Acadia Pharmaceuticals (NASDAQ: ACAD) — Psychosis Cured?

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Disclaimer

This project does not contain material non-public information and does not breach confidentiality restrictions from a current or previous employer. This project was created exclusively by me, and no other individuals contributed.

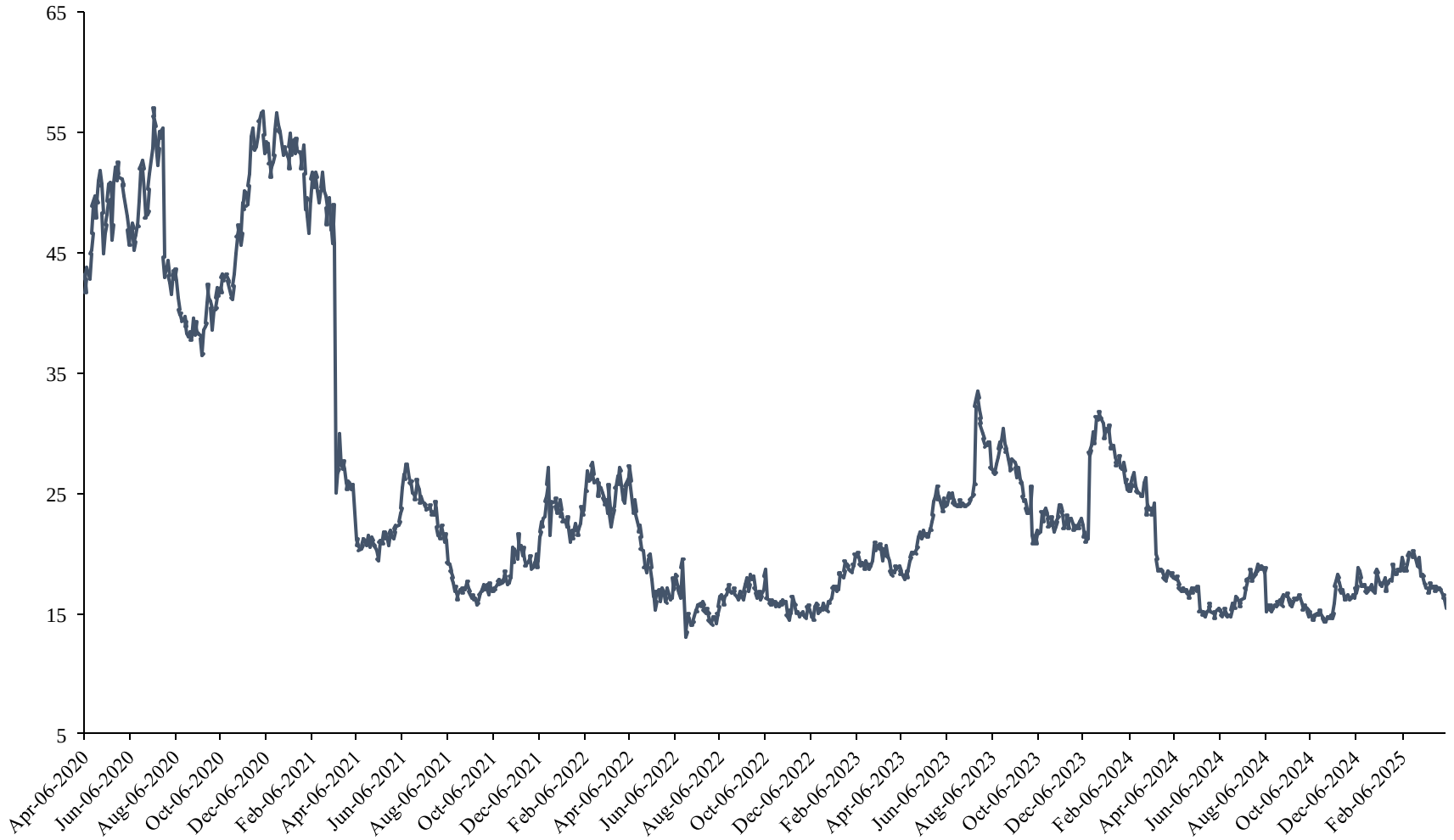
Executive Summary

- **Current Price: $14.10**
- **Bear DCF Price: $20.57 P.28**
- **Bull DCF Price: $24.62 P.31**
- Reverse DCF Assumptions (what market is pricing) P.25
- Scientific Analysis P. 33 to 37
- Summary P. 38
- Bibliography P. 39

