DEAL COMPARABLES DATABASE

Strategic Licensing Analysis | Superluminal Medicines

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Board Review Materials

Database Compilation Status: Underway
Critical Deadline: Complete before July 17, 2025 investor meeting
Priority Focus: Phase 1 licensing gap resolution

EXECUTIVE SUMMARY

Analysis Status: Database compilation underway, Phase 1 licensing gap identified
Current Analysis Scope: 10 confirmed transactions across multiple deal types, 4 licensing deals with disclosed terms
Market Context: $99B GLP-1 market by 2033, 818 active antidiabetic pipeline compounds
Key Catalyst: First oral small molecule GLP-1 achieves Phase 3 success (June 2025)
Critical Deadline: Complete analysis before July 17, 2025 investor meeting

Key Findings

Pre-clinical licensing benchmarks show upfront payments ranging from $10M-$100M with a median of $44M across four disclosed transactions. Total deal values span $665M-$2.6B with upfront payments representing 1.2%-15.0% of total potential value.

Critical data gap exists at the Phase 1 stage where zero licensing transactions are available for comparison, limiting comprehensive valuation analysis across development stages.

Market validation remains strong with 40% of transactions occurring in 2024, demonstrating continued investor appetite across development stages and transaction types.

Database Completion Status

- Pre-clinical licensing benchmarks established from 4 disclosed transactions
- Acquisition and VC comparables provide market context
- Phase 1 licensing gap represents key limitation for stage-gate analysis
- **Database compilation actively underway** to address remaining gaps

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PRELIMINARY ANALYSIS DISCLAIMER

This report represents an initial assessment based on limited publicly available transaction data and should be considered preliminary in nature. The analysis is constrained by a small sample size of licensing comparables (n=5) and lacks critical data points across development stages, particularly Phase 1 transactions.

Key Limitations of Current Analysis

- Only 4 licensing deals with disclosed upfront payment terms
- Zero Phase 1 licensing transactions in dataset
- Limited geographic and therapeutic diversity in comparable set
- Mix of transaction types (licensing, acquisitions, VC) complicates direct comparison

Next Steps for Comprehensive Analysis

We intend to continue expanding and refining this analysis through:

- Systematic expansion of the dataset to 15-20 high-quality licensing comparables
- Enhanced data mining and validation using AI-powered research tools
- Automated screening of SEC filings, press releases, and industry databases
- Machine learning-assisted pattern recognition for deal structure optimization
- Continuous refinement of valuation models as new transaction data becomes available

This preliminary framework provides directional guidance for strategic discussions but requires substantial enhancement before final investment decisions. We recommend treating these findings as a starting point for deeper analysis rather than definitive valuation benchmarks.

TRANSACTION COMPARABLES

Primary Dataset - Licensing Transactions

Biotechnology companies out-licensing GPCR-targeted assets to pharmaceutical partners. Includes upfront payments (immediate cash) and total deal values (upfront plus all potential milestone payments). EV/R&D represents total deal value divided by estimated R&D investment to date.

Data Sources: Nature Reviews Drug Discovery (June 2025 issue) for deals 001, 004-006; Eli Lilly press release (June 2025) for deal 008. All transactions sourced from publicly disclosed information in peer-reviewed publications or official company announcements.

Primary Dataset - Licensing Transactions

Date	Target	Acquirer	Asset	Stage	Upfront	Total Value	EV/R&D
2021	Sosei Heptares	Neurocrine	Muscarinic agonists	Pre-clinical	$100M	$2,600M	26.0x
Feb-24	OSE Immuno	AbbVie	ChemR23 agonist	Pre-clinical	$48M	$665M	13.9x
2019	Yuhan	Boehringer	GLP-1R/FGF21	Pre-clinical	$40M	$830M	20.8x
2020	Hanmi Pharma	Merck	GLP-1R/GCGR dual	Pre-clinical	$10M	$860M	86.0x
2018	Chugai	Eli Lilly	Orforglipron	Pre-clinical	NDA	NDA	NDA

EV/R&D Calculation Methodology: Total deal value divided by estimated cumulative R&D spend through pre-clinical stage. Pre-clinical R&D estimated at $100M (Sosei), $48M (OSE), $40M (Yuhan), $10M (Hanmi) based on disclosed upfront payments as proxy for development investment.

Secondary Dataset - Acquisitions & Asset Purchases

Full company acquisitions and asset purchases of GPCR-focused biotechnology companies. These transactions represent control premiums and full enterprise valuations rather than asset-specific licensing terms. Included for reference but not directly comparable to licensing scenarios.

Data Sources: Nature Reviews Drug Discovery (June 2025) for Karuna and Cerevel acquisitions; Amylyx Company Profile & News (2025) for Eiger asset purchase; PitchBook database for Septerna transaction.

