

Ligand[®]

Jefferies 2017 Healthcare Conference

June 8, 2017

NASDAQ: LGND

Ligand[®]

Safe Harbor Statement

The following presentation contains forward-looking statements regarding Ligand's prospects, plans and strategies, drug development programs and collaborations. Forward-looking statements include financial projections, expectations regarding our and our partners' research and development programs, and other statements including words such as "will," "should," "could," "outlook," "plan," etc. Actual events or results may differ from Ligand's expectations. For example, drug development program benefits may not be realized and there can be no assurance that Ligand will achieve its revenue estimates and its goals and projections for product development and commercialization or that third party research summarized herein is correct or complete.

The forward-looking statements made in the presentation are subject to several risk factors, including, statements regarding intent, belief, or current expectations of Ligand regarding its internal and partnered programs, Ligand's reliance on collaborative partners for milestone and royalty payments, royalty and other revenue projections, regulatory hurdles facing Ligand's and partners' product candidates, uncertainty regarding Ligand's and partners' product development costs, the possibility that Ligand's and partners' drug candidates might not be proved to be safe and efficacious and commercial performance of Ligand's and/or its partners' products, risks related to Ligand's intellectual property protection, risks related to Ligand's internal controls, its compliance with regulations, accounting principles and public disclosure, and other risks and uncertainties described in its public filings with the Securities and Exchange Commission, available at www.sec.gov. Additional risks may apply to forward-looking statements made in this presentation.

Actual events or results may differ from Ligand's expectations. Readers are cautioned not to place undue reliance on these forward-looking statements, which reflect our good faith beliefs (or those of the indicated third parties) and speak only as of the date hereof. All forward-looking statements are qualified in their entirety by this cautionary statement, and Ligand undertakes no obligation to revise or update this presentation to reflect events or circumstances or update third party research numbers after the date hereof. This caution is made under the safe harbor provisions of Section 21E of the Securities Exchange Act of 1934.

This presentation describes the typical roles and responsibilities of Ligand and our partners, and is not intended to be a complete description in all cases. Our trademarks, trade names and service marks referenced herein include Ligand, Captisol, OmniRat, OmniMouse, OmniFlic and OmniAb. Each other trademark, trade name or service mark appearing in this presentation belongs to its owner.

The adjusted earnings per diluted share on pages 14 & 15 excludes stock-based compensation expense, amortization of debt-related costs, amortization related to acquisitions, changes in contingent liabilities, net losses of Viking Therapeutics, mark-to-market adjustment for amounts owed to licensors, fair value adjustments to Viking Therapeutics convertible note receivable and warrants, and unissued shares relating to the Senior Convertible Note.

The Balance in Our Business

“Shots-on-goal” business model

What We Do:

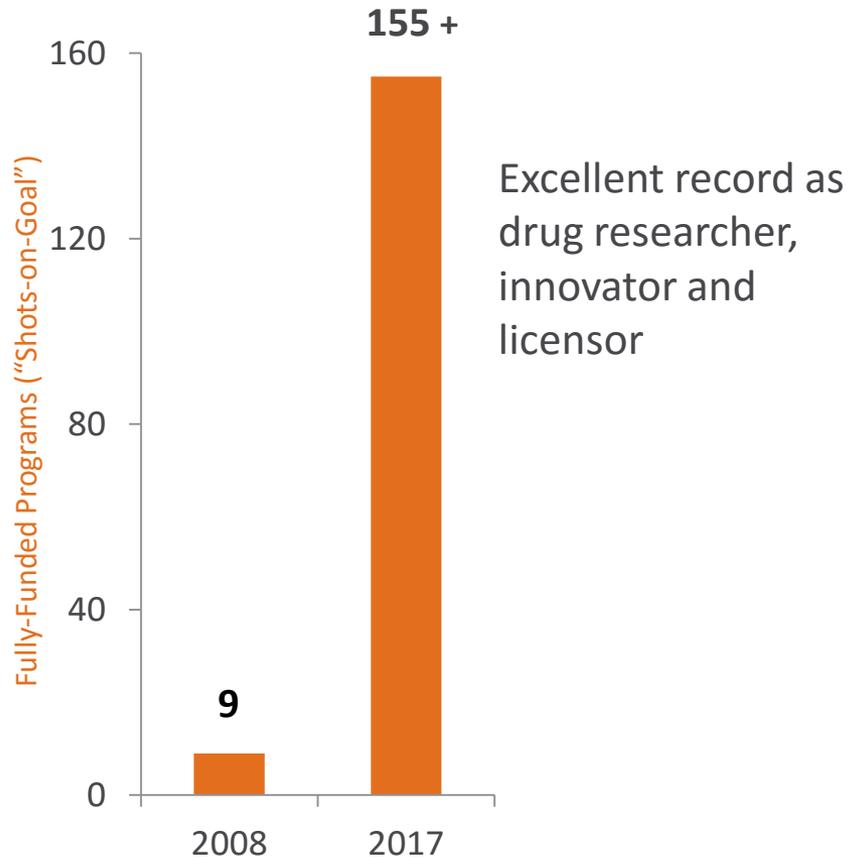
- Discover drugs
- Conduct early research
- Provide tools that make drugs possible
- License data and patents

What Our Partners Do:

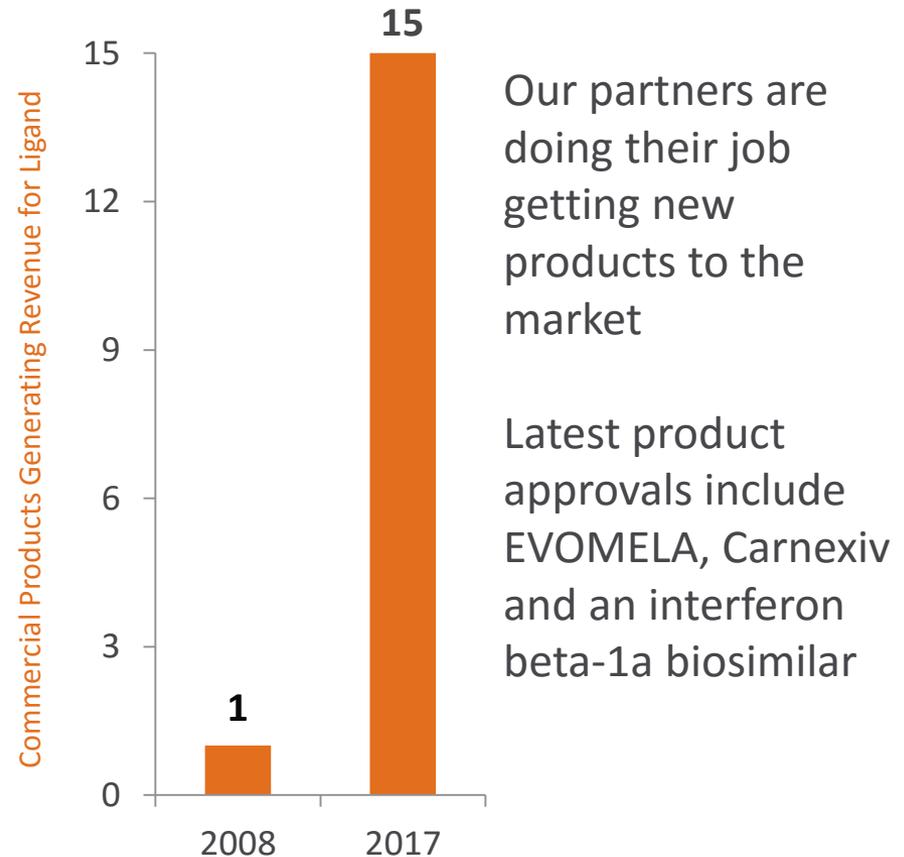
- Decide which indications to pursue
- Design studies and regulatory plans
- Price drugs and secure reimbursement
- Market drugs
- Fund all development and commercialization costs