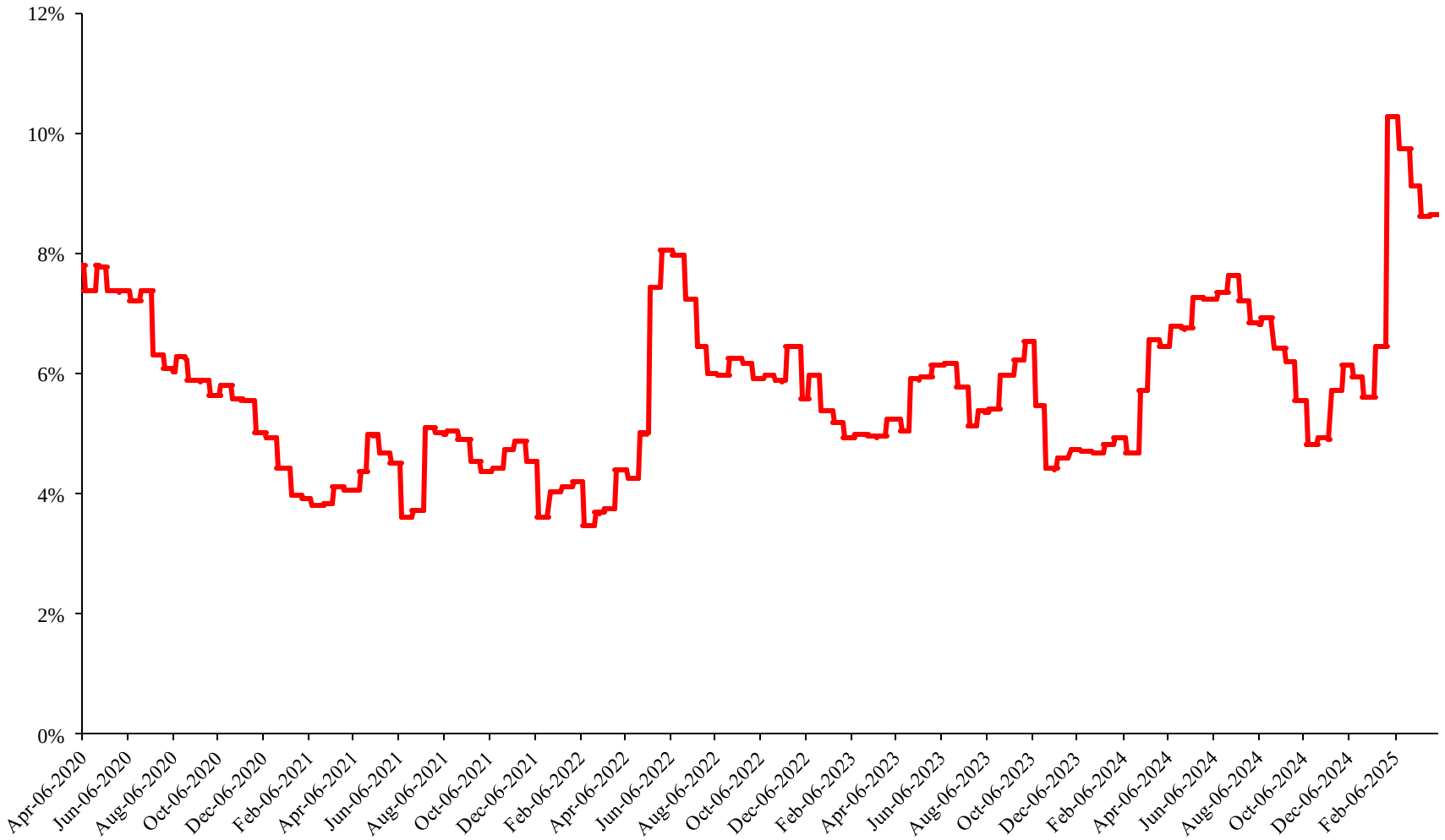
Recommendation

- Long $ACAD (PT: $24.62) *upside of 74.62%*
- Long June 20th, 2025, $12 puts (30% - 40% of pos. roll out if needed)

