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Biopharma's Technology and Capital Partner

Corporate Presentation

September 2024

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Ligand: Biopharma's Technology & Capital Partner

Biopharma royalty aggregator, focused on investing in highly differentiated late-clinical stage assets and operating royalty-generating platform technologies

Robust Commercial Royalty Portfolio	• 12 major commercial-stage royalty streams (e.g., Filspari, Kyprolis, Rylaze, Vaxneuvance) • Generated $84 million in royalty revenue in 2023 representing 64% of total revenue • 2024 royalty revenue guidance of $100-$105 million, representing 22% growth
Deep Pipeline	• Over 90 additional active programs with economic rights • Royalty-generating platform technology with Captisol
Executing at Scale	• Robust business development and investment capabilities • Rapidly increasing level of investment activity with proprietary origination
Lean Operating Structure	• High cash flow operating business: 40% net profit margin in 2023 • Expense reductions and revenue growth driving increased operating profit
Strong Balance Sheet	• Well capitalized with over $200 million[1] in cash and investments and annual operating cash generation run rate of over $100M • No debt, with access to $125 million (expandable to $175 million) through credit facility
Highly Experienced Team	• Deep network of relationships and alliances across biopharma ecosystem • Premier investing and operating expertise

1. Cash and investment balance of $227 million as of June 30, 2024

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Leadership Team

Differentiated Relationships & Biopharma Investment Experience

Deep network of biopharma relationships enable proprietary deal sourcing and rigorous due diligence

SENIOR MANAGEMENT

Todd Davis
Chief Executive Officer

Tavo Espinoza
Chief Financial Officer

Andrew Reardon
Chief Legal Officer

Keith Marschke, Ph. D
SVP, Biology & Scientific Affairs

BUSINESS DEVELOPMENT

Paul Hadden
SVP, Investments & Business Development

Rich Baxter
SVP, Investment Operations

Lauren Hay
VP, Strategic Planning & Investment Analytics

Michael Vigilante
VP, Investments & Business Development

CAPTISOL TEAM

Karen Reeves, M.D.
Investments & Head of Clinical Strategy; General Manager, Captisol

Vince Antle, Ph. D.
SVP, Technical Operations & Quality

James Pipkin, Ph.D.
VP, New Product Development

Ligand 12-Month Investment Activity

Transaction	Type	Amount Invested	Date
Primrose Bio	Spinout	$15M	Sep 2023
Novan / Pelthos	M&A + Spinout	$12M	Sep 2023
Ovid Therapeutics	Royalty Monetization	$30M	Oct 2023
Tolerance Therapeutics	M&A	$20M	Nov 2023
Palvella	Project Finance + Convertible Note	$7.5M	Dec 2023, Jul 2024
Agenus	Project Finance + Royalty Monetization	$75M	May 2024
Ohtuvayre Inventors	Royalty Monetization	$17M	Feb-Aug 2024
Apeiron Biologics	M&A	$100M	July 2024

$277 million in capital invested across 12 transactions during the past 12 months

