22 | \$4.00 | 388.5   |
| <b>%Change</b>                 |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |        |          |        |        |        |         |
| <b>Total Revenue</b>           | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | 726.0% | 100.6%   | 53.1%  | 29.4%  | 20.6%  |         |
| COGS                           | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | 657.1% | 96.9%    | 50.3%  | 27.0%  | 18.3%  |         |
| Gross Profit                   | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | 829.2% | 105.0%   | 56.4%  | 32.2%  | 23.1%  |         |
| R&D                            | NM       | NM       | NM       | NM       | NM       | NM       | 731.3%   | 377.8%   | 44.2%    | 16.6%    | 108.0%   | 9.1%     | 9.1%     | 9.1%     | 9.1%     | 9.1%     | 8.3%   | 38.5%    | 11.1%  | 30.0%  | 15.4%  |         |
| SG&A                           | NM       | NM       | NM       | NM       | NM       | NM       | 832.7%   | 600.2%   | 671.7%   | 650.0%   | 664.0%   | 816.7%   | 712.5%   | 275.0%   | 183.3%   | 337.5%   | 12.0%  | 12.0%    | 13.0%  | 15.0%  | 17.0%  |         |
| <b>Operating Income</b>        | NM       | NM       | NM       | NM       | NM       | NM       | 760.5%   | 442.0%   | 178.3%   | 170.2%   | 241.7%   | 261.5%   | 271.1%   | 131.1%   | 61.6%    | 151.4%   | NM     | 26771.3% | 113.7% | 41.9%  | 26.8%  |         |
| <b>Non-Operating Items</b>     | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | -100.0%  | NM       | -100.0%  | NM       | NM       | NM       | NM       | NM       | NM     | NM       | NM     | NM     | NM     |         |
| Pre-tax Income                 | NM       | NM       | NM       | NM       | NM       | NM       | 760.5%   | 442.0%   | 178.9%   | 170.2%   | 242.0%   | 261.5%   | 271.1%   | 131.1%   | 61.6%    | 151.4%   | NM     | 26771.3% | 113.7% | 41.9%  | 26.8%  |         |
| Tax Rate                       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM     | NM       | 0.0%   | 0.0%   | 0.0%   |         |
| Taxes                          | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM       | NM     | NM       | 113.7% | 41.9%  | 26.8%  |         |
| <b>Net Income</b>              | NM       | NM       | NM       | NM       | NM       | NM       | 760.5%   | 442.0%   | 178.9%   | 170.2%   | 242.0%   | 261.5%   | 271.1%   | 131.1%   | 61.6%    | 151.4%   | NM     | 16022.8% | 113.7% | 41.9%  | 26.8%  |         |

Source: Guggenheim Securities, LLC and Company Reports

(1) In 2012, financials are for the period from 9/25/12 (inception of the company) through 12/31/12.

(2) Do not assume any NOLs in our financial model.

# Margin Analysis 2012 to 2020E

## Kindred Bio - Quarterly Margin Analysis 2012-2020E

|               | 2012   | 1Q13A  | 2Q13A  | 3Q13A  | 4Q13E  | 2013E  | 1Q14E  | 2Q14E  | 3Q14E  | 4Q14E  | 2014E  | 1Q15E  | 2Q15E  | 3Q15E   | 4Q15E  | 2015E   | 2016E  | 2017E  | 2018E  | 2019E  | 2020E  |
|---------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|---------|--------|--------|--------|--------|--------|
| Total Revenue | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0%  | 100.0% | 100.0%  | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| COGS          | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | 60.0%   | 60.0%  | 60.0%   | 55.0%  | 54.0%  | 53.0%  | 52.0%  | 51.0%  |
| Gross Margin  | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | 40.0%   | 40.0%  | 40.0%   | 45.0%  | 46.0%  | 47.0%  | 48.0%  | 49.0%  |
| R&D           | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | 50.0%   | 22.0%  | 58.7%   | 7.7%   | 5.3%   | 3.9%   | 3.9%   | 3.7%   |
| SG&A          | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | 250.0%  | 117.7% | 274.0%  | 37.2%  | 20.7%  | 15.3%  | 13.6%  | 13.2%  |
| Oper. Inc.    | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | -260.0% | -99.8% | -292.7% | 0.1%   | 19.9%  | 27.8%  | 30.5%  | 32.1%  |
| Pretax Income | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | -260.0% | -99.8% | -292.7% | 0.1%   | 19.9%  | 27.8%  | 30.5%  | 32.1%  |
| Net Income    | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | NM     | -260.0% | -99.8% | -292.7% | 0.1%   | 12.0%  | 16.7%  | 18.3%  | 19.3%  |

Source: Guggenheim Securities, LLC and Company Reports

# Quarterly Revenue Model 2012 to 2020E

## Kindred Bio - Quarterly Revenue Model 2012-2020E

| (\$ in Millions)  |      |       |       |       |       |       |       |       |       |       |       |       |       |       |        |       |       |       |       |       |       |     |
|---|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------|-------|-------|-------|-----|
| (Year Ended December 31)  | 2012 | 1Q13A | 2Q13A | 3Q13A | 4Q13E | 2013E | 1Q14E | 2Q14E | 3Q14E | 4Q14E | 2014E | 1Q15E | 2Q15E | 3Q15E | 4Q154E | 2015E | 2016E | 2017E | 2018E | 2019E | 2020E |     |
| Dogs (Osteoarthritis Pain, Pivotal Study, NADA Filing 2014)     | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 3.0   | 7.2    | 10.2  | 25.6  | 40.9  | 51.1  | 56.2  | 61.3  |     |
| Horses (Osteoarthritis Pain, INAD Filed)                        | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0   | 9.2   | 23.0  | 36.8  | 46.0  | 50.6  |     |
| CereKin KIND-001 (IL-1 Inhibitor)                               | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 3.0   | 7.2    | 10.2  | 34.8  | 63.9  | 87.9  | 102.2 | 111.9 |     |
| Dogs (Atopic Dermatitis, INAD Filed, NADA Filing 2014)          | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0   | 35.0  | 45.5  | 56.0  | 66.5  | 77.0  |     |
| AtoKin KIND-002 (Anti-Allergic Drug)                            | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0   | 35.0  | 45.5  | 56.0  | 66.5  | 77.0  |     |
| Dogs (Post-Operative Pain, INAD Filed, NADA Filing 2014)        | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0   | 1.7   | 16.6  | 33.3  | 39.9  | 49.9  |     |
| Horses (Post-Operative Pain, Pilot/Formulation)                 | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0   | 10.8  | 25.2  | 43.2  | 54.0  |     |
| SentiKin (Centrally Acting Analgesic)                           | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0   | 1.7   | 27.4  | 58.5  | 83.1  | 103.9 |     |
| Dogs (Cancer & Immune Disease, INAD Filed)                      | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |     |
| Cats (Cancer & Immune Disease, Pilot/Formulation)               | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |     |
| KIND-007 (Bruton's Tyrosine Kinase/BTK Inhibitor)               | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |     |
| Cats (GI Disease, INAD Filed)                                   | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |     |
| KIND-006 (Promotility Agent)                                    | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |     |
| Dogs (Allergic diseases in dogs, discovery/process development) | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |     |
| KIND-502 (Anti-IgE Antibody)                                    | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |     |
| Dogs (Inflammatory Disease, mfg. process development)           | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |     |
| KIND-506 (TNFR-Ig Fusion Protein)                               | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |     |
| Dogs (Autoimmune Disease, mfg. process development)             | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |     |
| KIND-507 (CLTA4-Ig Fusion Protein)                              | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |     |
| Dogs (Cancer, mfg. process development)                         | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |     |
| KIND-504 (Vaccines for Cancer)                                  | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |     |
| Dogs (Cancer, mfg. process development)                         | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |     |
| KIND-501 (Anti-VEGF Fusion Protein)                             | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |     |
| Other   | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0   | 13.0  | 32.5  | 56.9  | 83.7  | 111.8 |     |
| TOTAL REVENUES  | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 3.0   | 7.2    | 10.2  | 84.4  | 169.3 | 259.2 | 335.5 | 404.6 |     |
| %Change   |      |       |       |       |       |       |       |       |       |       |       |       |       |       |        |       |       |       |       |       |       |     |
| CereKin KIND-001 (IL-1 Inhibitor)                               |      |       |       |       |       | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM     | NM    | 240%  | 84%   | 38%   | 16%   | 10%   |     |
| AtoKin KIND-002 (Anti-Allergic Drug)                            |      |       |       |       |       | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM     | NM    | NM    | 30%   | 23%   | 19%   | 16%   |     |
| SentiKin (Centrally Acting Analgesic)                           |      |       |       |       |       | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM     | NM    | NM    | 1550% | 113%  | 42%   | 25%   |     |
| KIND-007 (Bruton's Tyrosine Kinase/BTK Inhibitor)               |      |       |       |       |       | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM     | NM    | NM    | NM    | NM    | NM    | NM    |     |
| KIND-006 (Promotility Agent)                                    |      |       |       |       |       | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM     | NM    | NM    | NM    | NM    | NM    | NM    |     |
| KIND-502 (Anti-IgE Antibody)                                    |      |       |       |       |       | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM     | NM    | NM    | NM    | NM    | NM    | NM    |     |
| KIND-506 (TNFR-Ig Fusion Protein)                               |      |       |       |       |       | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM     | NM    | NM    | NM    | NM    | NM    | NM    |     |
| KIND-507 (CLTA4-Ig Fusion Protein)                              |      |       |       |       |       | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM     | NM    | NM    | NM    | NM    | NM    | NM    |     |
| KIND-504 (Vaccines for Cancer)                                  |      |       |       |       |       | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM     | NM    | NM    | NM    | NM    | NM    | NM    |     |
| KIND-501 (Anti-VEGF Fusion Protein)                             |      |       |       |       |       | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM     | NM    | NM    | NM    | NM    | NM    | NM    |     |
| Other   |      |       |       |       |       | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM     | NM    | NM    | 150%  | 75%   | 47%   | 34%   |     |
| TOTAL REVENUES  |      |       |       |       |       | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM    | NM     | NM    | NM    | 726%  | 101%  | 53%   | 29%   | 21% |