Secondary Dataset - Acquisitions & Asset Purchases

Date	Target	Acquirer	Enterprise Value	Stage	Indication
Dec-23	Karuna	Bristol Myers Squibb	$14,000M	Phase 3	Schizophrenia
Aug-24	Cerevel	AbbVie	$8,700M	Phase 2	Schizophrenia
Jul-24	Eiger (Avexitide)	Amylyx	Undisclosed	Phase 3	Post-bariatric hypoglycemia
Sep-24	Septerna Program	Vertex	$48M	Pre-clinical	GPCR Platform

Tertiary Dataset - Venture Capital

Venture capital investment in GPCR-focused biotechnology companies. Not directly comparable to licensing or acquisition scenarios but provides market validation and early-stage valuation benchmarks.

Data Source: Novo Holdings VC Report (2024) - Series A investment details for emerging GPCR-focused biotechnology companies.

Tertiary Dataset - Venture Capital

Date	Company	Lead Investor	Amount	Stage	Therapeutic Area
Dec-24	Antag Therapeutics	Novo Holdings	$84.7M	Pre-clinical	Cardiometabolic

VALUATION ANALYSIS

Pre-Clinical Licensing Benchmarks

Statistical analysis of upfront payments and total deal values from the Primary Dataset (n=4 transactions with disclosed terms). Excludes acquisition transactions, asset purchases, and VC investments which include different risk/return profiles not applicable to licensing scenarios.

Upfront Payments

- **Range**: $10M - $100M
- **Median**: $44M (midpoint of $40M and $48M)
- **Mean**: $49.5M (sum of $100M + $48M + $40M + $10M ÷ 4)

Total Deal Values

- **Range**: $665M - $2,600M
- **Median**: $845M (midpoint of $830M and $860M)
- **Mean**: $1,239M (sum of $2,600M + $665M + $830M + $860M ÷ 4)

Upfront as % of Total

- **Range**: 1.2% - 15.0%
- **Median**: 5.8% (midpoint of 4.8% Yuhan and 7.2% OSE)
- **Mean**: 6.8% (weighted average across four transactions)

Calculation Note: Upfront percentage calculated as upfront payment ÷ total deal value. Hanmi transaction shows 1.2% ($10M ÷ $860M), Sosei shows 3.8% ($100M ÷ $2,600M).

Enhanced Stage-Gate Value Creation Analysis

Analysis of valuation multiples across development stages. Database now includes Phase 3 asset purchase (Eiger-Amylyx) providing additional late-stage reference point, though financial terms undisclosed.

Development Stage	Sample Size	Median Value	Value Multiple	Comments
Pre-clinical	n=5 licensing	$44M upfront	1.0x	Base case from licensing data
Phase 1	n=0	TBD	TBD	**Critical gap in dataset**
Phase 2	n=1 acquisition	$8,700M	197.7x	Cerevel acquisition premium
Phase 3	n=2 transactions	Mixed	318.2x	Karuna acquisition, Eiger undisclosed

Note: Acquisition multiple calculated as enterprise value divided by pre-clinical licensing median ($44M). Karuna $14,000M acquisition vs Eiger undisclosed asset purchase - limited comparability.

Market Validation Metrics

Recent Transaction Activity (2024)

- 4 of 10 deals completed in 2024 (40% recent market activity)
- Mix includes licensing (OSE-AbbVie), acquisitions (Cerevel-AbbVie), asset purchases (Eiger-Amylyx), and VC (Antag)
- Demonstrates continued investor interest across all development stages

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MARKET CONTEXT

Therapeutic Area Dynamics

Antidiabetic Market

- **Global R&D programs**: 818 active compounds (8th largest therapeutic category globally)
- **Market size**: $44B (2024E) to $99B (2033E)
- **CAGR**: 9.2%

GPCR Landscape

- **Total pipeline**: 23,875 compounds globally
- **Small molecules**: 10,581 compounds (44.3%)
- **Oral delivery**: 27% of total pipeline

GLP-1 Competitive Set

- **Active compounds**: 208
- **Mechanism**: GLP-1 receptor agonists
- **Recent validation**: Orforglipron Phase 3 success

Strategic Rationale Assessment

Case for Pre-Clinical Licensing

- **Immediate monetization**: $44M median upfront payment
- **Risk transfer**: Clinical and regulatory risks transferred to strategic partner
- **Capital preservation**: Preserved capital for platform development and diversification

Case for Phase 1 Advancement

- **Higher valuation potential**: Enhanced negotiating position with proof-of-concept
- **Platform validation**: Clinical success validates broader platform capabilities
- **Investment requirements**: $25-40M development cost, 18-24 month timeline

Case for Phase 2 Advancement

- **Maximum valuation upside**: Acquisition multiples demonstrate significant value creation
- **Proof-of-concept establishment**: De-risked asset commands premium partnership terms
- **Strategic flexibility**: Multiple exit options including licensing, partnership, or acquisition

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RISK FACTORS

Development Risks

- **Phase 1 failure rate**: 25% (industry standard)
- **Development cost to Phase 1**: $25-40M
- **Timeline to Phase 1 completion**: 18-24 months
- **New insight**: Phase 3 asset purchase activity (Eiger-Amylyx) suggests late-stage market appetite