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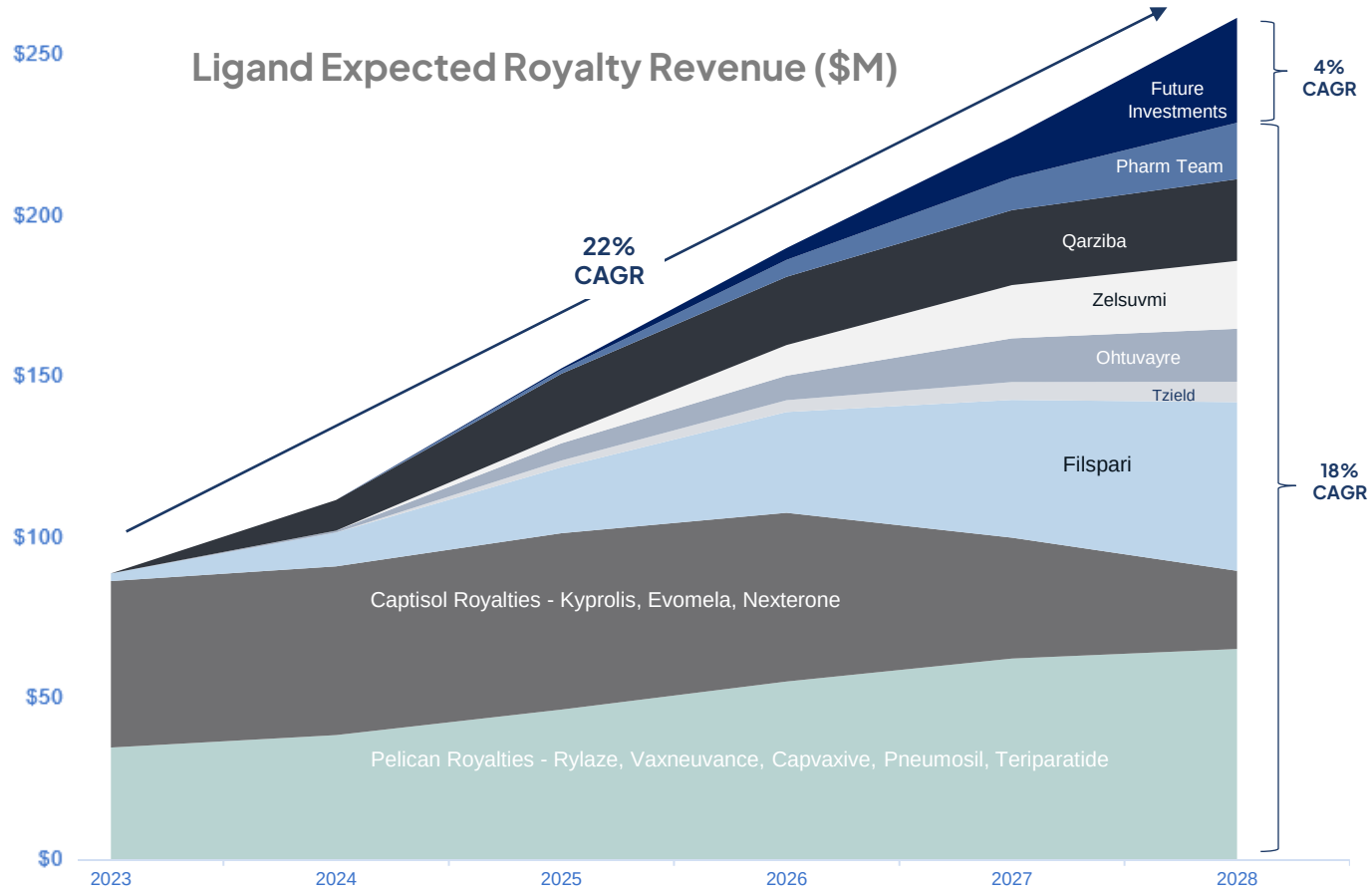
Looking Ahead To 2028

Expected Royalty Revenue CAGR >20%

Current portfolio of commercial and late-stage programs + new deals drive growth[1]

- 5-year royalty revenue outlook on pace to exceed 22% CAGR previously shared at analyst day in December 2023
- Existing commercial programs and late-stage pipeline ("Pharm Team") now supports Royalty Revenue CAGR of 18% (above the previous estimated 16% CAGR)
- Pharm Team includes Agenus' BOT/BAL, Viking's VK-2809, Palvella's PTX-022 and 15 other mid to late-stage programs
- Operating leverage gained from lean corporate cost structure results in an expected adjusted EPS > $10 per share in 2028



1. Sell-side consensus sales estimates used to arrive at royalty revenue from commercial programs.

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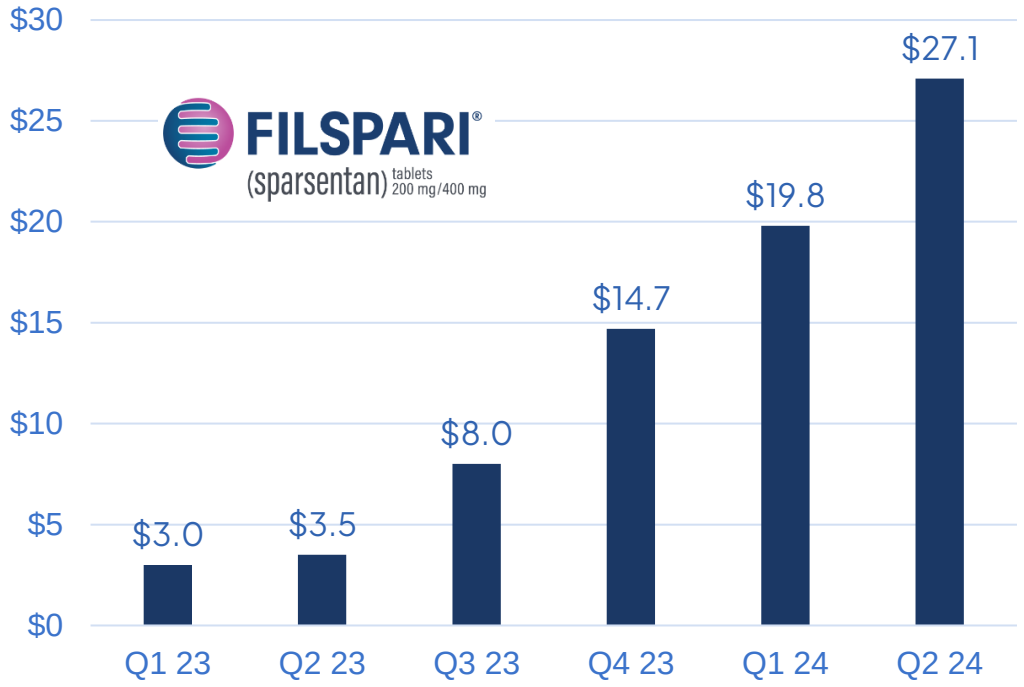
Recent Pipeline Partner Wins: Travere's Filspari, FDA Approved September 5, 2024