Ligand's Portfolio Continues to Grow

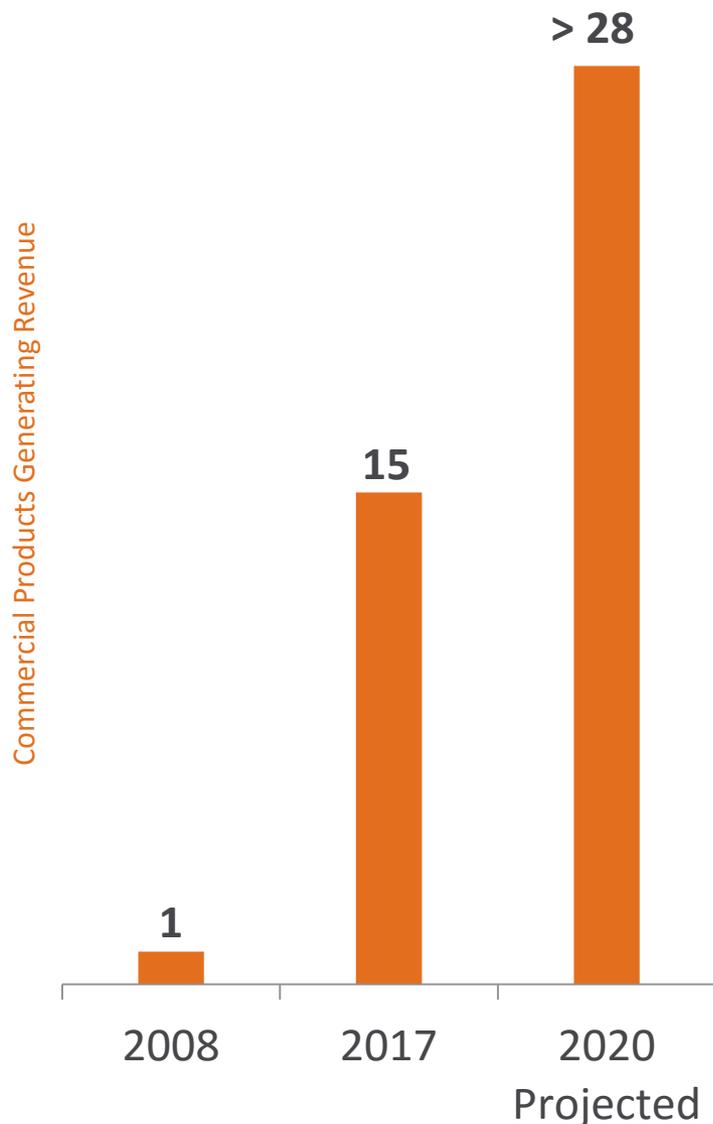
Ligand's Achievement: Portfolio Expansion



Partners' Achievement: Approved Products



28 Commercialized Products by 2020

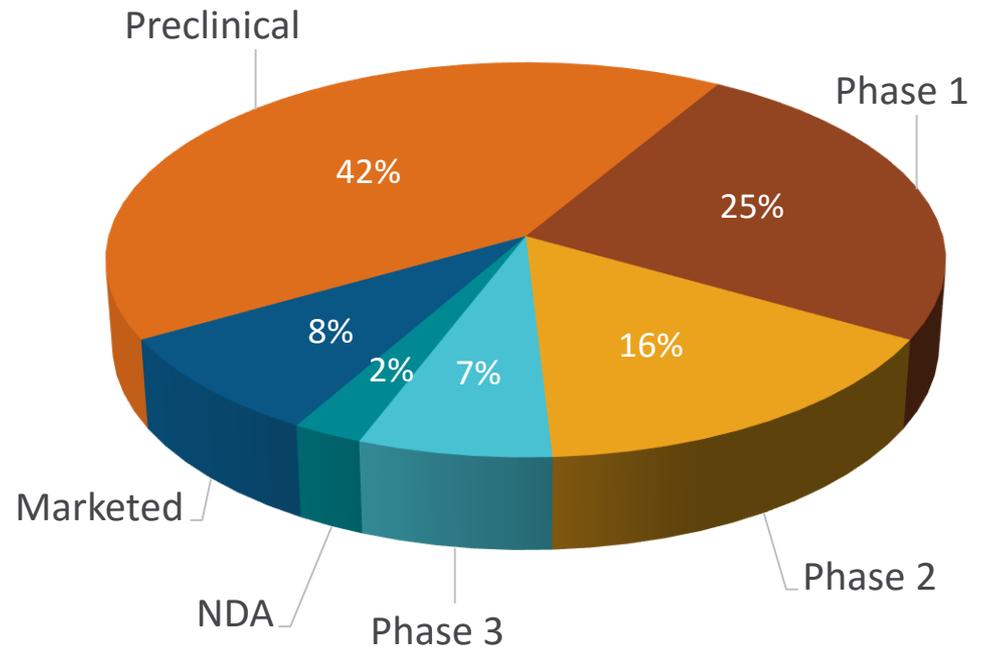


- Over 28 products projected to be generating commercial revenue for Ligand by the end of this decade, a doubling over current levels
- These revenue-generating assets expected to come from existing portfolio; any future deals would be additive to this outlook

Ligand's Portfolio Continues to Grow

Over 155 partnered programs

- Portfolio remains diversified across development stages
- Over 92 different partners
- Nearly 60% of programs in clinical development or later
- 10% are marketed or NDA stage
- Over \$2 billion of potential milestone payments under contract with our partners