Source: Guggenheim Securities, LLC and Company Reports

# Annual Revenue Model 2012 to 2020E

## Kindred Bio - Annual Revenue Model 2012-2020E

| (\$ in Millions)  | Year Ended December 31st, |            |            |             |             |              |              |              |              | 2013E/    | 2014E/    | 2015E/    | 2016E/        | 2017E/         | 2018E/        | 2019E/       | 2020E/       | CAGR          |
|---|---------------------------|------------|------------|-------------|-------------|--------------|--------------|--------------|--------------|-----------|-----------|-----------|---------------|----------------|---------------|--------------|--------------|---------------|
|   | 2012                      | 2013E      | 2014E      | 2015E       | 2016E       | 2017E        | 2018E        | 2019E        | 2020E        | 2012      | 2013E     | 2014E     | 2015E         | 2016E          | 2017E         | 2018E        | 2019E        | 16E-20E       |
| <b>CereKin KIND-001 (IL-1 Inhibitor)</b>                        |                           |            |            |             |             |              |              |              |              |           |           |           |               |                |               |              |              |               |
| Dogs (Osteoarthritis Pain, Pivotal Study, NADA Filing 2014)     | 0.0                       | 0.0        | 0.0        | 10.2        | 25.6        | 40.9         | 51.1         | 56.2         | 61.3         | NM        | NM        | NM        | 150.0%        | 60.0%          | 25.0%         | 10.0%        | 9.1%         | 24.5%         |
| Horses (Osteoarthritis Pain, INAD Filed)                        | 0.0                       | 0.0        | 0.0        | 0.0         | 9.2         | 23.0         | 36.8         | 46.0         | 50.6         | NM        | NM        | NM        | NM            | 150.0%         | 60.0%         | 25.0%        | 10.0%        | 53.1%         |
| <b>Total CereKin KIND-001 (IL-1 Inhibitor)</b>                  | <b>0.0</b>                | <b>0.0</b> | <b>0.0</b> | <b>10.2</b> | <b>34.8</b> | <b>63.9</b>  | <b>87.9</b>  | <b>102.2</b> | <b>111.9</b> | <b>NM</b> | <b>NM</b> | <b>NM</b> | <b>240.0%</b> | <b>83.8%</b>   | <b>37.6%</b>  | <b>16.3%</b> | <b>9.5%</b>  | <b>34.0%</b>  |
| <b>AtoKin KIND-002 (Anti-Allergic Drug)</b>                     |                           |            |            |             |             |              |              |              |              |           |           |           |               |                |               |              |              |               |
| Dogs (Atopic Dermatitis, INAD Filed, NADA Filing 2014)          | 0.0                       | 0.0        | 0.0        | 0.0         | 35.0        | 45.5         | 56.0         | 66.5         | 77.0         | NM        | NM        | NM        | NM            | 30.0%          | 23.1%         | 18.8%        | 15.8%        | 21.8%         |
| <b>Total AtoKin KIND-002 (Anti-Allergic Drug)</b>               | <b>0.0</b>                | <b>0.0</b> | <b>0.0</b> | <b>0.0</b>  | <b>35.0</b> | <b>45.5</b>  | <b>56.0</b>  | <b>66.5</b>  | <b>77.0</b>  | <b>NM</b> | <b>NM</b> | <b>NM</b> | <b>NM</b>     | <b>30.0%</b>   | <b>23.1%</b>  | <b>18.8%</b> | <b>15.8%</b> | <b>21.8%</b>  |
| <b>SentiKin (Centrally Acting Analgesic)</b>                    |                           |            |            |             |             |              |              |              |              |           |           |           |               |                |               |              |              |               |
| Dogs (Post-Operative Pain, INAD Filed, NADA Filing 2014)        | 0.0                       | 0.0        | 0.0        | 0.0         | 1.7         | 16.6         | 33.3         | 39.9         | 49.9         | NM        | NM        | NM        | NM            | 900.0%         | 100.0%        | 20.0%        | 25.0%        | 134.0%        |
| Horses (Post-Operative Pain, Pilot/Formulation)                 | 0.0                       | 0.0        | 0.0        | 0.0         | 0.0         | 10.8         | 25.2         | 43.2         | 54.0         | NM        | NM        | NM        | NM            | NM             | 133.3%        | 71.4%        | 25.0%        | NM            |
| <b>Total SentiKin (Centrally Acting Analgesic)</b>              | <b>0.0</b>                | <b>0.0</b> | <b>0.0</b> | <b>0.0</b>  | <b>1.7</b>  | <b>27.4</b>  | <b>58.5</b>  | <b>83.1</b>  | <b>103.9</b> | <b>NM</b> | <b>NM</b> | <b>NM</b> | <b>NM</b>     | <b>1549.6%</b> | <b>113.1%</b> | <b>42.2%</b> | <b>25.0%</b> | <b>181.1%</b> |
| <b>KIND-007 (Bruton's Tyrosine Kinase/BTK Inhibitor)</b>        |                           |            |            |             |             |              |              |              |              |           |           |           |               |                |               |              |              |               |
| Dogs (Cancer & Immune Disease, INAD Filed)                      | 0.0                       | 0.0        | 0.0        | 0.0         | 0.0         | 0.0          | 0.0          | 0.0          | 0.0          | 0.0%      | 0.0%      | 0.0%      | 0.0%          | 0.0%           | 0.0%          | 0.0%         | 0.0%         | NM            |
| Cats (Cancer & Immune Disease, Pilot/Formulation)               | 0.0                       | 0.0        | 0.0        | 0.0         | 0.0         | 0.0          | 0.0          | 0.0          | 0.0          | 0.0%      | 0.0%      | 0.0%      | 0.0%          | 0.0%           | 0.0%          | 0.0%         | 0.0%         | NM            |
| <b>Total KIND-007 (Bruton's Tyrosine Kinase/BTK Inhibitor)</b>  | <b>0.0</b>                | <b>0.0</b> | <b>0.0</b> | <b>0.0</b>  | <b>0.0</b>  | <b>0.0</b>   | <b>0.0</b>   | <b>0.0</b>   | <b>0.0</b>   | <b>NM</b> | <b>NM</b> | <b>NM</b> | <b>NM</b>     | <b>NM</b>      | <b>NM</b>     | <b>NM</b>    | <b>NM</b>    | <b>NM</b>     |
| <b>KIND-006 (Promotility Agent)</b>                             |                           |            |            |             |             |              |              |              |              |           |           |           |               |                |               |              |              |               |