- Filspari is the first and only non-immunosuppressive and dual acting, once daily treatment of IgA nephropathy (IgAN)
  - Received full FDA approval on September 5th, 2024 after receiving accelerated approval in February 2023
  - Received Conditional Marketing Authorization in Europe in April 2024
- Fispari fills a significant unmet need, as the estimated 300K IgAN patient population in the US and EU currently have limited treatment options
- KDIGO released draft guidelines on August 30, 2024, that recommends Filspari as a foundational therapy for IgAN
- Ligand earns a 9% royalty on sales of Filspari and can become Ligand's largest royalty stream by 2027*

Filspari Quarterly Sales ($M)



*Sell-side consensus sales estimates used to arrive at royalty revenue from commercial programs.

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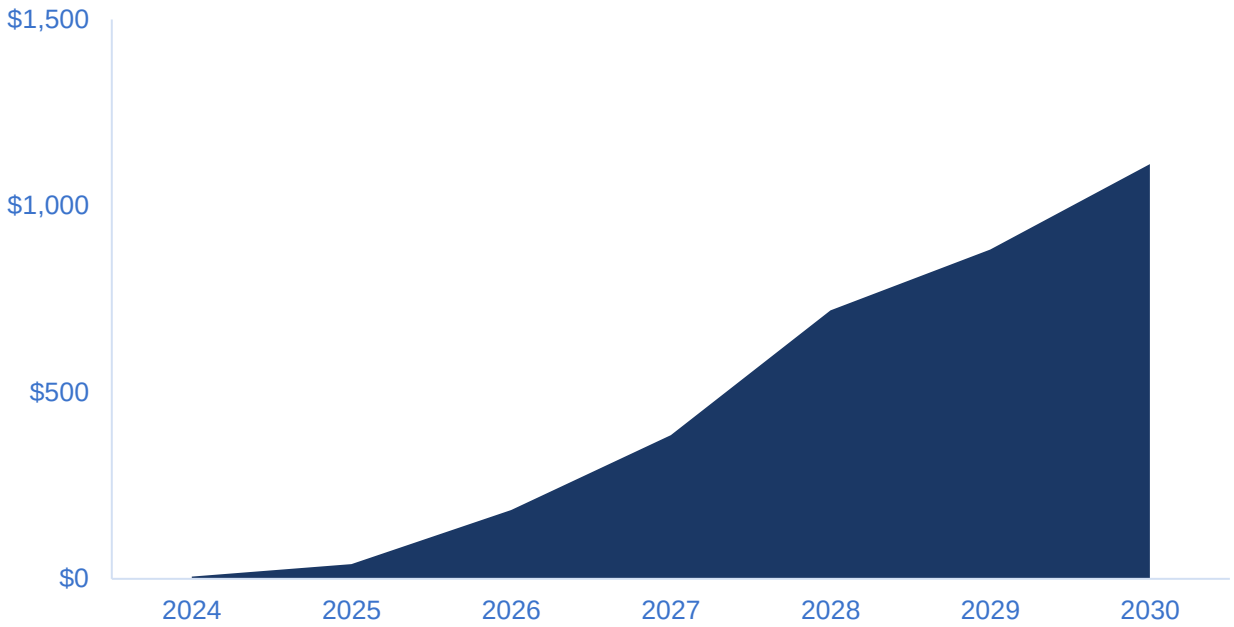
Recent Pipeline Partner Wins: Verona's Ohtuvayre, FDA Approved June 26, 2024