Join Ligand on Twitter



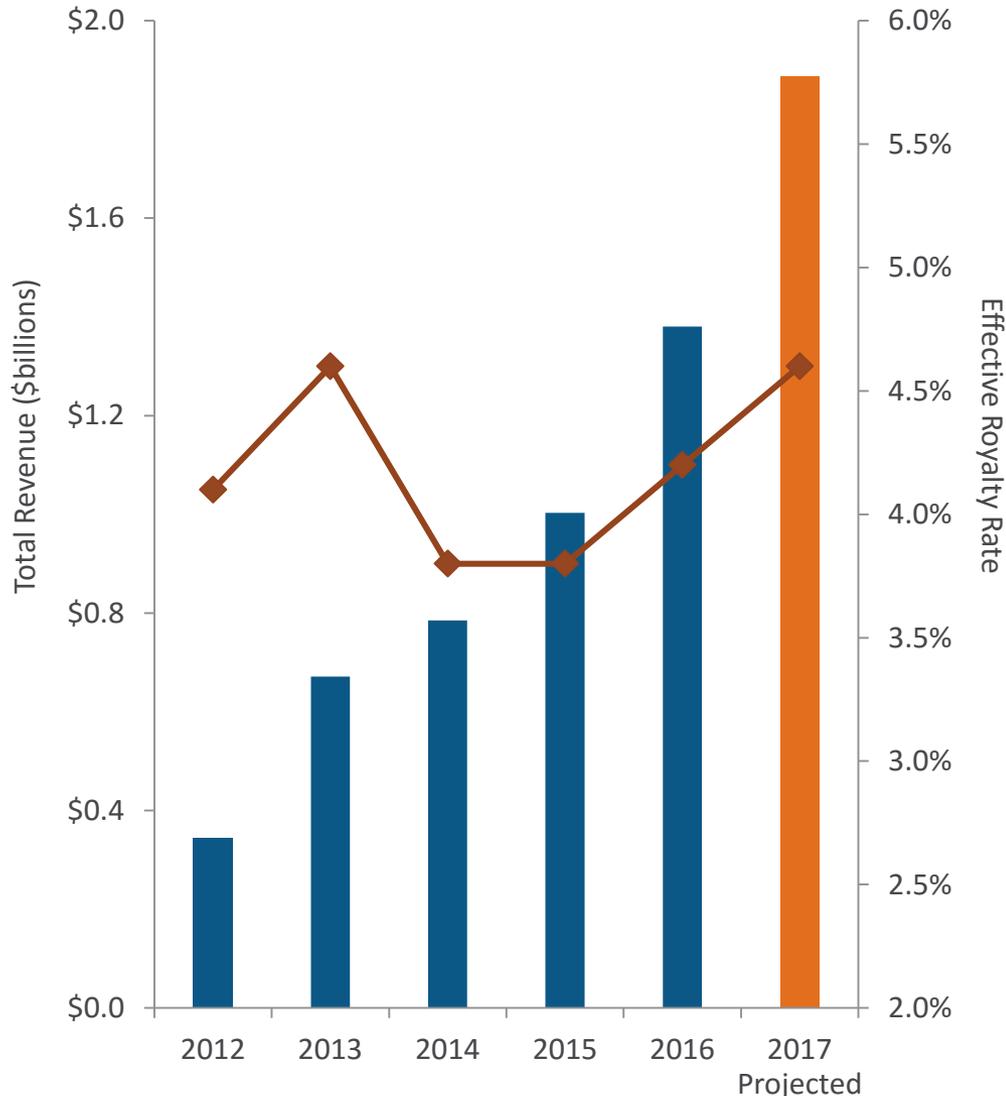
@Ligand_LGND

75 tweets in 2016

Over 45 tweets so far in 2017

- Given Ligand's vast portfolio of partners and partnerships, Twitter has become a valuable tool to update investors on real-time developments and news from partners

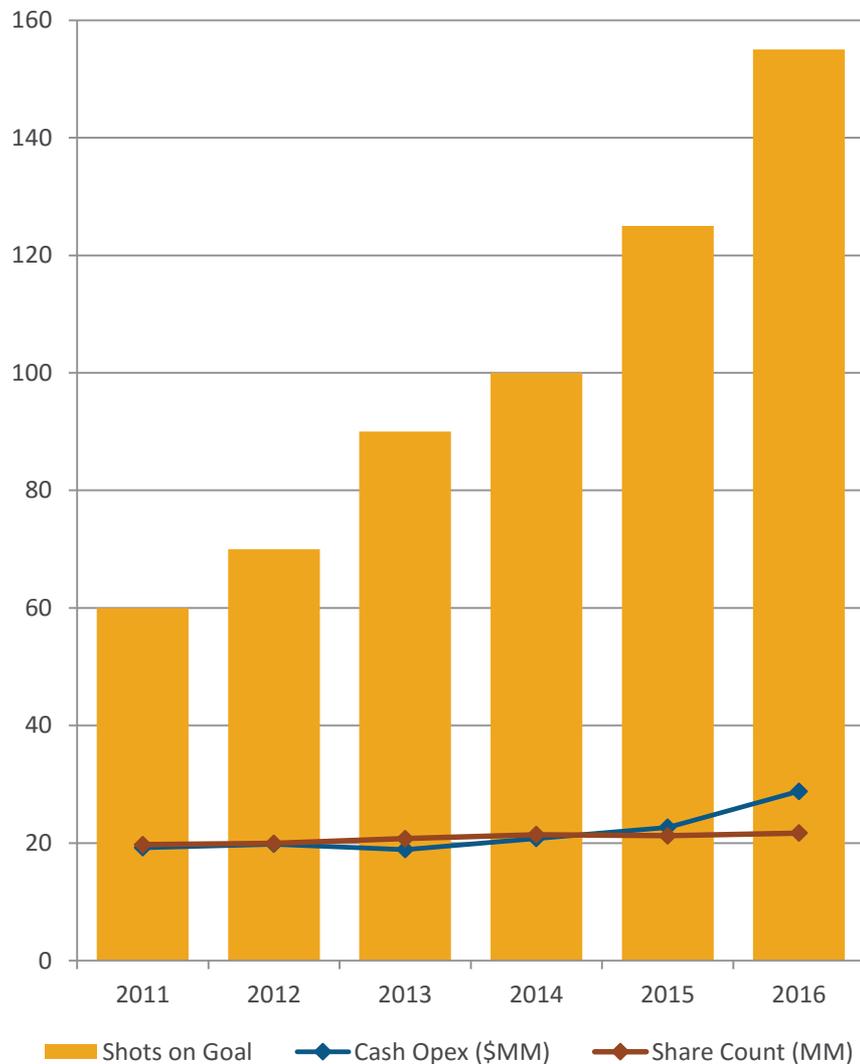
Underlying Revenue & Effective Royalty Rate



- Product approvals and increased sales of existing partnered products are strong Y/Y growth drivers for underlying revenue in 2017
- Average royalty rate on underlying revenue has increased over past few years.
 - Average rate is a function of mix of product sales and royalty tiering

Ligand's Portfolio Growth

Shots-on-goal business model creates strong financial leverage



- Number of Shots on Goal has increased from 60 to 155 over the past five years
- Ligand's share count and cash operating expenses have remained low and relatively flat, along with the significant expansion of fully funded programs from which we are eligible to earn revenue

Diverse Capital Allocation

Building asset base and increasing returns for investors

- Over last several years, Ligand has deployed capital in the following ways
 - Company acquisitions
 - Royalty acquisitions
 - Share buybacks
 - Invested in development of new technology platforms
 - Early stage, venture-type investment in partners
- Ligand takes advantage of market knowledge and experience gained from our partnerships to find opportunities to invest and create value from the biopharma industry
- We will continue to explore opportunities that our programs and the markets present us

Technology and Novel R&D Drive Deal Making

Underlying Technologies



Best-in-class antibody discovery platform

CAPTISOL[®]

Solving solubility and stability challenges

LTP Technology[™]

Designed to selectively deliver broad range of pharmaceutical agents to liver

SELEXIS SUREtechnology Platform[™]

Novel DNA-based elements that enable higher and more stable expression of recombinant proteins

Focused R&D

Novel GRA for Type 2 Diabetes
Phase 2 data expected Sept 2017

Positive Phase 1b data showed robust effects

Oral GCSF
Preclinical

Leveraging our technology and heritage in small molecule discovery

Captisol-enabled Busulfan
Preclinical

Novel Captisol[®] formulation for use as a conditioning agent prior to stem cell transplantation