| Cats (GI Disease, INAD Filed)                                   | 0.0                       | 0.0        | 0.0        | 0.0         | 0.0         | 0.0          | 0.0          | 0.0          | 0.0          | 0.0%      | 0.0%      | 0.0%      | 0.0%          | 0.0%           | 0.0%          | 0.0%         | 0.0%         | NM            |
| <b>Total KIND-006 (Promotility Agent)</b>                       | <b>0.0</b>                | <b>0.0</b> | <b>0.0</b> | <b>0.0</b>  | <b>0.0</b>  | <b>0.0</b>   | <b>0.0</b>   | <b>0.0</b>   | <b>0.0</b>   | <b>NM</b> | <b>NM</b> | <b>NM</b> | <b>NM</b>     | <b>NM</b>      | <b>NM</b>     | <b>NM</b>    | <b>NM</b>    | <b>NM</b>     |
| <b>KIND-502 (Anti-IgE Antibody)</b>                             |                           |            |            |             |             |              |              |              |              |           |           |           |               |                |               |              |              |               |
| Dogs (Allergic diseases in dogs, discovery/process development) | 0.0                       | 0.0        | 0.0        | 0.0         | 0.0         | 0.0          | 0.0          | 0.0          | 0.0          | 0.0%      | 0.0%      | 0.0%      | 0.0%          | 0.0%           | 0.0%          | 0.0%         | 0.0%         | NM            |
| <b>Total KIND-502 (Anti-IgE Antibody)</b>                       | <b>0.0</b>                | <b>0.0</b> | <b>0.0</b> | <b>0.0</b>  | <b>0.0</b>  | <b>0.0</b>   | <b>0.0</b>   | <b>0.0</b>   | <b>0.0</b>   | <b>NM</b> | <b>NM</b> | <b>NM</b> | <b>NM</b>     | <b>NM</b>      | <b>NM</b>     | <b>NM</b>    | <b>NM</b>    | <b>NM</b>     |
| <b>KIND-506 (TNFR-Ig Fusion Protein)</b>                        |                           |            |            |             |             |              |              |              |              |           |           |           |               |                |               |              |              |               |
| Dogs (Inflammatory Disease, mfg. process development)           | 0.0                       | 0.0        | 0.0        | 0.0         | 0.0         | 0.0          | 0.0          | 0.0          | 0.0          | 0.0%      | 0.0%      | 0.0%      | 0.0%          | 0.0%           | 0.0%          | 0.0%         | 0.0%         | NM            |
| <b>Total KIND-506 (TNFR-Ig Fusion Protein)</b>                  | <b>0.0</b>                | <b>0.0</b> | <b>0.0</b> | <b>0.0</b>  | <b>0.0</b>  | <b>0.0</b>   | <b>0.0</b>   | <b>0.0</b>   | <b>0.0</b>   | <b>NM</b> | <b>NM</b> | <b>NM</b> | <b>NM</b>     | <b>NM</b>      | <b>NM</b>     | <b>NM</b>    | <b>NM</b>    | <b>NM</b>     |
| <b>KIND-507 (CLTA4-Ig Fusion Protein)</b>                       |                           |            |            |             |             |              |              |              |              |           |           |           |               |                |               |              |              |               |
| Dogs (Autoimmune Disease, mfg. process development)             | 0.0                       | 0.0        | 0.0        | 0.0         | 0.0         | 0.0          | 0.0          | 0.0          | 0.0          | 0.0%      | 0.0%      | 0.0%      | 0.0%          | 0.0%           | 0.0%          | 0.0%         | 0.0%         | NM            |
| <b>Total KIND-507 (CLTA4-Ig Fusion Protein)</b>                 | <b>0.0</b>                | <b>0.0</b> | <b>0.0</b> | <b>0.0</b>  | <b>0.0</b>  | <b>0.0</b>   | <b>0.0</b>   | <b>0.0</b>   | <b>0.0</b>   | <b>NM</b> | <b>NM</b> | <b>NM</b> | <b>NM</b>     | <b>NM</b>      | <b>NM</b>     | <b>NM</b>    | <b>NM</b>    | <b>NM</b>     |
| <b>KIND-504 (Vaccines for Cancer)</b>                           |                           |            |            |             |             |              |              |              |              |           |           |           |               |                |               |              |              |               |
| Dogs (Cancer, mfg. process development)                         | 0.0                       | 0.0        | 0.0        | 0.0         | 0.0         | 0.0          | 0.0          | 0.0          | 0.0          | 0.0%      | 0.0%      | 0.0%      | 0.0%          | 0.0%           | 0.0%          | 0.0%         | 0.0%         | NM            |
| <b>Total KIND-504 (Vaccines for Cancer)</b>                     | <b>0.0</b>                | <b>0.0</b> | <b>0.0</b> | <b>0.0</b>  | <b>0.0</b>  | <b>0.0</b>   | <b>0.0</b>   | <b>0.0</b>   | <b>0.0</b>   | <b>NM</b> | <b>NM</b> | <b>NM</b> | <b>NM</b>     | <b>NM</b>      | <b>NM</b>     | <b>NM</b>    | <b>NM</b>    | <b>NM</b>     |
| <b>KIND-501 (Anti-VEGF Fusion Protein)</b>                      |                           |            |            |             |             |              |              |              |              |           |           |           |               |                |               |              |              |               |
| Dogs (Cancer, mfg. process development)                         | 0.0                       | 0.0        | 0.0        | 0.0         | 0.0         | 0.0          | 0.0          | 0.0          | 0.0          | 0.0%      | 0.0%      | 0.0%      | 0.0%          | 0.0%           | 0.0%          | 0.0%         | 0.0%         | NM            |
| <b>Total KIND-501 (Anti-VEGF Fusion Protein)</b>                | <b>0.0</b>                | <b>0.0</b> | <b>0.0</b> | <b>0.0</b>  | <b>0.0</b>  | <b>0.0</b>   | <b>0.0</b>   | <b>0.0</b>   | <b>0.0</b>   | <b>NM</b> | <b>NM</b> | <b>NM</b> | <b>NM</b>     | <b>NM</b>      | <b>NM</b>     | <b>NM</b>    | <b>NM</b>    | <b>NM</b>     |
| <b>Other</b>  | <b>0.0</b>                | <b>0.0</b> | <b>0.0</b> | <b>0.0</b>  | <b>13.0</b> | <b>32.5</b>  | <b>56.9</b>  | <b>83.7</b>  | <b>111.8</b> | <b>NM</b> | <b>NM</b> | <b>NM</b> | <b>NM</b>     | <b>150.0%</b>  | <b>75.0%</b>  | <b>47.1%</b> | <b>33.6%</b> | <b>71.3%</b>  |
| <b>TOTAL REVENUES</b>   | <b>0.0</b>                | <b>0.0</b> | <b>0.0</b> | <b>10.2</b> | <b>84.4</b> | <b>169.3</b> | <b>259.2</b> | <b>335.5</b> | <b>404.6</b> | <b>NM</b> | <b>NM</b> | <b>NM</b> | <b>726.0%</b> | <b>100.6%</b>  | <b>53.1%</b>  | <b>29.4%</b> | <b>20.6%</b> | <b>108.7%</b> |