ACAD 5Y Historical Stock Price

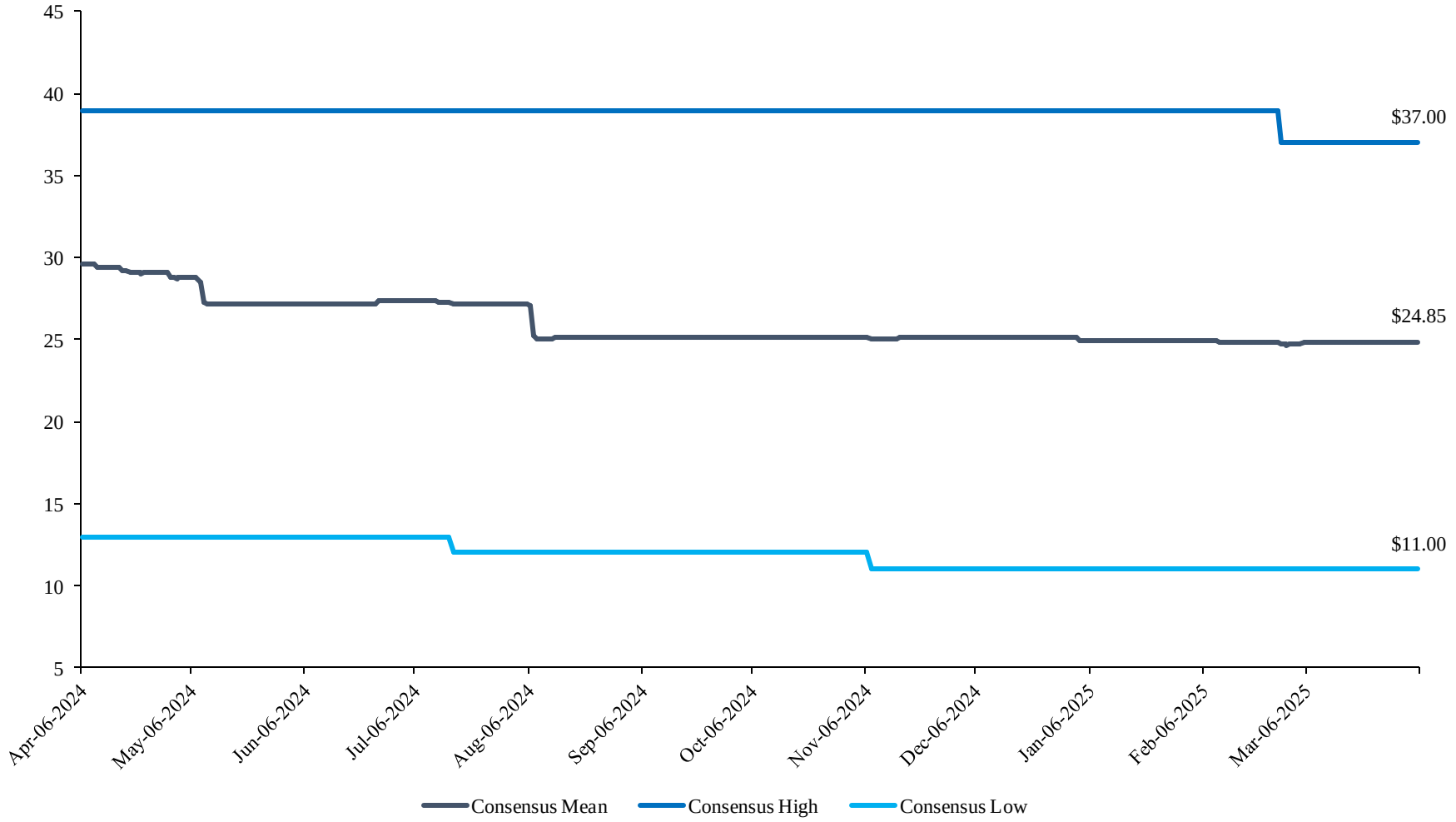


ACAD 5Y Historical Short Interest



ACAD Analyst Price Targets

Market Sentiment Shows Upside of 62% (@ $15.38 price – April 4, ‘25)