2017 Licensing Events

<u>Partner</u>	<u>Technology/Molecule</u>	<u>Month</u>
	CAPTISOL[®]	February
	Lasofoxifene	February
		February
	CAPTISOL[®]	March
AnalgesiX	CAPTISOL[®]	May
		May
		June

Portfolio Pyramid

PROMACTA

Kyprolis
(carfilzomib) for Injection

Evomela
(melphalan) for Injection
50 mg per vial

Baxdela
(Melinta)

Sparsentan
(Retrophin)

Brexanolone
(Sage Therapeutics)

Lasofoxifene
(Sermonix)

Prexasertib
(Lilly)

BMS986231
(BMS)

OmniAb
(Merck KGaA)

VK5211
(Viking Therapeutics)

Merestinib
(Lilly)

Motolimod
(VentiRx/Celgene)

Pevonedistat
(Takeda)

AM0010+PD-1
(ARMO Biosciences)

Seribantumab
(Merrimack)

Esaxerenone
(Daiichi-Sankyo)

VK2809
(Viking Therapeutics)

ADX-102
(Aldeyra)

CHS-0214
(Coherus)

TAK-020
(Takeda)

The Top 3

Commercial assets paying significant royalties

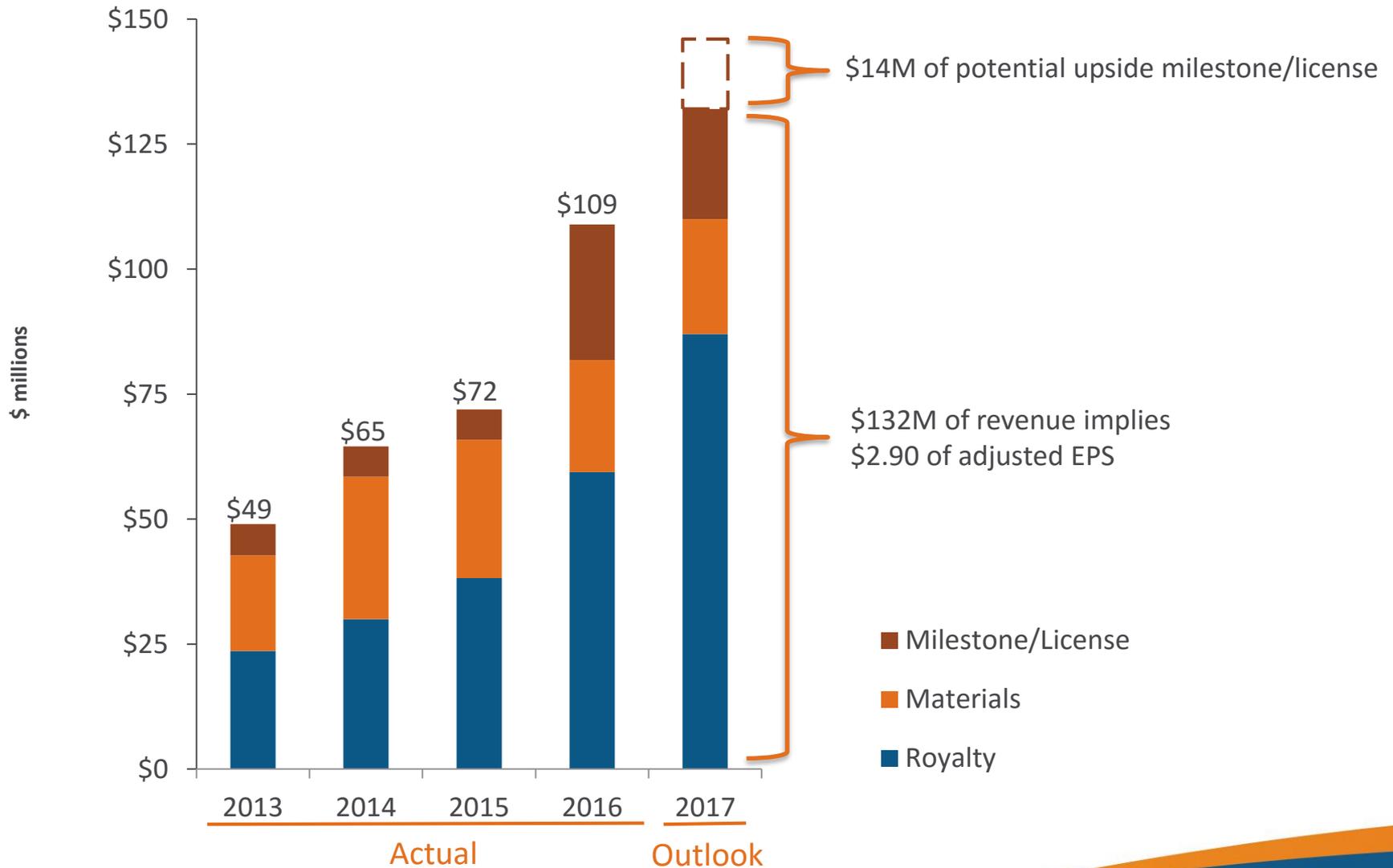
The Big 6

Leading pipeline assets based on stage and/or potential value

The Next 12

Assets emerging as next class with high revenue potential

Summary Revenue Composition

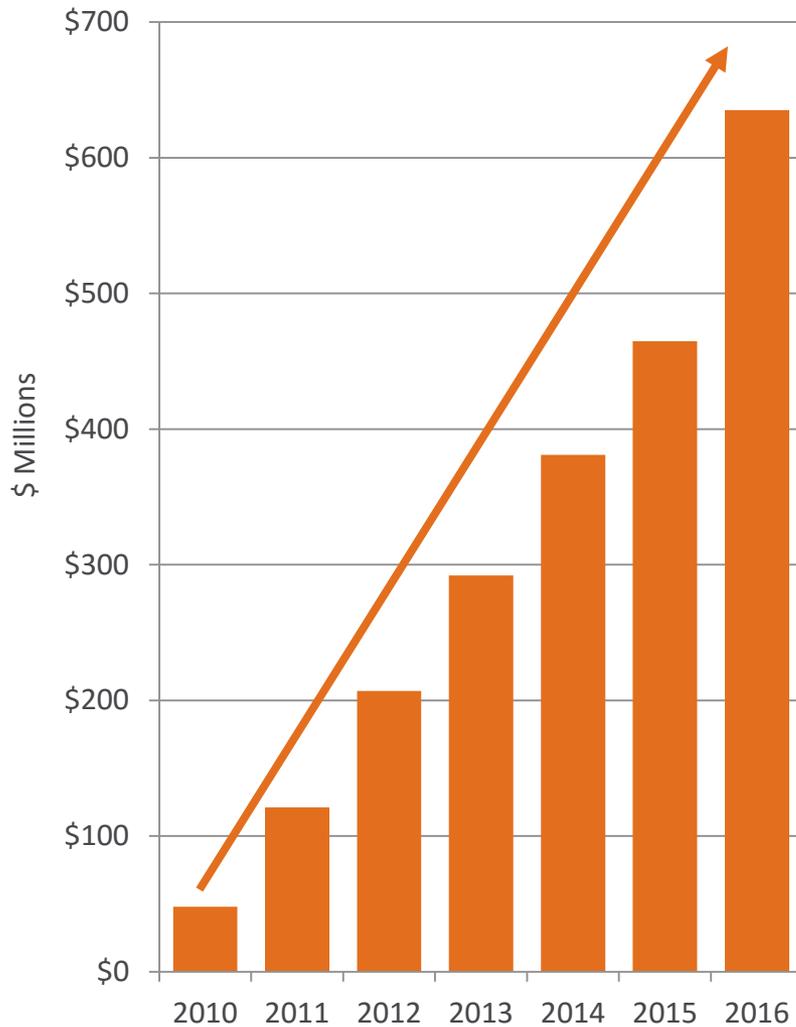


Outlook to 2020

	Outlook to 2020