Source: Guggenheim Securities, LLC and Company Reports

# Kindred Bio Market Model

## Kindred Bio - Market Model 2012-2020E

| (\$ in MM)                                 | Year Ended December 31st, |            |            |             |             |             |             |             |             |
|--|---------------------------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|
|  | 2012                      | 2013E      | 2014E      | 2015E       | 2016E       | 2017E       | 2018E       | 2019E       | 2020E       |
| <b>CereKin (Osteoarthritis Pain)</b>       |                           |            |            |             |             |             |             |             |             |
| # Dogs with Osteoarthritis Pain            | 14                        | 14         | 14         | 14          | 14          | 14          | 14          | 14          | 14          |
| Cost Per Treatment (\$1/Day or \$365/Year) | \$365                     | \$365      | \$365      | \$365       | \$365       | \$365       | \$365       | \$365       | \$365       |
| Osteoarthritis Pain Dog Market             | \$5,110                   | \$5,110    | \$5,110    | \$5,110     | \$5,110     | \$5,110     | \$5,110     | \$5,110     | \$5,110     |
| % Penetration                              | 0.0%                      | 0.0%       | 0.0%       | 0.2%        | 0.5%        | 0.8%        | 1.0%        | 1.1%        | 1.2%        |
| <b>CereKin Dog Revenue</b>                 | <b>\$0</b>                | <b>\$0</b> | <b>\$0</b> | <b>\$10</b> | <b>\$26</b> | <b>\$41</b> | <b>\$51</b> | <b>\$56</b> | <b>\$61</b> |
| <b>CereKin Horse Revenue</b>               |                           |            |            |             |             |             |             |             |             |
| # Horses with Osteoarthritis Pain          | 9                         | 9          | 9          | 9           | 9           | 9           | 9           | 9           | 9           |
| Cost Per Treatment                         | \$500                     | \$500      | \$500      | \$500       | \$500       | \$500       | \$500       | \$500       | \$500       |
| Osteoarthritis Pain Horse Market           | \$4,600                   | \$4,600    | \$4,600    | \$4,600     | \$4,600     | \$4,600     | \$4,600     | \$4,600     | \$4,600     |
| % Penetration                              | 0.0%                      | 0.0%       | 0.0%       | 0.0%        | 0.2%        | 0.5%        | 0.8%        | 1.0%        | 1.1%        |
| <b>CereKin Horse Revenue</b>               | <b>\$0</b>                | <b>\$0</b> | <b>\$0</b> | <b>\$0</b>  | <b>\$9</b>  | <b>\$23</b> | <b>\$37</b> | <b>\$46</b> | <b>\$51</b> |
| <b>AtoKin (Atopic Dermatitis)</b>          |                           |            |            |             |             |             |             |             |             |
| # Dogs with Atopic Dermatitis              | 7                         | 7          | 7          | 7           | 7           | 7           | 7           | 7           | 7           |
| Cost Per Treatment (\$500/Year)            | \$500                     | \$500      | \$500      | \$500       | \$500       | \$500       | \$500       | \$500       | \$500       |
| Atopic Dermatitis Dog Market               | \$3,500                   | \$3,500    | \$3,500    | \$3,500     | \$3,500     | \$3,500     | \$3,500     | \$3,500     | \$3,500     |
| % Penetration                              | 0.0%                      | 0.0%       | 0.0%       | 0.0%        | 1.0%        | 1.3%        | 1.6%        | 1.9%        | 2.2%        |
| <b>AtoKin Dog Revenue</b>                  | <b>\$0</b>                | <b>\$0</b> | <b>\$0</b> | <b>\$0</b>  | <b>\$35</b> | <b>\$46</b> | <b>\$56</b> | <b>\$67</b> | <b>\$77</b> |
| <b>SentiKin (Post Operative Pain)</b>      |                           |            |            |             |             |             |             |             |             |
| # Dog Operations Per Year                  | 19                        | 19         | 19         | 19          | 19          | 19          | 19          | 19          | 19          |
| Cost Per Treatment (\$17.50/w week)        | \$18                      | \$18       | \$18       | \$18        | \$18        | \$18        | \$18        | \$18        | \$18        |
| Post Operative Pain Dog Market             | \$333                     | \$333      | \$333      | \$333       | \$333       | \$333       | \$333       | \$333       | \$333       |
| % Penetration                              | 0.0%                      | 0.0%       | 0.0%       | 0.0%        | 0.5%        | 5.0%        | 10.0%       | 12.0%       | 15.0%       |
| <b>SentiKin Dog Revenue</b>                | <b>\$0</b>                | <b>\$0</b> | <b>\$0</b> | <b>\$0</b>  | <b>\$2</b>  | <b>\$17</b> | <b>\$33</b> | <b>\$40</b> | <b>\$50</b> |
| <b>SentiKin Horse Revenue</b>              |                           |            |            |             |             |             |             |             |             |
| # Horses with Post Operative Pain          | 4                         | 4          | 4          | 4           | 4           | 4           | 4           | 4           | 4           |
| Cost Per Treatment (\$100/w week)          | \$100                     | \$100      | \$100      | \$100       | \$100       | \$100       | \$100       | \$100       | \$100       |
| Post Operative Pain Horse Market           | \$360                     | \$360      | \$360      | \$360       | \$360       | \$360       | \$360       | \$360       | \$360       |
| % Penetration                              | 0.0%                      | 0.0%       | 0.0%       | 0.0%        | 0.0%        | 3.0%        | 7.0%        | 12.0%       | 15.0%       |
| <b>SentiKin Horse Revenue</b>              | <b>\$0</b>                | <b>\$0</b> | <b>\$0</b> | <b>\$0</b>  | <b>\$0</b>  | <b>\$11</b> | <b>\$25</b> | <b>\$43</b> | <b>\$54</b> |

Source: Guggenheim Securities, LLC and Company Reports

# Balance Sheet 2012 to 2020E

## Kindred Bio - Balance Sheet Analysis 2012-2020E

| (\$ in Millions)  |            | Pro Forma<br>As of |             |             |             |             |             |              |              |              |
|---|------------|--------------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|
| (Year ended December 31)                                  | 2012       | 9/30/13            | 2013E       | 2014E       | 2015E       | 2016E       | 2017E       | 2018E        | 2019E        | 2020E        |
| <b>Assets</b>   |            |                    |             |             |             |             |             |              |              |              |
| Cash and Cash Equivalent                                  | 0.9        | 11.0               | 52.5        | 40.6        | 8.6         | 4.2         | 18.6        | 56.3         | 113.6        | 188.3        |
| Accounts Receivable, less allowance for doubtful accounts | -          | -                  | -           | -           | 2.0         | 15.3        | 29.7        | 43.9         | 55.0         | 64.2         |
| Inventories   | -          | -                  | -           | -           | 3.1         | 18.6        | 36.6        | 55.0         | 69.8         | 82.5         |
| Current deferred tax assets                               | -          | -                  | -           | -           | -           | -           | -           | -            | -            | -            |
| Other current assets                                      | 0.0        | 0.4                | 0.0         | 0.0         | 0.0         | 0.0         | 0.0         | 0.0          | 0.0          | 0.0          |
| <b>Total Current Assets</b>                               | <b>0.9</b> | <b>11.4</b>        | <b>52.5</b> | <b>40.6</b> | <b>13.7</b> | <b>38.1</b> | <b>84.8</b> | <b>155.2</b> | <b>238.4</b> | <b>335.1</b> |
| Plant, Property & Equipment                               | -          | 0.0                | -           | -           | -           | -           | -           | -            | -            | -            |
| Identifiable intangibles                                  | -          | -                  | -           | -           | -           | -           | -           | -            | -            | -            |
| Goodwill  | -          | -                  | -           | -           | -           | -           | -           | -            | -            | -            |
| Other assets  | -          | -                  | -           | -           | -           | -           | -           | -            | -            | -            |
| <b>Total Other Assets</b>                                 | <b>-</b>   | <b>0.0</b>         | <b>-</b>    | <b>-</b>    | <b>-</b>    | <b>-</b>    | <b>-</b>    | <b>-</b>     | <b>-</b>     | <b>-</b>     |
| <b>TOTAL ASSETS</b>                                       | <b>0.9</b> | <b>11.4</b>        | <b>52.5</b> | <b>40.6</b> | <b>13.7</b> | <b>38.1</b> | <b>84.8</b> | <b>155.2</b> | <b>238.4</b> | <b>335.1</b> |
| <b>Liabilities &amp; Shareholder's Equity</b>             |            |                    |             |             |             |             |             |              |              |              |
| Accounts Payable and Accrued Expenses                     | 0.1        | 0.1                | -           | -           | 3.1         | 27.3        | 53.8        | 80.8         | 102.6        | 121.4        |
| Other   | 0.0        | 0.7                | 0.0         | 0.0         | 0.0         | 0.0         | 0.0         | 0.0          | 0.0          | 0.0          |
| <b>Total Current Liabilities</b>                          | <b>0.1</b> | <b>0.8</b>         | <b>0.0</b>  | <b>0.0</b>  | <b>3.1</b>  | <b>27.3</b> | <b>53.8</b> | <b>80.8</b>  | <b>102.6</b> | <b>121.4</b> |
| Long term debt  | -          | -                  | -           | -           | -           | -           | -           | -            | -            | -            |
| Other liabilities   | -          | -                  | -           | -           | -           | -           | -           | -            | -            | -            |
| <b>Total Liabilities</b>                                  | <b>0.1</b> | <b>-</b>           | <b>0.0</b>  | <b>0.0</b>  | <b>3.1</b>  | <b>27.3</b> | <b>53.8</b> | <b>80.8</b>  | <b>102.6</b> | <b>121.4</b> |
| Shareholders Equity                                       | 0.9        | 10.6               | 52.5        | 40.6        | 10.7        | 10.8        | 31.1        | 74.3         | 135.8        | 213.7        |
| <b>Total Stockholder's Equity</b>                         | <b>0.9</b> | <b>10.6</b>        | <b>52.5</b> | <b>40.6</b> | <b>10.7</b> | <b>10.8</b> | <b>31.1</b> | <b>74.3</b>  | <b>135.8</b> | <b>213.7</b> |
| Noncontrolling Interest                                   | -          | -                  | -           | -           | -           | -           | -           | -            | -            | -            |
| <b>TOTAL LIABILITIES &amp; STOCKHOLDERS' EQUITY</b>       | <b>0.9</b> | <b>11.4</b>        | <b>52.5</b> | <b>40.6</b> | <b>13.7</b> | <b>38.1</b> | <b>84.8</b> | <b>155.2</b> | <b>238.4</b> | <b>335.1</b> |