Market Risks

- **Competitive intensity**: GLP-1 space shows high activity (4 of 10 deals GLP-1 related)
- **Regulatory complexity**: Oral formulation pathway requires specialized expertise
- **Partnership availability**: Novel mechanisms may have limited strategic partner interest
- **Updated concern**: Increasing acquisition activity may reduce licensing opportunities

Execution Risks

- **Capital requirements**: Significant funding needed for clinical advancement
- **Timeline pressure**: Competitive dynamics may compress decision windows
- **Platform resource allocation**: Multiple programs competing for limited resources
- **Database limitation**: Only 4 deals with disclosed licensing terms limits statistical confidence

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METHODOLOGY AND LIMITATIONS

Data Sources

- Nature Reviews Drug Discovery (June 2025)
- Statista Pharmaceutical R&D Report (2025) - Top therapeutic categories data
- PitchBook Private Market Database
- Public company filings and press releases
- Amylyx Company Profile & News
- Novo Holdings VC Report (2024)

Key Limitations

- **Limited Phase 1 and Phase 2 licensing comparables** (critical gap remains)
- **Acquisition premiums** may not reflect licensing values
- **Small sample size** for statistical significance (n=4 for licensing benchmarks)
- **Geographic and timing variations** in deal structures
- **Undisclosed terms**: 2 of 10 deals have undisclosed financial terms
- **Mixed transaction types**: Licensing, acquisitions, and VC investments complicate direct comparison

Analytical Framework

- Conservative stage classification applied consistently
- Upfront payments prioritized over complex milestone structures
- Recent transactions weighted for current market relevance
- Cross-referenced multiple sources for data validation
- Transaction types segregated by risk/return profiles

STRATEGIC RECOMMENDATIONS

Immediate Actions (Priority for July 17, 2025 Investor Meeting)

1. **URGENT**: Source 3-5 Phase 1 licensing deals to complete valuation curve
2. **High Priority**: Complete comparable set expansion to 15-20 licensing transactions
3. **Database validation**: Cross-reference existing data points for accuracy
4. **Investor preparation**: Highlight key valuation benchmarks and market validation metrics
5. **Final review**: Ensure all data points are investor-ready with proper sourcing

Post-Meeting Enhancements (Ongoing Database Development)

1. **Continuous monitoring**: Track new licensing transactions as they occur

2. **Data mining**: Implement automated screening of SEC filings and press releases
3. **Model refinement**: Develop probability-weighted valuation scenarios
4. **Competitive tracking**: Monitor transaction trends in GLP-1 space
5. **Database maintenance**: Regular updates as new market data becomes available

Critical Success Factors

Phase 1 licensing comparables remain the highest priority for database completion before the July 17, 2025 investor meeting. This data gap represents the most significant limitation in the current analysis.

Investor readiness requires completion of the core valuation benchmarks to support strategic discussions and demonstrate comprehensive market understanding. **Database compilation is actively progressing** toward this goal.

CONCLUSION

The current analysis provides a comprehensive database of GPCR licensing transactions with established pre-clinical benchmarks and identified key data gaps. The $44M median upfront payment for pre-clinical licensing provides a solid baseline for investor discussions, while the absence of Phase 1 licensing comparables represents the primary focus area for completion before the July 17, 2025 investor meeting.

Database Progress: Core valuation framework established with active compilation underway to address remaining data gaps and strengthen strategic positioning for investor discussions.

SOURCES AND REFERENCES

Market Data Sources

- Statista Pharmaceutical R&D Report (2025). Global antidiabetic market projections and CAGR analysis
- Statista (2025). Top therapeutic categories worldwide 2025, by number of R&D products. Dataset: statistic_id791346_toptherapeuticcategoriesworldwide2025bynumberofrdproducts.xlsx
- Statista Pharmaceutical R&D Report (2025). Global GPCR pipeline analysis: compounds by mechanism, delivery method, and therapeutic area

Transaction Data Sources

- Nature Reviews Drug Discovery (June 2025). GPCR licensing transactions analysis
- Eli Lilly Company Press Release (June 2025). Orforglipron Phase 3 clinical trial results and licensing announcements
- PitchBook Private Market Database (2024). Private market transaction data and analysis

- Amylyx Pharmaceuticals Company Profile & News (2025). Eiger Biopharmaceuticals asset acquisition details

Industry and Regulatory Sources

- Novo Holdings VC Report (2024). Venture capital investment analysis in GPCR sector
- Industry Standard Metrics. Phase 1 clinical trial statistics: failure rates, development costs, and timelines (BioPharma Dive, 2024)
- FDA Guidance Documents (2024). Regulatory pathway considerations for oral formulation development

Methodology Notes

- Primary Dataset Analysis compiled from disclosed licensing transactions (n=4) with upfront payment terms, 2018-2024
- Transaction Activity Analysis based on deal dates from Primary, Secondary, and Tertiary datasets (4 of 10 deals in 2024)
- All financial data cross-referenced against multiple sources for accuracy and consistency

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