Revenue growth	<ul style="list-style-type: none"> • Royalty grows in line with consensus partner sell-side research • Materials grows in line with underlying demand, resulting in 5% to 10% CAGR • Milestone/License continues at core level of \$20M to \$30M each year, with potential upside
Corporate gross margins	<ul style="list-style-type: none"> • Mid 90% range
Cash operating expense	<ul style="list-style-type: none"> • Expected to be relatively flat, with only modest annual increases
Fully-diluted share count	<ul style="list-style-type: none"> • Projected additional 0.2M shares annually
Adjusted EPS tax rate	<ul style="list-style-type: none"> • Expected range of 36% to 39%
Cash tax rate	<ul style="list-style-type: none"> • Expected to remain <1% through 2020

Highlights of Key Portfolio Assets

Promacta

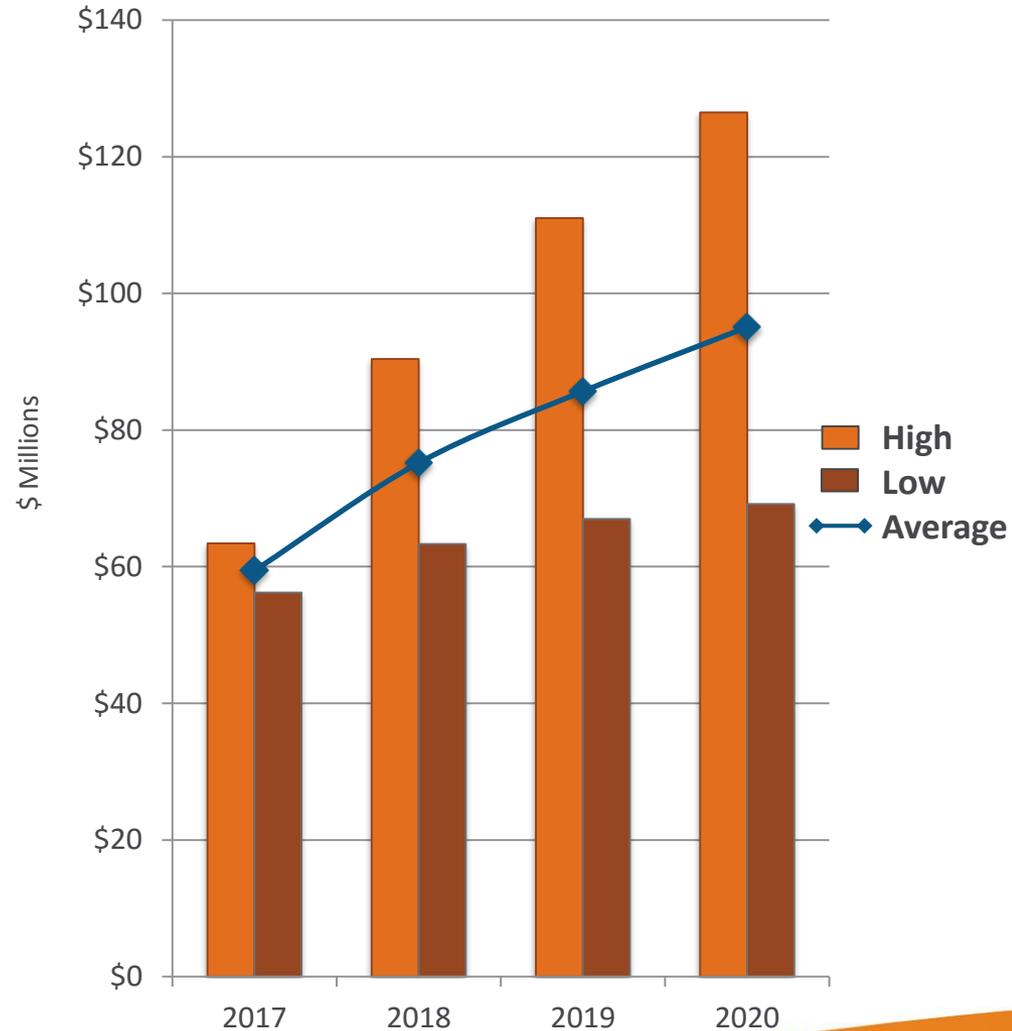
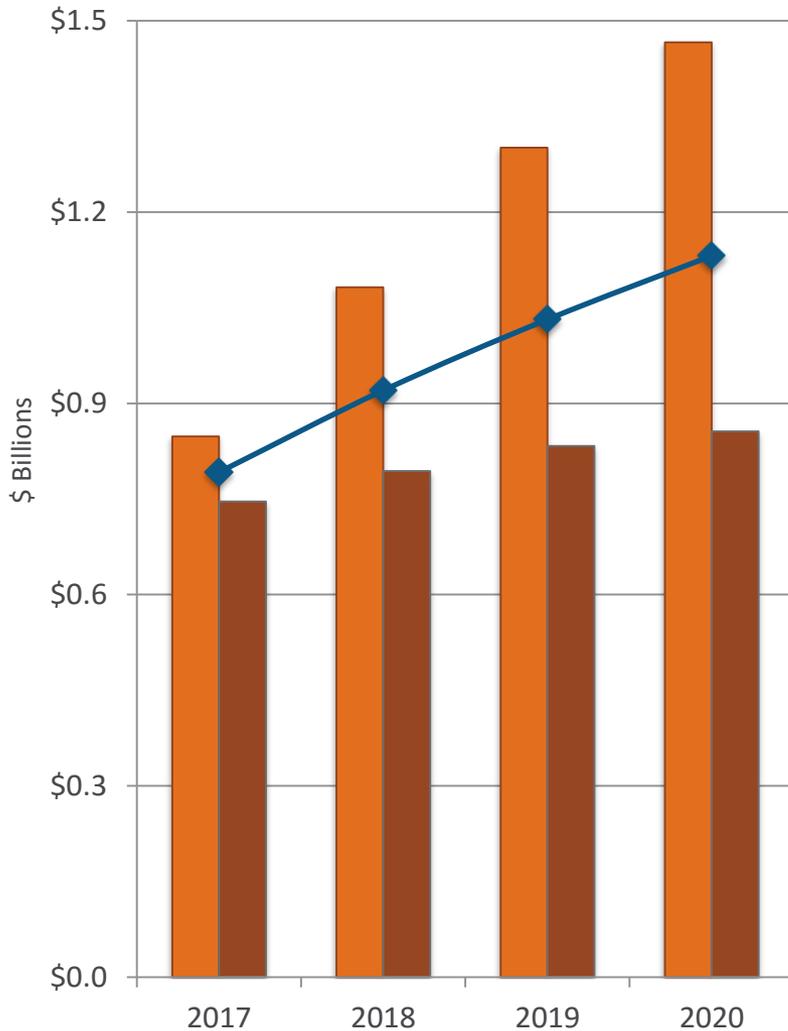


- Oral medicine that boosts platelets
- Long patent protection; Orange Book patent expiration in 2027
- Blockbuster commercial potential (>\$1B)
- Sales have increased over 12x in 6 years from ~\$50M to over \$600M
- With higher sales, Ligand earns higher royalty rates

Promacta Projections: NOVN Sell-Side Analysts

These Revenue Projections ...