Source: Guggenheim Securities, LLC and Company Reports



# Cash Flow Statement 2012 to 2020E

## Kindred Bio - Cash Flow Analysis 2012-2020E

| (\$ in Millions)   |              |              |               |               |              |             |             |              |              |
|--|--------------|--------------|---------------|---------------|--------------|-------------|-------------|--------------|--------------|
| (Year ended December 31)   | 2012         | 2013E        | 2014E         | 2015E         | 2016E        | 2017E       | 2018E       | 2019E        | 2020E        |
| <b>Cash flows provided by Operating Activities:</b>                  |              |              |               |               |              |             |             |              |              |
| Net Income   | (0.1)        | (3.5)        | (11.9)        | (29.9)        | 0.1          | 20.3        | 43.3        | 61.4         | 77.9         |
| Depreciation and Amortization  | -            | -            | -             | -             | -            | -           | -           | -            | -            |
| Other (includes cash separation and internal costs in 2013 and 2014) | 0.0          | -            | -             | -             | -            | -           | -           | -            | -            |
| Net Changes in Working Capital                                       | 0.0          | (0.1)        | -             | (2.0)         | (4.6)        | (5.9)       | (5.6)       | (4.1)        | (3.2)        |
| <b>Net cash provided by Operating Activities</b>                     | <b>(0.1)</b> | <b>(3.5)</b> | <b>(11.9)</b> | <b>(32.0)</b> | <b>(4.4)</b> | <b>14.4</b> | <b>37.7</b> | <b>57.4</b>  | <b>74.7</b>  |
| <b>Cash flows from Investing Activities</b>                          |              |              |               |               |              |             |             |              |              |
| Purchases of PP&E  | -            | -            | -             | -             | -            | -           | -           | -            | -            |
| Net proceeds from sale of assets                                     | -            | -            | -             | -             | -            | -           | -           | -            | -            |
| Acquisitions, net of cash acquired                                   | -            | -            | -             | -             | -            | -           | -           | -            | -            |
| Other  | -            | -            | -             | -             | -            | -           | -           | -            | -            |
| <b>Net cash used in Investing Activities</b>                         | <b>-</b>     | <b>-</b>     | <b>-</b>      | <b>-</b>      | <b>-</b>     | <b>-</b>    | <b>-</b>    | <b>-</b>     | <b>-</b>     |
| <b>Cash flows from Financing Activities</b>                          |              |              |               |               |              |             |             |              |              |
| (Repayment) or Issuance of long term debt                            | -            | -            | -             | -             | -            | -           | -           | -            | -            |
| Cash dividends paid  | -            | -            | -             | -             | -            | -           | -           | -            | -            |
| Other  | 1.0          | 55.1         | -             | -             | -            | -           | -           | -            | -            |
| <b>Net cash (used in) provided by Financing Activities</b>           | <b>1.0</b>   | <b>55.1</b>  | <b>-</b>      | <b>-</b>      | <b>-</b>     | <b>-</b>    | <b>-</b>    | <b>-</b>     | <b>-</b>     |
| <b>Effect of exchange-rate on cash</b>                               | <b>-</b>     | <b>-</b>     | <b>-</b>      | <b>-</b>      | <b>-</b>     | <b>-</b>    | <b>-</b>    | <b>-</b>     | <b>-</b>     |
| <b>Net (decrease) increase in cash and equivalents</b>               | <b>0.9</b>   | <b>51.6</b>  | <b>(11.9)</b> | <b>(32.0)</b> | <b>(4.4)</b> | <b>14.4</b> | <b>37.7</b> | <b>57.4</b>  | <b>74.7</b>  |
| Cash and equivalents at beginning of year                            | -            | 0.9          | 52.5          | 40.6          | 8.6          | 4.2         | 18.6        | 56.3         | 113.6        |
| <b>Cash and equivalents at end of year</b>                           | <b>0.9</b>   | <b>52.5</b>  | <b>40.6</b>   | <b>8.6</b>    | <b>4.2</b>   | <b>18.6</b> | <b>56.3</b> | <b>113.6</b> | <b>188.3</b> |

Source: Guggenheim Securities, LLC and Company Reports

## Discounted Cash Flow Analysis 2016E to 2020E

| ASSUMPTIONS      |       |
|------------------|-------|
| Be               | 1.50  |
| Rf               | 4.0%  |
| Re               | 28.0% |
| Rd               | 9.0%  |
| Debt 2015        | \$0   |
| Equity           | \$162 |
| Value (D+E)      | \$162 |
| Return on Market | 20.0% |
| Growth Rate      | 5.0%  |
| Exit Multiple    | 6.0x  |
| WACC             | 28.0% |
| Tax Rate 2015    | 40.0% |
| Cash 2015        | \$9   |

|                                  | Year Ended December 31st, |        |        |         |         |
|----------------------------------|---------------------------|--------|--------|---------|---------|
|                                  | 2016E                     | 2017E  | 2018E  | 2019E   | 2020E   |
| EBIT                             | \$0.1                     | \$33.8 | \$72.1 | \$102.4 | \$129.9 |
| Less Cash Taxes                  | -                         | 13.5   | 28.9   | 41.0    | 51.9    |
| EBIAT                            | \$0.1                     | \$20.3 | \$43.3 | \$61.4  | \$77.9  |
| Plus Depreciation & Amortization | -                         | -      | -      | -       | -       |
| Less Capital Expenditures        | -                         | -      | -      | -       | -       |
| Changes in Working Capital       | (4.6)                     | (5.9)  | (5.6)  | (4.1)   | (3.2)   |
| Free Cash Flow                   | (\$4.4)                   | \$14.4 | \$37.7 | \$57.4  | \$74.7  |
| Discounted Free Cash Flow        | (\$3.5)                   | \$8.8  | \$18.0 | \$21.4  | \$21.7  |
| Terminal Value                   |                           |        |        |         | \$857.1 |
| Discounted Terminal Value        |                           |        |        |         | \$249.5 |
| Enterprise Value                 | \$315.8                   |        |        |         |         |
| Less Debt                        | \$0.0                     |        |        |         |         |
| Plus Cash                        | \$8.6                     |        |        |         |         |
| Equity Value                     | \$324.5                   |        |        |         |         |
| Fully Diluted Shares Outstanding | 16.3                      |        |        |         |         |
| Price/Share                      | \$19.86                   |        |        |         |         |