Product Overview

- Ohtuvayre is the first inhaled product with a novel mechanism of action available for the maintenance treatment of chronic obstructive pulmonary disease (COPD) in adult patients in more than 20 years
- Currently 8.6 million patients on chronic treatment in the US; over 50% of whom are dissatisfied with maximal available treatment[2]
- Verona is well capitalized and has the resources to ensure a strong commercial launch
- Ohtuvayre is also being developed as a potential treatment in other large markets, including asthma and cystic fibrosis

Ohtuvayre Expected Sales ($M)[1]



- **Ligand receives a ~3% royalty on global sales**
- **~$6 million milestone earned on approval**
- **~$14 million milestone on first commercial sale**

- **Significant $10.5B US addressable market opportunity for Ohtuvayre at launch**
- **Peak US annual sales estimated to reach ~$1.5B**

1. Estimates based on selected Verona research analyst product sales estimates.
2. Verona IQVIA Ensifentrine Market Research.

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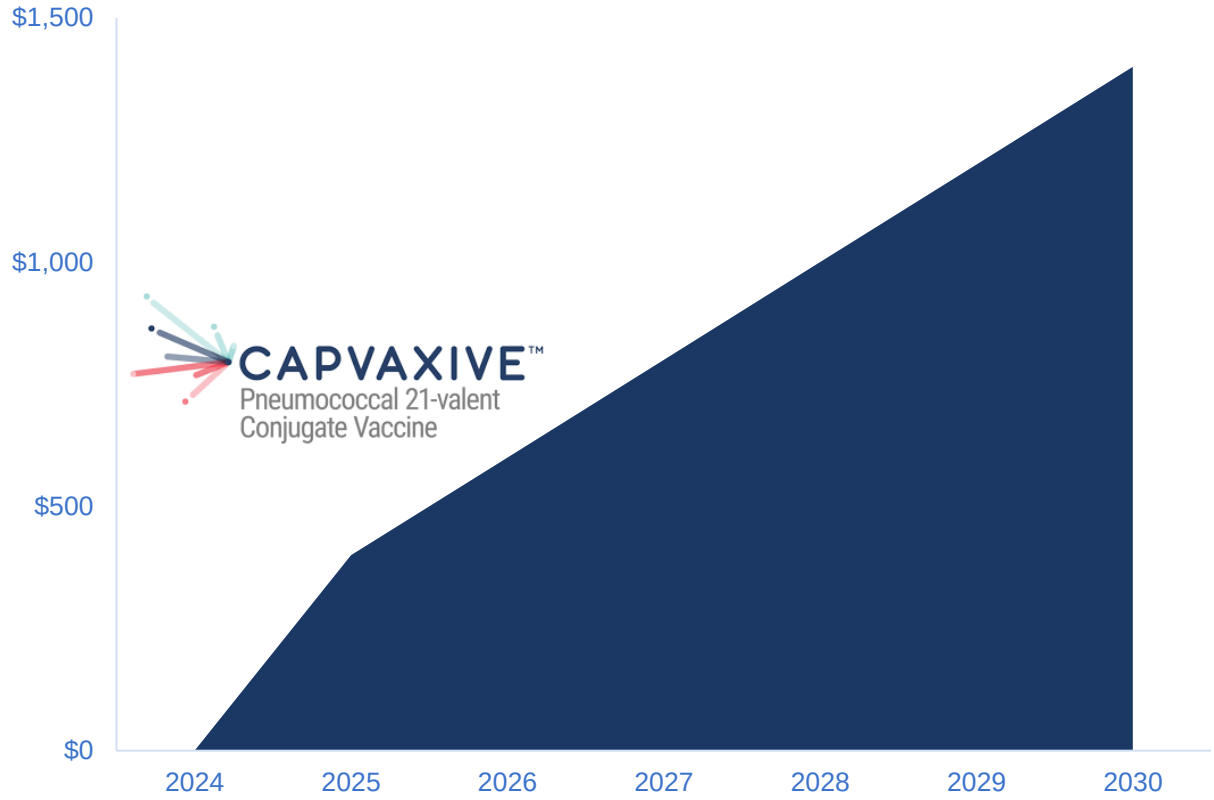
Recent Pipeline Partner Wins: Merck's Capvaxive, FDA Approved June 17, 2024

- 21-valent pneumococcal vaccine designed specifically for adults and approved in June 2024 in individuals 18 years of age and older
- In their latest Q2 2024 earnings call, Merck stated, "Given its compelling clinical profile, we expect that Capvaxive will achieve a majority market share in the adult setting"
- ACIP unanimously recommended Capvaxive for all adults aged 65+ and adults aged 19-64 with underlying conditions who have not received a previous vaccination
  - This ACIP recommendation matches that of PCV20
- ACIP is expected to revisit recommendations for use of both Capvaxive and PCV20 in all adults ages 50-64 at its October meeting