...Yield these Royalty Projections



Source: Thomson Reuters Cortellis and analyst reports - 13 Novartis covering analysts as of 5/8/17
2017 royalties calculated on a one quarter lag

Kyprolis: Status and Plans

- Viewed as best-in-class proteasome inhibitor for multiple myeloma (MM)
- Developed and marketed by Amgen
- Approved for relapsed or refractory MM in US, EU and Japan (Ono)
 - As single agent, or in combination with dexamethasone or Revlimid and dexamethasone
- Major investment by Amgen is focused on further expansion of the label
 - **Relapsed/Refractory MM:** Phase 3 in combination with Darzalex
 - **Once-Weekly Dosing:** Phase 3 ARROW study underway; results in 2019
 - **Front-Line MM:** designing Phase 3 study in combination with Revlimid and dexamethasone

*“... the overall survival data for Kyprolis are important and very timely. Having established superiority versus Velcade, we expect these data will **drive increased share for Kyprolis**, particularly in second line, and will also be helpful for reimbursement considerations”*

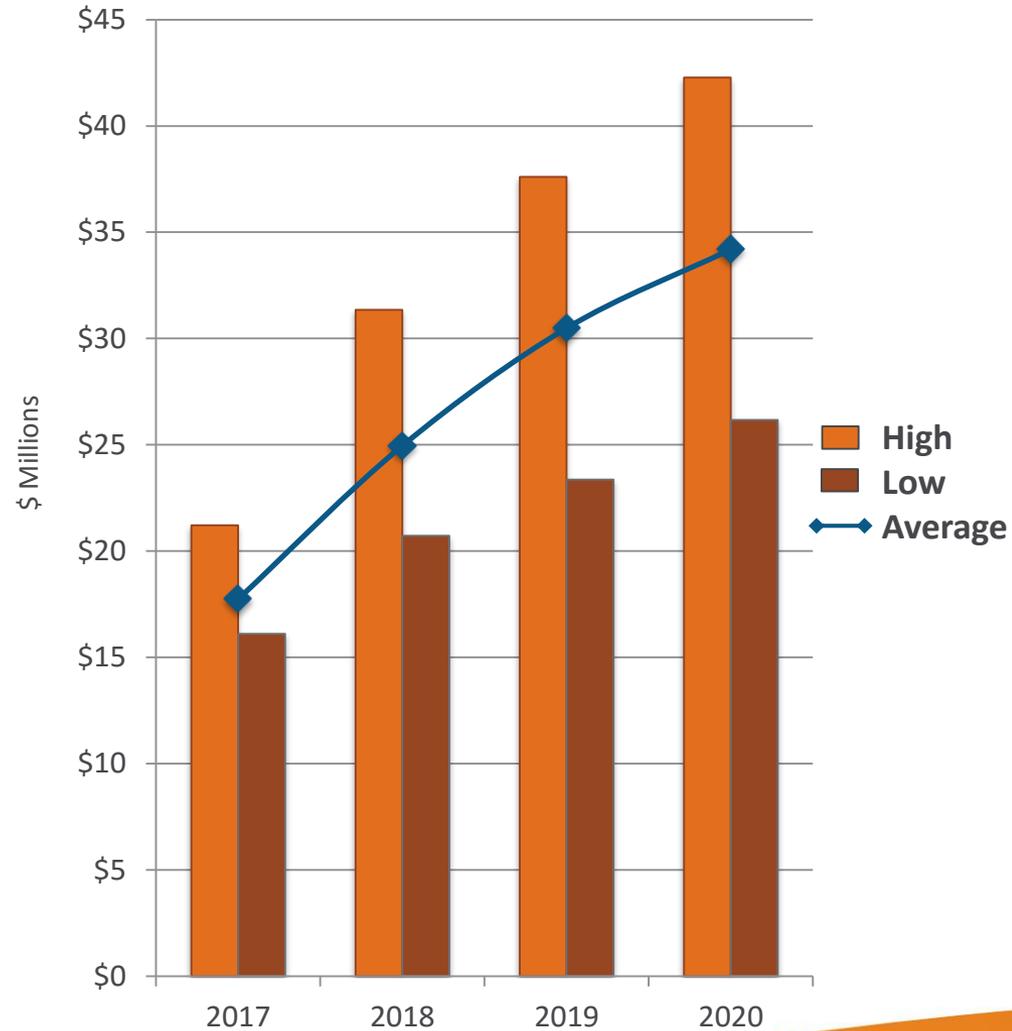
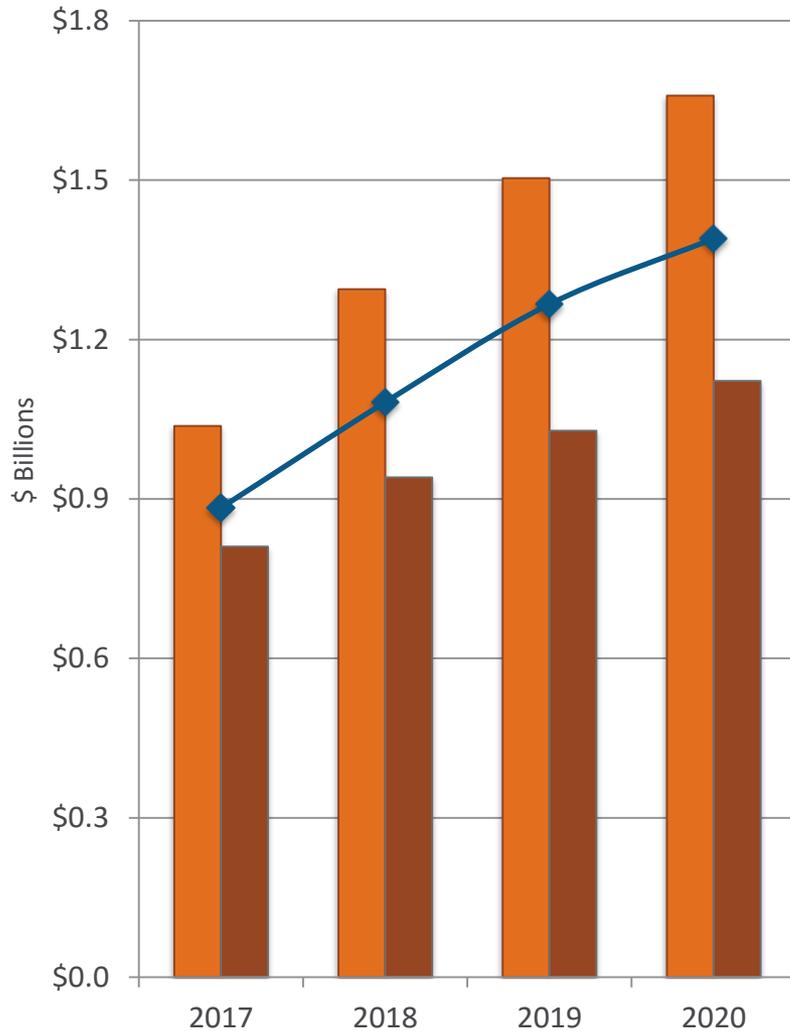
Robert A. Bradway

Chairman and Chief Executive Officer
Amgen Q1 earnings call, April 26, 2017

Kyprolis Projections: AMGN Sell-Side Analysts

These Revenue Projections ...