Source: Guggenheim Securities, LLC and Company Reports

## Equity and M&A Comparables

# Animal Health Equity Company Comparables 2013E to 2014E

| Ticker         | Company   | Price as of<br>01/03/2014 | Debt/<br>EBITDA <sup>2</sup> | 2014 Fwd.                  | 2014                          | 2014 Fwd.                    | Div.<br>Yield | FCF<br>Yield | P/E <sup>1</sup> |              | 2010-14E<br>EPS Gr.<br>Rate | PEG<br>Ratio on<br>2014E | % Change Stock<br>Price |              |
|----------------|---|---------------------------|------------------------------|----------------------------|-------------------------------|------------------------------|---------------|--------------|------------------|--------------|-----------------------------|--------------------------|-------------------------|--------------|
|                |   |                           |                              | EV/<br>EBITDA <sup>3</sup> | Fwd. EV/<br>EBIT <sup>4</sup> | Price/<br>Sales <sup>5</sup> |               |              | 13E              | 14E          |                             |                          | 2012                    | 2013         |
| .DJIA-DI       | Dow Jones Industrial Avg.                             | \$16,469.99               | 2.7x                         | 9.4x                       | 11.9x                         | 1.6x                         | 2.0%          | 4.3%         | 15.5x            | 14.4x        | 8.3%                        | 1.7x                     | 7.3%                    | 19.2%        |
| .SPX-UT        | S&P 500   | \$1,831.37                | 3.0x                         | 9.7x                       | 12.3x                         | 1.6x                         | 1.8%          | 18.9%        | 16.8x            | 15.6x        | 8.3%                        | 1.9x                     | 13.4%                   | 29.6%        |
| ABAX           | Abaxis Inc  | \$40.03                   | 0.0x                         | 19.4x                      | 22.8x                         | 4.1x                         | 0.0%          | 2.7%         | 50.1x            | 52.9x        | 29.7%                       | 1.8x                     | 34.1%                   | 7.8%         |
| PETX           | Aratana   | \$19.10                   | 0.0x                         | NM                         | NM                            | NM                           | 0.0%          | 0.0%         | NM               | NM           | NM                          | NM                       | NM                      | 218.3%       |
| 940-HK         | China Animal Healthcare Ltd                           | ¥3.08                     | 9.9x                         | 201.8x                     | 9.0x                          | 4.1x                         | 0.0%          | 4.7%         | 22.3x            | 15.0x        | NM                          | NM                       | 14.9%                   | 91.4%        |
| 600195-SH      | China Animal Husbandry Industry Co Ltd                | ¥15.38                    | 0.4x                         | NM                         | 18.0x                         | 1.7x                         | 0.0%          | 1.9%         | 22.7x            | 18.5x        | 0.9%                        | 20.0x                    | (27.2%)                 | 24.6%        |
| EAH-LN         | Eco Animal Health Group Plc                           | GBP 215.95                | NM                           | NM                         | NM                            | NM                           | 7.4%          | 0.0%         | 20.8x            | 34.8x        | 22.0%                       | 1.6x                     | 16.5%                   | (14.9%)      |
| VERN.R.A-ZG    | Genera Dd   | HRK 40.00                 | NM                           | NM                         | NM                            | NM                           | 0.0%          | NM           | NM               | NM           | NM                          | NM                       | (15.3%)                 | (15.6%)      |
| 300186-SZ      | Guangdong Dahuanong Animal Health Products Co Ltd     | ¥9.25                     | 0.0x                         | 11.7x                      | 11.7x                         | 3.8x                         | 0.0%          | 2.2%         | 22.2x            | 17.4x        | (14.2%)                     | (1.2x)                   | (6.9%)                  | 29.1%        |
| HSKA-US        | Heska Corp  | \$8.82                    | (2.5x)                       | 10.1x                      | 22.8x                         | 0.6x                         | 0.0%          | NM           | NM               | 49.0x        | NM                          | NM                       | 11.0%                   | 7.7%         |
| HESTERBIO-BY   | Hester Biosciences Ltd                                | INR 105                   | NM                           | NM                         | NM                            | NM                           | 7.6%          | 0.0%         | 10.4x            | 9.3x         | NM                          | NM                       | 37.3%                   | 6.0%         |
| IDXX-US        | Idexx Laboratories Inc                                | \$106.29                  | 1.2x                         | 16.1x                      | 19.3x                         | 3.7x                         | 0.0%          | 2.9%         | 30.7x            | 27.7x        | 12.8%                       | 2.2x                     | 20.6%                   | 14.6%        |
| 600201-SH      | Inner Mongolia Jinyu Group Co Ltd                     | ¥25.52                    | 1.1x                         | 15.4x                      | 19.5x                         | 7.4x                         | 0.0%          | 4.0%         | 26.6x            | 22.9x        | 28.4%                       | 0.8x                     | 19.5%                   | 80.7%        |
| MWIV-US        | Mwi Veterinary Supply Inc                             | \$175.57                  | 0.1x                         | 15.6x                      | 17.0x                         | 0.7x                         | 0.0%          | 0.0%         | 35.7x            | 31.3x        | 20.1%                       | 1.6x                     | 65.6%                   | 54.5%        |
| NEOG           | Neogen Corp   | \$44.34                   | 0.0x                         | 24.4x                      | 27.7x                         | 5.9x                         | 0.0%          | 1.6%         | 58.8x            | 57.1x        | 11.3%                       | 5.1x                     | 47.9%                   | 51.3%        |
| 300119-SZ      | Tianjin Ringpu Bio-technology Co Ltd                  | ¥26.06                    | 0.2x                         | 15.0x                      | 16.5x                         | 4.8x                         | 0.0%          | NM           | 28.5x            | 21.9x        | 22.6%                       | 1.0x                     | 27.2%                   | 34.5%        |
| WOOF-US        | Vca Antech Inc  | \$31.51                   | 1.9x                         | 9.3x                       | 11.8x                         | 1.5x                         | 0.0%          | 5.8%         | 18.7x            | 17.1x        | 6.8%                        | 2.5x                     | 6.6%                    | 49.0%        |
| VETO-FR        | Vetoquinol Sa   | € 30.72                   | NM                           | NM                         | NM                            | 1.2x                         | 0.0%          | 7.9%         | 15.3x            | 14.2x        | 2.1%                        | 6.9x                     | 26.4%                   | 15.5%        |
| VIRP-FR        | Virbac Sa   | € 163.00                  | NM                           | NM                         | NM                            | 1.8x                         | 0.0%          | 4.4%         | 23.0x            | 20.2x        | 7.0%                        | 2.9x                     | 25.0%                   | 3.6%         |
| 002100-SZ      | Xinjiang Tecon Animal Husbandry Bio Technology Co Ltd | ¥12.33                    | 0.8x                         | 14.2x                      | 20.4x                         | 1.3x                         | 0.0%          | 0.5%         | 33.1x            | 24.8x        | 14.1%                       | 1.8x                     | (10.9%)                 | 80.0%        |
| 600226-SH      | Zhejiang Shenghua Biok Biology Co Ltd                 | ¥6.13                     | NM                           | NM                         | NM                            | NM                           | 0.8%          | NM           | 7.9x             | NM           | NM                          | NM                       | (20.1%)                 | 2.5%         |
| ZTS            | Zoetis Inc  | \$32.05                   | 2.9x                         | 13.6x                      | 15.4x                         | 3.4x                         | 0.8%          | 2.2%         | 22.8x            | 19.8x        | NM                          | NM                       | NM                      | 25.7%        |
| <b>Average</b> |   |                           | <b>1.1x</b>                  | <b>30.6x</b>               | <b>17.8x</b>                  | <b>3.1x</b>                  | <b>0.8%</b>   | <b>2.6%</b>  | <b>26.4x</b>     | <b>26.7x</b> | <b>12.6%</b>                | <b>3.6x</b>              | <b>15.1%</b>            | <b>38.3%</b> |

Source: Thomson Reuters and Guggenheim Securities, LLC

(1) EPS estimates are adjusted for non-operating items and 2013 and 2014 EPS estimates are consensus