Capvaxive Analyst Projections ($M)



- **Estimated global peak sales of ~$1.5B**
- **Ligand receives low single digit royalties on global sales**

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Apeiron Biologics – Investment Overview

Provides royalty rights to Qarziba, marketed by Recordati & commercially available in >35 countries

Immediately accretive to Ligand EPS by ~$1.00 per share on an annualized basis

Transaction Highlights

Transaction Value	• $100M cash consideration upfront[1]
Qarziba Royalty Rate	• 15-20% of global net sales
Target IRR	• Expected equity like IRR return commensurate with commercial stage risk

Qarziba Overview

Indication	• High-risk pediatric neuroblastoma • Approved by the European Medicines Agency, preparing to file US BLA
Commercial Traction	• Commercially available in >35 countries • Recordati Oncology franchise growth of 23% H1 2023 to H2 2024 • 2024 Qarziba growth outpacing Recordati expectations
Marketer	• Recordati S.p.A., a publicly-listed global pharmaceutical company

1. Ligand will also pay Apeiron shareholders additional consideration based on future commercial and regulatory events including up to $28M if Qarziba royalties exceed certain predetermined thresholds by either 2030 or 2034 respectively.

Apeiron Meets Ligand's Key Investment Criteria

Ligand's Investment Criteria	Apeiron's Strategic Fit With Ligand's Strategy and Portfolio
Time to Cash Flow *(<4 years from approval)*	✓ • Qarziba approved and marketed outside of the US since 2017 • Immediately accretive to Ligand EPS by approximately $1.00 on an annualized basis
Clinical Differentiation *(Data supports ability to address high unmet & strong safety profile)*	✓ • Well-established rare pediatric oncology drug entrenched in EU treatment guidelines • Only approved immunotherapy for high-risk neuroblastoma that is marketed broadly across Europe and many other parts of the world
Exclusivity *(7+ years of market exclusivity)*	✓ • IP protection until at least 2034
Structural Alignment *(Competent counterparty with structural alignment to Ligand)*	✓ • Qarziba is a key commercial product for Recordati, who specializes in rare diseases and has a strong global presence (market capitalization of ~$11B and cash and cash equivalents of ~$320M) • Recordati is actively pursuing new regions and indication expansion for Qarziba
Risk-Reward *(Superior risk-reward profile)*	✓ • Qarziba's established role in the treatment paradigm and motivation of a strong commercial partner in Recordati provide for an attractive risk profile with potential upside

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Captisol Platform Technology

