TripleHelix Science

CELL AND GENE THERAPIES

Olivers Mouse Study ROI Analysis Early Exit

$12M Preclinical Study with Data Package Sale

Exit Strategy After Mouse Study Completion

Executive Summary

This analysis evaluates the return on investment for conducting a $12M preclinical study on 10 longevity genes and selling the complete data package, without pursuing clinical development.

Investment

- **Total Cost**: $12M (preclinical study only)
- **Timeline**: 3.5-4 years
- **No additional development costs**

Valuation Framework for Preclinical Data Package

What Buyers Are Purchasing

1. **Validated Targets**: In vivo proof-of-concept for 10 genes
2. **Optimized Protocols**: Dose-response curves, delivery routes
3. **Safety Data**: 3-4 year safety profile in mammals
4. **Biomarker Package**: Validated endpoints for clinical translation
5. **Combination Data**: Novel IP opportunities
6. **Time Savings**: 4 years of research already completed
7. **Risk Reduction**: De-risked targets for clinical development

Comparable Transactions (Adjusted for Competition)

Recent preclinical asset sales in longevity/gene therapy:

- Single validated targets: $20-50M
- Platform technologies: $100-300M
- Multiple targets with data: $150-500M

Valuation Scenarios Based on Study Outcomes

Scenario A: Exceptional Results (20% probability)

Study findings:

- 5+ genes show >30% lifespan extension
- Strong safety profile across all genes
- Novel combinations show synergy
- Clear biomarker signatures

Package value:

- Base value per successful gene: $40M × 5 = $200M
- Combination therapy IP: $100M
- Biomarker/diagnostic rights: $50M
- Platform knowledge: $50M
- Competitive bidding premium: 25%
- **Total sale price: $500M**

Scenario B: Strong Results (40% probability)

Study findings:

- 3 genes show >25% lifespan extension (hTERT, Follistatin, Klotho)
- 2-3 genes show moderate benefit
- Good safety data
- Some combinations promising

Package value:

- Lead genes (3): $50M each = $150M
- Secondary genes (3): $15M each = $45M
- Combination data: $40M
- Platform value: $25M
- **Total sale price: $260M**

Scenario C: Moderate Results (30% probability)

Study findings:

- 2 genes show significant benefit
- 3-4 genes show modest improvements
- Mixed safety signals requiring optimization

Package value:

- Lead genes (2): $40M each = $80M
- Secondary candidates (3): $10M each = $30M
- Research tools/data: $20M
- **Total sale price: $130M**

Scenario D: Disappointing Results (10% probability)

Study findings:

- Only 1 gene shows clear benefit
- Safety concerns with some candidates
- Limited commercial interest

Package value:

- Single lead asset: $35M
- Salvage value of data: $10M
- **Total sale price: $45M**

Deal Structure Options

1. Outright Sale (Preferred for ROI)

- Upfront payment: 100% of value
- Clean exit, no ongoing risk
- **Expected value**: $269M (probability-weighted)

2. Structured Deal

- Upfront: 40% ($108M)
- Milestones: 40% ($108M)
- Royalties: 20% ($53M equivalent NPV)
- Higher total but extended timeline
- **Expected value**: $269M (but over 10+ years)

3. Multiple Buyers

- Sell genes individually to different companies
- Lead genes: $50-70M each
- Secondary genes: $10-20M each
- Platform/tools: $20-30M
- **Potential total**: $280-350M**

ROI Calculations

Expected Value Analysis

Probability-weighted outcome:

- Exceptional (20%): $500M × 0.2 = $100M
- Strong (40%): $260M × 0.4 = $104M
- Moderate (30%): $130M × 0.3 = $39M
- Disappointing (10%): $45M × 0.1 = $4.5M
- **Expected sale value: $247.5M**

Return Metrics

Base Case (Expected Value)

- Investment: $12M
- Revenue: $247.5M
- Profit: $235.5M
- **ROI: 1,963%**
- **Multiple: 20.6x**

Conservative Case (Moderate Results)

- Investment: $12M
- Revenue: $130M
- Profit: $118M
- **ROI: 983%**
- **Multiple: 10.8x**

Optimistic Case (Exceptional Results)

- Investment: $12M
- Revenue: $500M
- Profit: $488M
- **ROI: 4,067%**
- **Multiple: 41.7x**

Strategic Considerations for Maximizing Sale Value

1. Competitive Bidding Process

- Target 5-7 potential buyers
- Include Big Pharma and specialized biotechs
- Create urgency through limited exclusivity

2. Value Enhancement Pre-Sale

- File provisional patents on combinations
- Publish high-impact papers (Nature/Science)
- Generate media attention
- Secure KOL endorsements

3. Optimal Timing

- Sell after positive topline data (Year 3)
- Before competitive studies publish
- During biotech market upswing

4. Target Buyers

Big Pharma: Novartis, Roche, J&J (gene therapy interest) **Specialized**: Altos Labs, Calico, Unity, BioAge **New Entrants**: Sovereign funds, patient capital

Risk Analysis

Factors Reducing Value

- Competing studies published first (-30%)
- Safety signals in lead genes (-40%)
- Regulatory concerns about aging as indication (-20%)
- Market downturn at exit (-25%)

Factors Increasing Value

- Breakthrough results in combinations (+50%)
- Human biomarker validation (+30%)
- Strategic bidding war (+40%)
- Platform applications beyond aging (+35%)

Comparison to Full Development

Preclinical Exit

- **ROI: 1,963%**
- **Time to return: 4 years**
- **Risk: Low** (study execution only)
- **Capital needs: $12M**

Full Development Path

- **ROI: 1,836%**
- **Time to return: 13 years**
- **Risk: High** (clinical, regulatory, commercial)
- **Capital needs: $1,272M**

Conclusion

Selling after the preclinical study offers:

1. **Superior risk-adjusted returns**: 1,963% ROI with only execution risk
2. **Quick exit**: 4 years vs 13+ years for full development
3. **Capital efficiency**: $12M vs $1.3B total investment
4. **Competitive advantage**: First comprehensive 10-gene dataset

Recommendation

The preclinical exit strategy offers exceptional returns with minimal risk. The expected 20x multiple far exceeds typical biotech returns. Even in the conservative scenario (10.8x), the returns justify the investment.

Key success factors:

- Execute study with high quality standards
- Generate compelling data on 2-3 lead genes
- Create competitive tension among buyers
- Time the exit strategically

This approach allows you to capture significant value while letting buyers assume clinical and commercial risks.

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