(2) Debt/EBITDA is off of estimated 2013 EBITDA

(3), (4), and (5) multiples are off of 2014 estimates

(6) Arithmetic Average

# Animal Health M&A Comps 2007 to 2013

| Year           | Buyer Name             | Seller Name                           | EV (\$MM)       | EV /Sales   | EV / EBITDA <sup>1</sup> |
|----------------|------------------------|---------------------------------------|-----------------|-------------|--------------------------|
| 2006           | Central Garden & Pet   | Famam Cos.                            | 291             | 1.8x        | NA                       |
| 2007           | Pfizer                 | Embrex                                | 149             | 2.8x        | 14.9x                    |
| 2008           | Pfizer                 | Catapult Pty.                         | NA              | NA          | NA                       |
| 2008           | Pfizer                 | Bovigen                               | NA              | NA          | NA                       |
| 2009           | Sanofi                 | Merck (50% interest in Merial)        | 4,000           | 3.0x        | 10.2x                    |
| 2009           | Pfizer                 | Qvax                                  | 5               | NA          | NA                       |
| 2009           | Pfizer                 | Vetnax                                | 65              | NA          | NA                       |
| 2009           | Pfizer                 | Fort Dodge Animal Health              | 2,300           | 2.4x        | 9.6x                     |
| 2010           | Henry Schein           | Butler Animal Health Supply           | 410             | NA          | NA                       |
| 2010           | Bayer AG               | Bomac Laboratories                    | 101             | 2.2x        | NA                       |
| 2010           | Pfizer                 | Microtek International                | 6.0             | NA          | NA                       |
| 2010           | Pfizer                 | Synbiotics                            | 24.0            | NA          | NA                       |
| 2010           | VCA Antech             | Pet DRx                               | 41              | 0.6x        | NA                       |
| 2011           | Henry Schein           | Provet Holdings                       | 91              | 0.3x        | NA                       |
| 2011           | Elanco                 | Janssen Animal Health                 | 308             | 1.5x        | NA                       |
| 2011           | Pfizer                 | King Animal Health                    | 345             | 0.9x        | NA                       |
| 2011           | Lextron                | Animal Health International           | 247             | 0.3x        | 11.2x                    |
| 2012           | Henry Schein           | Butler Schein Animal Health           | 724             | 0.4x        | NA                       |
| 2012           | Royal DSM              | Tortuga                               | 547             | 1.1x        | 7.4x                     |
| 2012           | Dechra Pharmaceuticals | Eurovet Animal Health                 | 177             | 1.8x        | NA                       |
| 2012           | Bayer Healthcare       | Teva Animal Health                    | 145             | NA          | NA                       |
| 2012           | Bayer Healthcare       | KMG Chemicals                         | 10.2            | 0.9x        | NA                       |
| 2012           | Perrigo                | Sargeant's Pet Care                   | 235             | 1.7x        | NA                       |
| 2012           | Nestle <sup>2</sup>    | Pfizer Nutrition                      | 11,850          | 5.6x        | 19.8x                    |
| 2012           | Merial                 | Dosch Pharmaceuticals (Animal Health) | NA              | NA          | NA                       |
| 2013           | MWI Veterinary Supply  | PCI Animal Health                     | 17              | 0.5x        | NA                       |
| 2013           | Neogen                 | Scidera Genomics                      | NA              | NA          | NA                       |
| 2013           | Perrigo                | Velcera                               | 160             | 2.7x        | NA                       |
| 2013           | Heska Corp.            | Cuatro Veterinary USA                 | 14              | 0.7x        | 9.2x                     |
| 2013           | Elanco                 | China Animal Healthcare               | 500             | 3.7x        | 8.4x                     |
| 2013           | Aratana Therapeutics   | Vet Therapeutics                      | 48              | NA          | NA                       |
| 2013           | Zoetis                 | Advanced Food Technologies (AFT)      | NA              | NA          | NA                       |
| 2013           | Henry Schein           | Medivet (80% ownership position)      | NA              | NA          | NA                       |
| <b>Average</b> |                        |                                       | <b>\$845</b>    | <b>1.7x</b> | <b>11.3x</b>             |
| <b>Median</b>  |                        |                                       | <b>\$160</b>    | <b>1.6x</b> | <b>9.9x</b>              |
| <b>High</b>    |                        |                                       | <b>\$11,850</b> | <b>5.6x</b> | <b>19.8x</b>             |
| <b>Low</b>     |                        |                                       | <b>\$5</b>      | <b>0.3x</b> | <b>7.4x</b>              |

Source: Guggenheim Securities, LLC, Factset, Company Reports

(1) EV means Enterprise Value. Multiples are calculated on historical sales and EBITDA; Heska acquisition is showing EV/EBIT

(2) EV/EBITDA for Nestle acquisition is based on Nestle's projected 2012 EBITDA for Pfizer's Nutrition business

(3) Average is arithmetic.

# Glossary

## Glossary

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**Animal and Plant Health Inspection Service (APHIS):** Department of Agriculture (USDA) agency responsible for monitoring the quality of licensed biologicals through the Center for Veterinary Biologics.

**Animal Health Products:** The pharmaceuticals, vaccines, feed additives, and pesticides used in modern food production and the medicines that keep pet animals healthy.

**Antimicrobial:** An agent that kills bacteria or suppresses their multiplication or growth. Includes antibiotics and synthetic agents.

**Center for Veterinary Medicine (CVM):** Branch of the Food and Drug Administration (FDA) that reviews and regulates the approval of all animal drugs to ensure that they are safe and effective in animals and are not harmful to humans.

**Diagnostic Test Kit:** Biological or medical device that allows farmers and veterinarians to detect illness in animals.

**Efficacy:** Proof of a product's effectiveness. Used in approving animal health products.

**Food Safety and Inspection Services (FSIS):** Department of Agriculture (USDA) agency that monitors the use of drugs in livestock by routinely sampling for residues in food animals.

**Major Species:** Cattle, horses, swine, chickens, turkeys, dogs, and cats are designated as the major species by the FDA. These are the largest domesticated species populations for which animal medicines are produced.

**Minor Species:** All animals other than humans that are not one of the major species. Examples include zoo animals, ornamental fish, parrots, ferrets, and guinea pigs. Some animals of agricultural importance are also minor species, such as sheep, goats, catfish, game birds, and honey bees (because they produce an edible product), among others.

**New Animal Drug Application (NADA):** Application by a drug manufacturer to the FDA for approval of a new animal drug. Government and industry refer to any compound that is available for sale as an "approved NADA."

**Protocol Concurrence:** This is analogous to a Special Protocol Assessment in human drug development and means that the FDA fundamentally agrees with the design, execution, and analyses proposed in a protocol and will not later alter its perspective on these issues unless public or animal health concerns appear that were not recognized at the time of protocol assessment.

Source: Guggenheim Securities, LLC

## Additional Companies Mentioned



## Additional Companies Mentioned

| Company Name           | Ticker  | Rating      | Price  | Currency |
|------------------------|---------|-------------|--------|----------|
| Aratana                | PETX    | Not Covered | 19.10  | USD      |
| Bayer                  | BAYN-XE | Not Covered | 100.80 | EUR      |
| Boehringer Ingelhiem   | Private | Not Covered | N/A    | N/A      |
| Central Garden & Pet   | Private | Not Covered | N/A    | N/A      |
| CEVA                   | Private | Not Covered | N/A    | N/A      |
| Dechra Pharmaceuticals | DPH-LN  | Not Covered | 7.24   | GBP      |
| Eli Lilly              | LLY     | Not Covered | 51.10  | USD      |
| Henry Schein           | HSIC    | Not Covered | 113.91 | USD      |
| Heska                  | HSKA    | Not Covered | 8.80   | USD      |
| Johnson & Johnson      | JNJ     | Not Covered | 91.85  | USD      |
| Lextron                | Private | Not Covered | N/A    | N/A      |
| Merck                  | MRK     | Not Covered | 49.73  | USD      |
| MWI Vet                | MWIV    | Not Covered | 175.57 | USD      |
| Neogen                 | NEOG    | Not Covered | 44.34  | USD      |
| Nestle                 | NESN-VX | Not Covered | 66.15  | CHF      |
| Novartis               | NVS     | Not Covered | 79.11  | USD      |
| Perrigo                | PRGO    | BUY         | 154.23 | USD      |
| Pfizer                 | PFE     | Not Covered | 30.52  | USD      |
| Royal DSM              | Private | Not Covered | N/A    | N/A      |
| Sanofi                 | SNY     | Not Covered | 52.04  | USD      |
| Single Cell Technology | Private | Not Covered | N/A    | N/A      |
| Teva                   | TEVA    | NEUTRAL     | 39.88  | USD      |
| VCA Antech             | WOOF    | Not Covered | 31.51  | USD      |
| Vetoquinol             | VETO-FR | Not Covered | 30.72  | EUR      |
| Virbac                 | VRP-FR  | Not Covered | 163.00 | EUR      |
| Zoetis                 | ZTS     | BUY         | 32.05  | USD      |