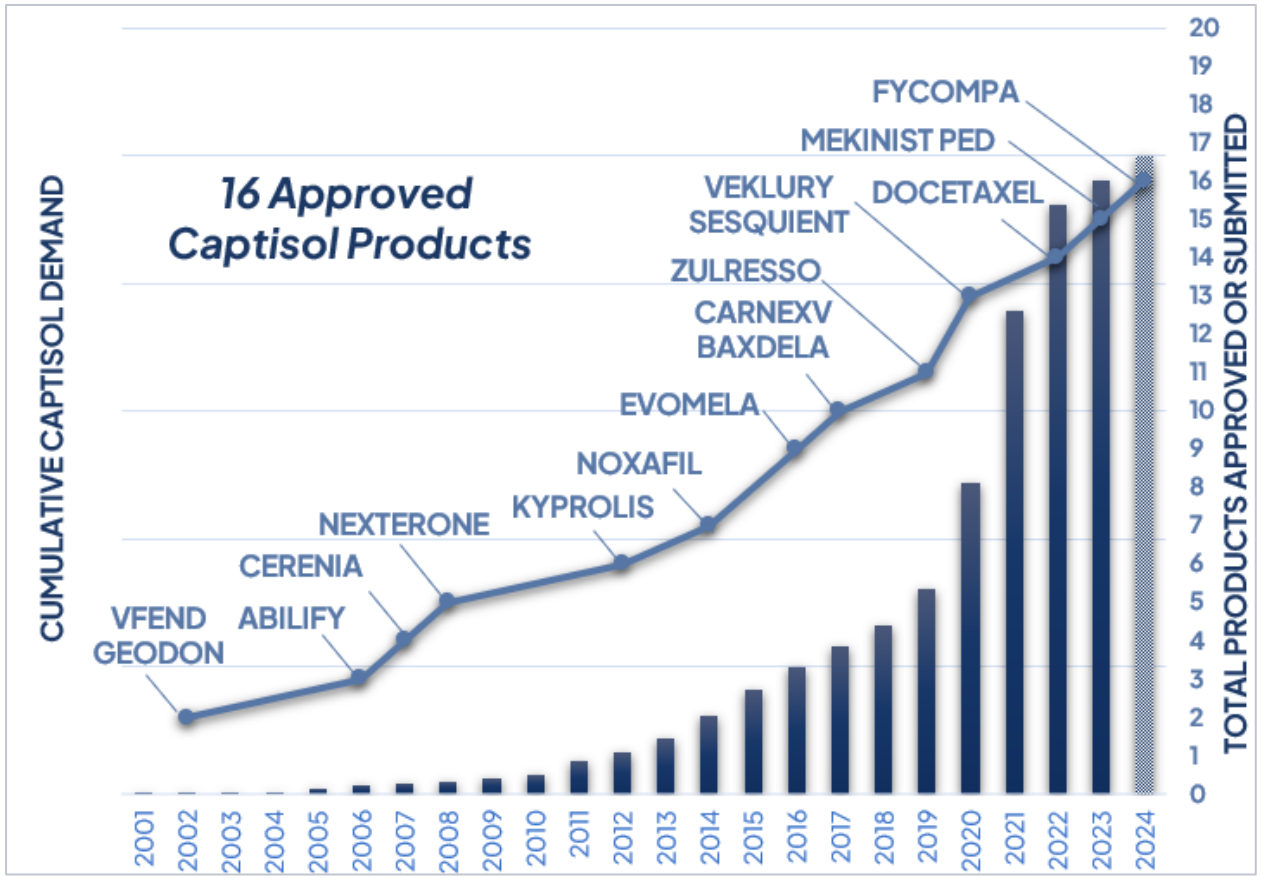
CAPTISOL® A Ligand TECHNOLOGY

Most successful acquisition to date

- Significant royalty revenue generated across multiple programs
- Gross margin on Captisol material sales >60%
- Minimal cash operating expense
- 2011 Cydex acquisition has yielded ROI of ~800%

Captisol addresses formulation solubility and stability across multiple drug candidates

- An estimated 40% of small molecule drug candidates have low solubility [1]
- Captisol has a solid history of clinical and regulatory success, making it well positioned for growth
- Ligand continually focuses on quality, reliability, and customer service



(1) Reference: Sanches & Ferreira, Int. J. of Pharmaceutics, 2019

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Increased Financial Guidance On August 5, 2024

	2023 Reported Results	2024 Prior Guidance	2024 Latest Guidance	Guidance Change[2] (%)	YoY Growth[3] (%)
Royalty Revenue	$84M	$90 - 95M	$100 - 105M	+$10M (11%)	
Captisol Sales	$28M	$25 - 27M	$25 - 27M	-	
Contract Revenue	$19M	$15 - 20M	$15 - 25M	+$2.5M (14%)	
Total Core Revenue	$131M	$130 - 142M	$140 - 157M	+$12.5M (9%)	+$17.5M (13%)
Adjusted Core EPS[1]	$4.06	$4.25 - 4.75	$5.00 - 5.50	+$0.75 (17%)	+$1.19 (29%)

- **Reflects Apeiron acquisition and milestone payments on approval of Ohtuvayre[4]**
- **Does not include potential commercial and regulatory milestone payments from Recordati related to Qarziba**

1. Excludes gains from short-term investments on the sale of Viking Therapeutics stock.
2. Calculated using midpoint of guidance range.
3. Calculated using 2023 YE figures vs 2024 updated FY guidance.
4. A further $14M milestone payment is expected on first commercial sale of Ohtuvayre.

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Portfolio Review

Commercial Portfolio, Pipeline Progress, & Operational Updates

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Key Commercial Partnered Program Updates

Marketer	Program	Therapeutic Area	Royalty Rate	Q2'24 Updates[1]	Outlook
AMGEN	Kyprolis	Oncology	1.5% to 3%	Reported $377M in Q2'24 sales	Expected > $1.5B in total 2024 global sales
TRAVERE THERAPEUTICS	Filspari	Nephrology	9%	EU approval received April 2024; Reported $27.1M in Q2'24 sales	Full US approval received Sep 5, 2024 ; Potential to be Ligand's largest royalty stream
Verona Pharma	Ohtuvayre	Pulmonology	Approved	Just under 3%	FDA Approved on June 26
Jazz Pharmaceuticals	Rylaze	Oncology	Low Single Digit	Reported $108M in Q2'24 sales	European launch provides incremental growth opportunity
MERCK	Vaxneuvance	Infectious Disease	Low Single Digit	Reported $189M in Q2'24 sales	Continued strong launch into pediatric market
MERCK	Capvaxive	Infectious Disease	Approved	Low Single Digit Q3 24 Launch	Received Breakthrough Therapy Designation, BLA Approved on June 17
Alvogen	Teriparatide	Endocrinology	25% to 40% Gross Profit Share	Unit sales in line with prior year run rate	Program holding volume share vs. brand
sanofi	Tzield	Endocrinology	Less than 1%	Reported $12M in Q2'24 sales	Expected engagement with regulators regarding potential expansion to Stage 3 patients

1 – Sales figures for Amgen, Travere, Jazz, Merck and Sanofi obtained from Q2'24 earnings announcements.