Business Overview

ACAD Snapshot *usd mm* – April 8, 2025

Price	$14.10
Shares	167
Mkt Cap	2,352
(-) Cash	756
(+) Debt	42
EV	1,638
Net Cash/Share	$4.28
Pipeline Value/Share	$9.82

Major Holders (as of Dec. 31, 2024)

Holder	Shares (millions)	% of Out.
Baker Bros. Advisors Lp	42.88	25.71%
Vanguard Group Inc	13.95	8.36%
BlackRock	12.73	7.63%
RTW Investments	8.71	5.22%
Morgan Stanley	7.3	4.38%
State Street	4.52	2.71%
DE Shaw	3.24	1.94%

Source: Nasdaq

Source: Nasdaq

Business Overview

How Acadia Makes Money

Acadia Pharmaceuticals develops and commercializes treatments for neurological disorders, including Parkinson's disease psychosis and Rett syndrome, with a pipeline targeting Prader-Willi syndrome and Alzheimer's disease psychosis. Latest pipeline below:

PROGRAM	INDICATION	PROPOSED MECHANISM OF ACTION	DISCOVERY	IND ENABLING	PHASE 1	PHASE 2	PHASE 3	LAUNCHED
CNS								
NUPLAZID [1]	Parkinson's Disease Psychosis	*5HT2A inverse agonist and antagonist*						
ACP-204 [4]	Alzheimer's Disease Psychosis	*New 5HT2A inverse agonist*						
ACP-204 [4]	Lewy Body Dementia w/ Psychosis	*New 5HT2A inverse agonist*						
ACP-711 [4 5]	Essential Tremor	*Selective $GABA_A$-α3 modulator*						
RARE DISEASE								
DAYBUE [2]	Rett Syndrome	*Analogue of GPE*						
ACP-101 [3 4]	Hyperphagia in Prader-Willi Syndrome	*Intranasal Carbetocin*						
ACP-2591 [4]	Rett Syndrome; Fragile X Syndrome	*cGP analogue*						
STOKE ASO 1 [4 6]	Rett Syndrome	*Antisense oligonucleotide (ASO)*						
STOKE ASO 2 [4 6]	SYNGAP1	*Antisense oligonucleotide (ASO)*						
STOKE ASO 3 [4 6]	Not disclosed	*Antisense oligonucleotide (ASO)*						
CNS/RARE DISEASE								
ACP-211 [4]	TRD/MDD/Other	*NMDA receptor antagonist*						
ACP-271 [4]	Neurology	*GPR88 agonist*						