Priced as of 1/3/2014  
Source: Thomson Reuters

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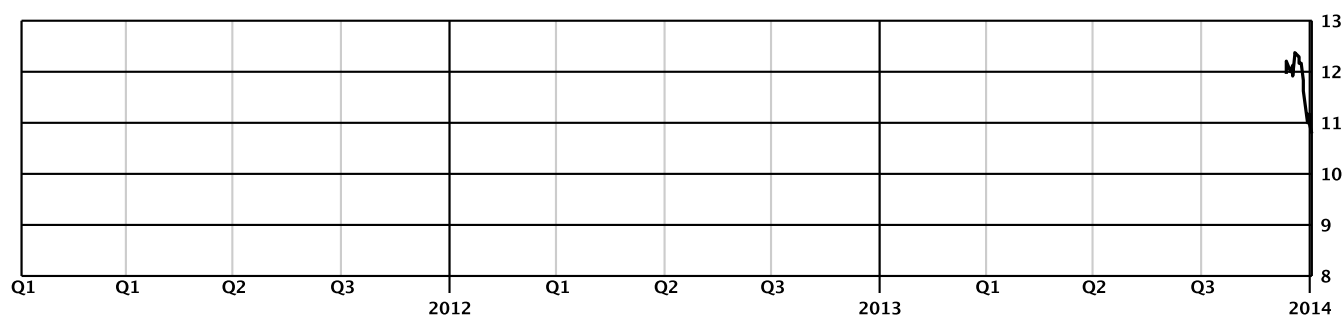
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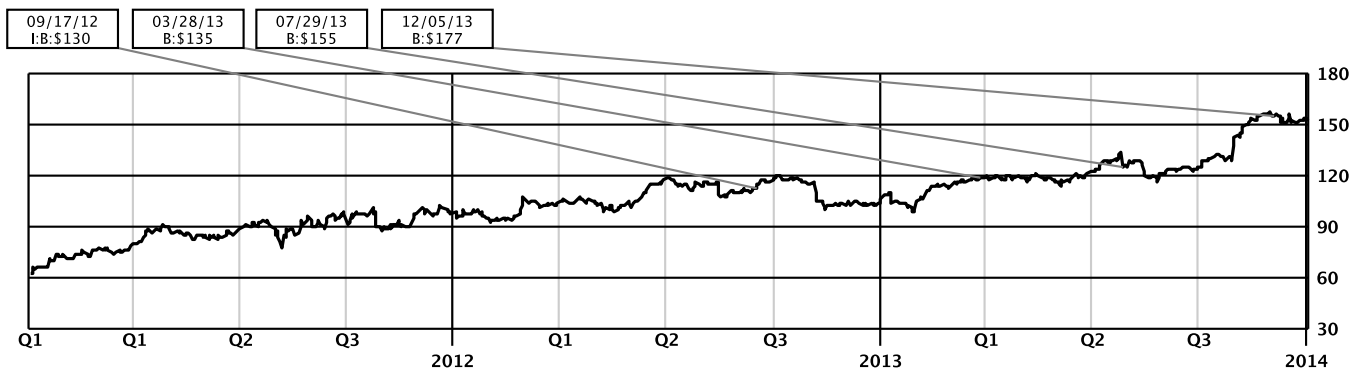
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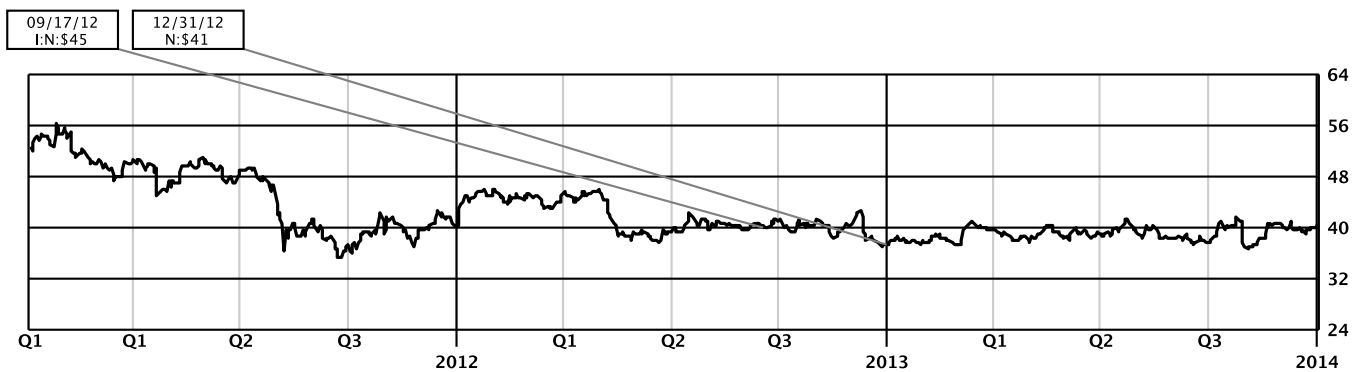
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### Rating and Price Target History for: Perrigo Co. (PRGO) as of 01-03-2014

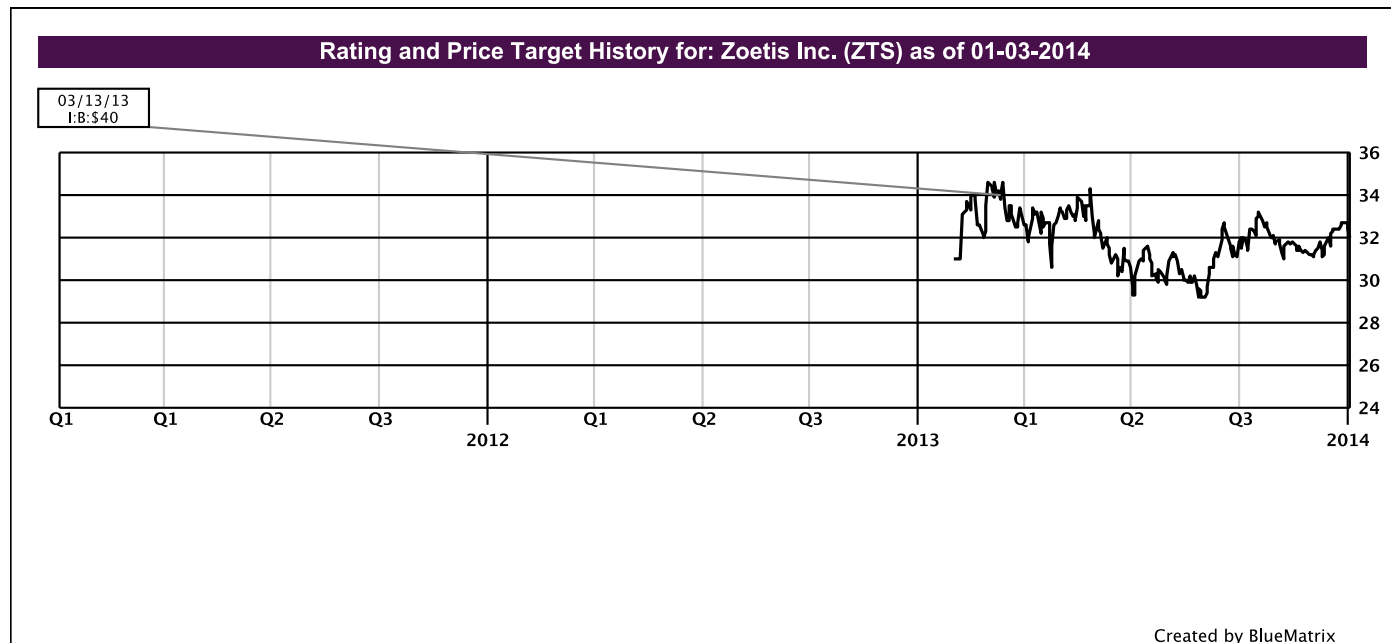


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### Rating and Price Target History for: Teva Pharmaceutical Industries Limited (TEVA) as of 01-03-2014



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