Key Partnered Pipeline Programs

Marketer	Program	Therapeutic Area	Phase	Royalty Rate	Updates & 2024 Catalysts
Pelthos Therapeutics	Zelsuvmi [1]	Pediatric & Adult Infectious Disease	Approved	N/A	Created Pelthos to accelerate Zelsuvmi commercialization. Launch expected early 2025
VIKING THERAPEUTICS	VK-2809	Hepatology	Phase 2b	3.5% to 7.5%	Achieved secondary endpoints evaluating histologic changes assessed by hepatic biopsy after 52 weeks of treatment
palvella THERAPEUTICS	PTX-022	Rare Dermatology	Phase 3	8% to 9.8%	Received breakthrough therapy designation in November 2023, Phase 3 MLM Trial Initiation
agenus	Bot/Bal	Oncology	Phase 2	2.625%	Agreement with FDA on Phase 3 dose reached Encouraging early data in additional solid tumors
Verona Pharma	Ensifentrine	Respiratory	Phase 2	Just under 3%	7 Additional indication and formulations of ensifentrine in Phase 2 for potential expansion
TRAVERE THERAPEUTICS	FILSPARI	Nephrology	Phase 3	9%	Travere is conducting additional analyses of FSGS data and plans to re-engage with the FDA later in 2024

Appendix – Strategic Positioning and Investment Process Overview

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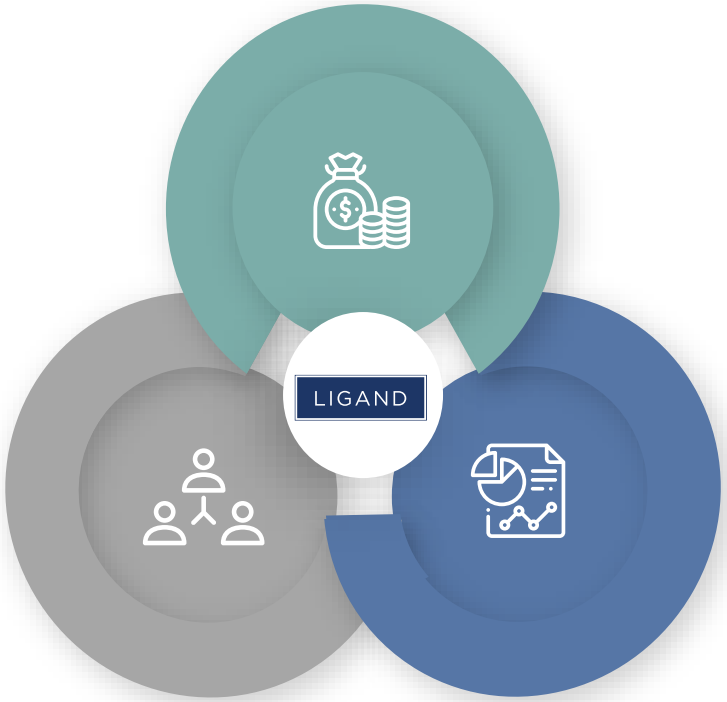
Ligand Strategic Differentiation



STRONG FINANCIALS

High-margin / high-growth strategy

Superior P&L, low op-ex with lean operations, high profits per employee

Predictable and diversified growth

ADVANTAGEOUS STRATEGY

High Demand: Inefficient market with inexhaustible demand for capital

Superior Information: Extensive due diligence and information available under confidentiality vs. public equity investing

Flexible Structures: Customized investment structures with non-dilutable interests

Exclusivity: Create vs. compete for deals. Novel tactics / structures enable high volume of sourcing and high investment selectivity

Scalable: Only limitations to growth are execution and access to capital

EXPERIENCED TEAM

Track record of accomplishments, building a diversified portfolio

Investment Tactics & Methods

Ligand utilizes multiple investment approaches to add late-stage programs to the portfolio