...Yield these Royalty Projections



Source: Thomson Reuters Cortellis and analyst reports - 16 Amgen and Ono Pharmaceuticals covering analysts as of 5/8/17
 2017 royalties calculated on a one quarter lag

EVOMELA®

- Captisol-enabled formulation of chemotherapy drug used for stem cell transplant conditioning in multiple myeloma (MM) approved by FDA in March 2016
 - Stem cell transplant an important course of therapy in MM, increasing in total number as patients are living longer
- Captisol improves product stability, and enables the removal of propylene glycol, which is associated with renal and cardiac toxicities
- Product licensed to Spectrum Pharmaceuticals, which completed development and launched in 2016
 - 20% royalty on net sales to Ligand
- Fits seamlessly into Spectrum's established commercial infrastructure



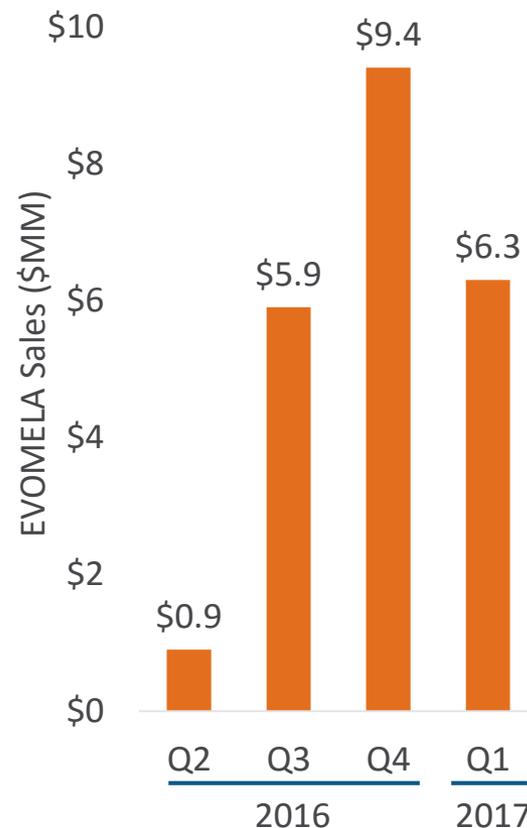
EVOMELA: Launch Performance

- Initial adoption strong given label and clear benefits
- Product highlighted by Spectrum management:

*“... with EVOMELA we have achieved over 35% market share **within eight months of launch.**”*

– Raj Shrotriya, Chairman/CEO

“We're thrilled with what we're seeing in the market with EVOMELA. And, commercially, I think it's a good signal to see the team perform in a highly-competitive market” – Thomas J. Riga, Chief Commercial Officer



The Big Six: Major Pipeline Assets

Leading pipeline assets based on stage and/or potential value

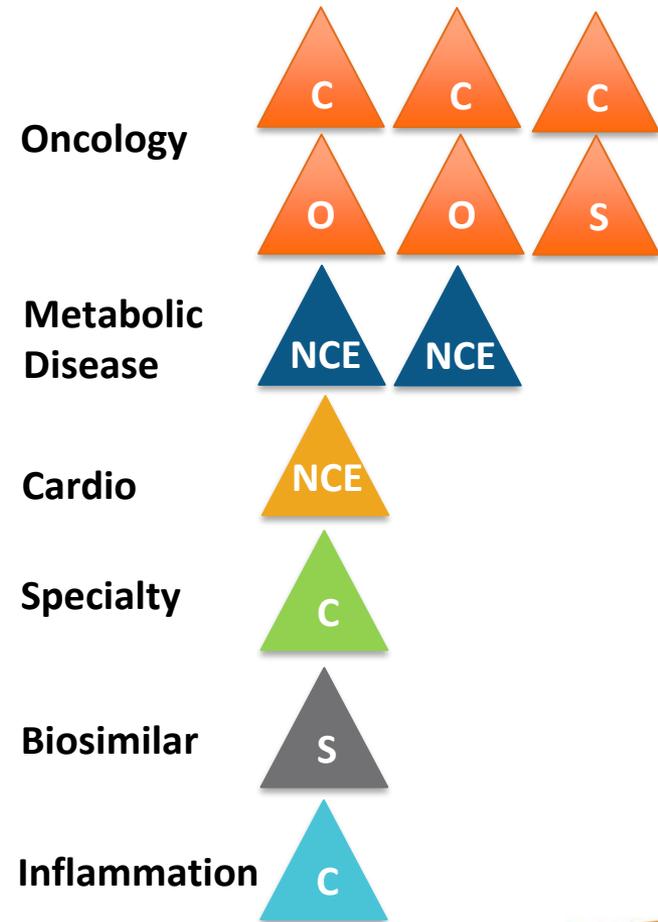
<i>Partner</i>	<i>Program (Therapy Area)</i>	<i>Stage</i>	<i>Royalty Rate</i>	<i>Upcoming Events</i>
	BAXDELA (Infection)	NDA	2.5%	FDA Action on NDA expected in June
	Sparsentan (FSGS - Kidney Disease)	Phase 2/3	9.0%	Phase 3 Initiation
	Brexanolone (Neurology)	Phase 3	3.0%	Phase 3 Data for SRSE and PPD
 Sermonix Pharmaceuticals LLC	Lasofoxifene (Oncology/Women's Health)	Phase 2/3	6.0-10.0%	Clinical Entry
 Bristol-Myers Squibb	BMS986231 (Cardiovascular Disease)	Phase 2/3	2.0-3.0%	Phase 2/3 Start
	Prexasertib (Oncology)	Phase 2	1.5-3.0%	Phase 2 data in various advanced cancers

The Next 12: Composition

Assets emerging as next class with high revenue potential

- Twelve additional pipeline programs continue to expand the breadth and diversity of Ligand's growing portfolio
- Diverse partners and indications
- Diversity of underlying technology/IP
 - 5 Captisol-enabled programs (C)
 - 3 New Chemical Entity programs (NCE)
 - 2 Selexis program (S)
 - 2 OmniAb programs (O)
- All are well-resourced programs with highly-committed partners
 - Emerging data and progress
 - Ability to contribute meaningfully to Ligand's future growth

Composition of The Next 12



Diabetes Program Overview: LGD-6972

- Ligand is developing LGD-6972, a glucagon receptor antagonist (GRA)
- GRA is a novel approach for the treatment of diabetes
- Many traditional therapies target insulin, a pancreatic hormone which reduces blood glucose
 - Administration of insulin increases glucose storage in the liver and glucose utilization in tissues and therefore reduces blood glucose
- LGD-6972 blocks the action of glucagon, a pancreatic hormone which increases blood glucose
 - Blocking the glucagon receptor decreases the liver's ability to release glucose, and therefore reduces blood glucose
- Phase 2 data expected in September

Advantages of Potent GRA

Product profile and recent clinical data suggest significant market advantages for a safe, highly potent, oral GRA