Royalty Monetization

Acquire existing royalty contracts

- Inventors
- Universities
- Non-strategic assets held by companies

M&A

Identify companies with attractive royalty contracts and technology

Significant discounts in current equity environment

Operational team capable of cutting costs and restructuring

Project Finance

Fund late-stage clinical trials for royalty interest

- De-risked late-stage assets
- $10 – 40M per asset
- Favorable time to market

Platforms

Focus on infrastructure-light and leverageable platforms

- **Scalable**
  Limited operations
- **Broad applicability**
  Large market opportunity
- **Enabling**
  Higher royalties
- **Commercially validated**
  Existing royalties

Ligand Investment Criteria

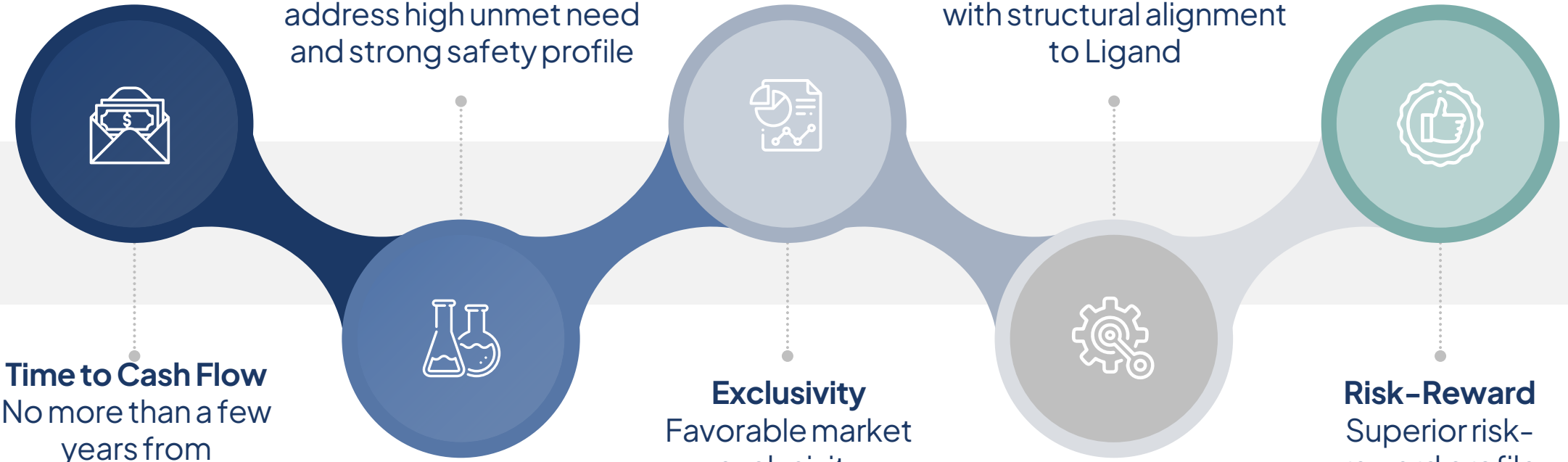
Time to Cash Flow
No more than a few years from potential approval

Clinical Differentiation
Data supports ability to address high unmet need and strong safety profile

Exclusivity
Favorable market exclusivity

Structural Alignment
Competent counterparty with structural alignment to Ligand

Risk-Reward
Superior risk-reward profile



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Ligand Diligence Process

Clinical & Regulatory	Ligand's scientific expertise is supplemented with **therapeutic area-specific consultant** input on PTRS KOLs are interviewed to understand the **treatment paradigm**, **product selection drivers**, **competitive landscape**, **unmet needs**, and **asset opportunity**
CMC	Ligand engages deep subject matter experts to review and validate all CMC processes and protocols and provide comprehensive insights into **potential risks of delayed approval or post-approval supply chain disruption**
Commercial	Highly specialized disease experts are engaged across three major commercial areas: **Sales and Marketing, Forecasting, and Market Access**
Intellectual Property	Counsel conducts a thorough **review of all IP** protecting the asset Diligence first quickly focuses on any potential **dealbreakers** on patent term and strength, followed by a more **fulsome review of the IP estate**
Legal	Initial focus is on **underlying contracts**, as well as definitions of **valuation criteria** Subsequent focus involves **contracting**, seeking to protect Ligand from any contractual risks

Benefits of Royalty Investing

What are biopharmaceutical royalties?

Royalty is a percentage of top-line pharmaceutical net revenue

Royalties are non-dilutable

Royalty cash flows can be protected in bankruptcy

Royalty acquisition requires minimal corporate infrastructure

Royalty investing offers high-margin, predictable, and profitable growth, as well as superior returns