<i>Existing Class</i>	<i>Product Profile</i>	<i>GRA Advantage</i>	<i>GRA Potentially Competitive with Class</i>	<i>Potential GRA Combo with Class</i>
DPP-IV	<i>Modest reduction of plasma glucose</i>	 Expected higher glucose reduction	✓	✓
GLP-1	<i>Only available as injectables</i>	 Oral	✓	✓
SGLT-2	<i>Contraindicated for renally impaired patients, safety considerations</i>	 Potentially effective in renally impaired	✓	✓

OmniAb Antibody Platforms

- Ligand's acquisition of OMT provided the company a major platform to participate in the significant and growing field of antibody research
- OMT's genetically engineered novel, transgenic rodents produce fully human antibodies

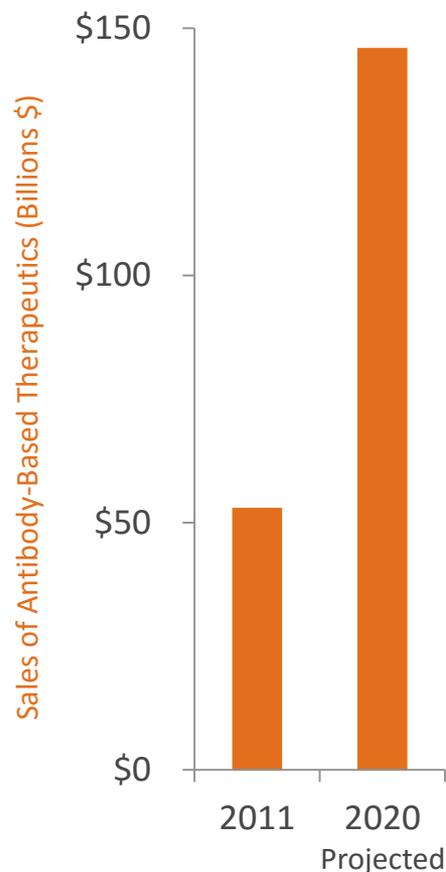


- Key advantages:
 - Human antibodies have reduced immunogenicity
 - Using transgenic rodents avoids the need for genetic engineering to “humanize” antibodies and accelerates antibody discovery
 - Broad diversity of high-quality antibodies

Antibodies: A Blockbuster Class

Growth in the antibody market

- Antibody treatments are the **fastest-growing segment** of the pharmaceutical industry
 - **Compounded annual growth rate averaging 12-15% from 2011-2020**
- Global sales of antibodies in 2020 estimated to approach \$150 billion
- There is **large and growing demand** for tools to efficiently discover antibodies



OmniAb

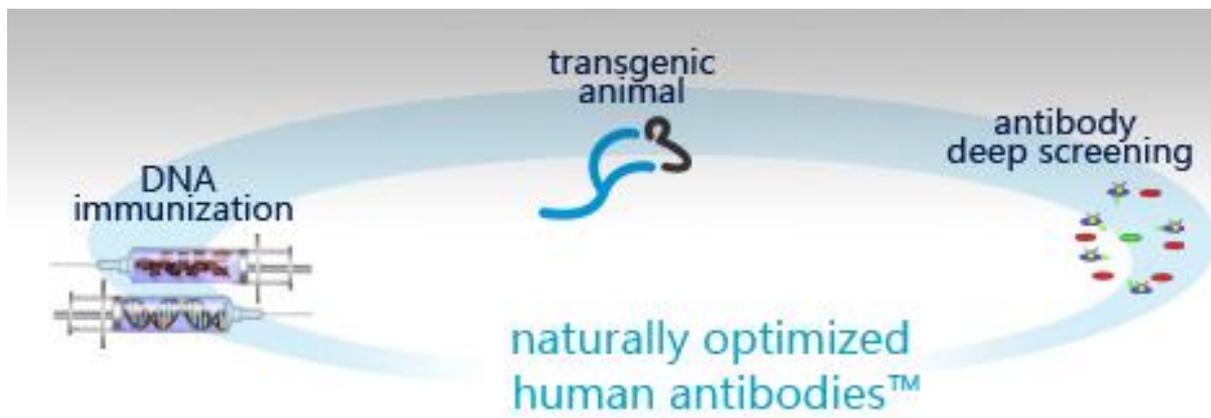
OmniAb users include industry leaders



OmniAb

Broadening use

We estimate that over 300 antibody targets have been or are being pursued by OmniAb partners



Partners report that they have obtained the highest quality antibodies for the most difficult targets when using OmniAb

Upcoming Potential Partner/Licensee Events

Potential milestones for Ligand and partners in coming quarters

<u>Company</u>	<u>Program</u>	<u>Milestone</u>
<i>Lundbeck</i>	Carnexiv	US Launch
<i>Melinta Therapeutics</i>	BAXDELA	FDA approval
<i>Novartis</i>	Promacta	FDA Filing (1 st line SAA)
<i>Coherus Biosciences</i>	CHS-0214	MAA Filing
<i>Retrophin</i>	Sparsentan	Phase 3 initiation
<i>Sage Therapeutics</i>	SAGE-547	Phase 3 completion (Super-Refractory Status Epilepticus)
<i>Sage Therapeutics</i>	SAGE-547	Phase 3 completion (Postpartum Depression)
<i>Daiichi Sankyo</i>	Esaxerenone/CS-3150	Phase 3 completion (Hypertension, in Japan)
<i>Amgen</i>	Kyprolis	Phase 3 completion (RRMM in combo with DARZALEX®)
<i>Amgen</i>	Kyprolis	Phase 3 start (NDMM in combo with REVLIMID®/Dex)
<i>Internal Program</i>	GRA	Phase 2 completion (Type 2 Diabetes)

Upcoming Potential Partner/Licensee Events

Potential milestones for Ligand and partners in coming quarters

<u>Company</u>	<u>Program</u>	<u>Milestone</u>
<i>VentiRx</i>	VTX-2337	Phase 2 completion (Ovarian cancer; Head & Neck cancer)
<i>Viking Therapeutics</i>	VK5211	Phase 2 completion (Hip Fracture)
<i>Viking Therapeutics</i>	VK2809	Phase 2 completion (Hypercholesterolemia/NASH)
<i>Aldeyra Therapeutics</i>	ADX-102	Phase 2 completion (Allergic Conjunctivitis)
<i>GSK</i>	GSK2894512	Phase 2 completion (Atopic Dermatitis)
<i>CURx Pharma</i>	IV-Topiramate	Phase 2 start (Epilepsy)
<i>Sermonix</i>	Lasofoxifene	Phase 2 start (Breast Cancer)
<i>Precision Biologics</i>	NPC-1C	Phase 1/2 completion (Pancreatic cancer)
<i>Bristol Meyers Squibb</i>	CXL-1427/BMS-986231	Phase 1 completion (Acute Heart Decompensation)
<i>Eli Lilly</i>	Prexasertib	Phase 1 completion (Advanced Cancer)
<i>Takeda</i>	TAK-020	Phase 1 completion (Rheumatoid Arthritis)
<i>GSK</i>	GSK2816126	Phase 1 completion (DLBCL)
<i>Aptevo Therapeutics</i>	APVO436	<i>in vivo</i> proof of concept (AML)
<i>Vireo Health</i>	Cannabinoids	IND for Captisol-enabled Formulations

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