Source: Acadia Pipeline

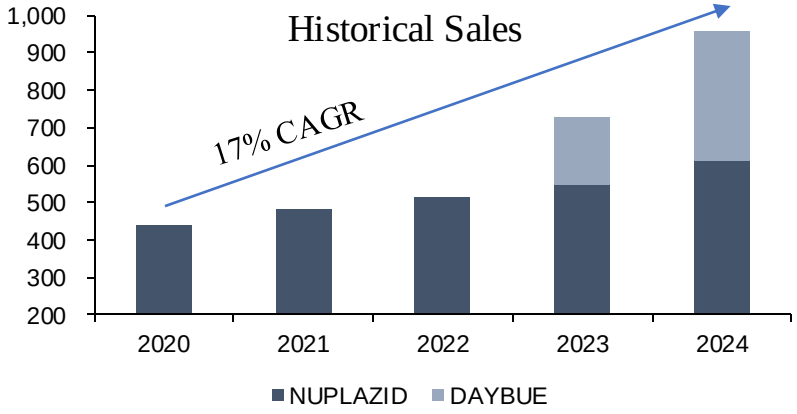
The Play

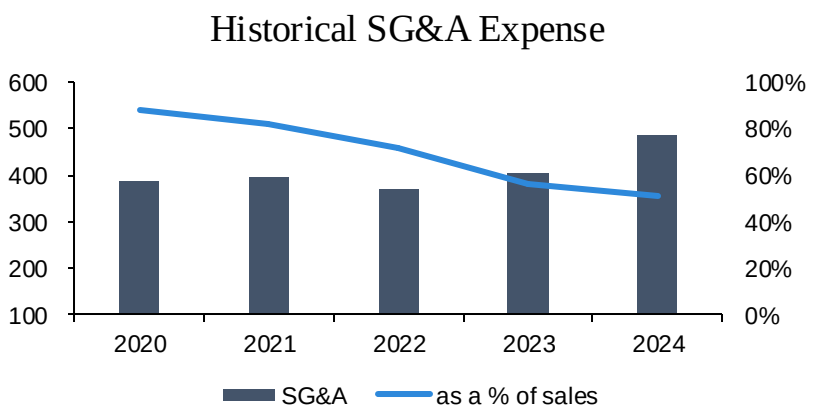
Why ACAD is a Long

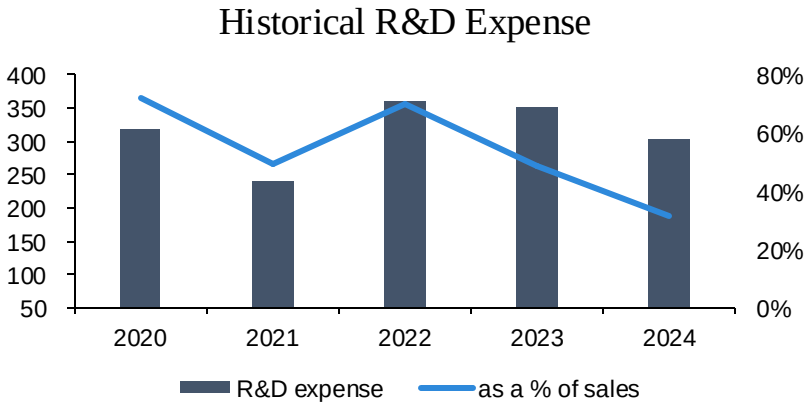
1. **Variant view (what I think will happen)** – I believe ACP-101 and ACP-204 get approved VS market not expecting approval of either. However, at $14.10 the market is also discounting NUPLAZID and DAYBUE's future sales ($16.35/share VS market's $9.88/share – those share prices exclude net cash per share of $4.28)
2. **Variant view quantified** – Significant discount of market grab for NUPLAZID in PD Psychosis ($10.69/share upside) + upside of $4.15/share for ACP-101 and 204 approval
3. **Provided evidence** – Scientific analysis P.33-37
4. **Sentiment analysis** – ER assumptions and price targets P.7 + reverse DCF assumptions P.24-25
5. **Positioning Evaluation** – In spite of my confidence in the play, the larger sector volatility (RFK and FDA uncertainty at P.13 require a hedge of 30-40% of the position)
6. **Catalysts** – R&D Day June 25, '25 and Q1 '25 earnings on May 6
7. **Biggest risk** – NUPLAZID failed to reach stat sig in AD psychosis and has the same MOA as ACP-204, why should ACP-204 work? Because ACP-204 has been perfected to overcome known mishaps: avoiding QT prolongation, allowing for higher dosing and reaching steady-state in 5 days vs 12 days (prior)
8. **Risk/reward analysis** – ER analysts are using discounts of 25%-50% to forecast value the future sales of ACP-101 and 204 to mitigate approval uncertainty. With the stock sitting at pre-pandemic lows and trading at a PE of 10, the rewards outweigh the risks
9. **Keeping track of thesis** – R&D day June 25th, '25 + Q1'25 earnings on May 6, '25

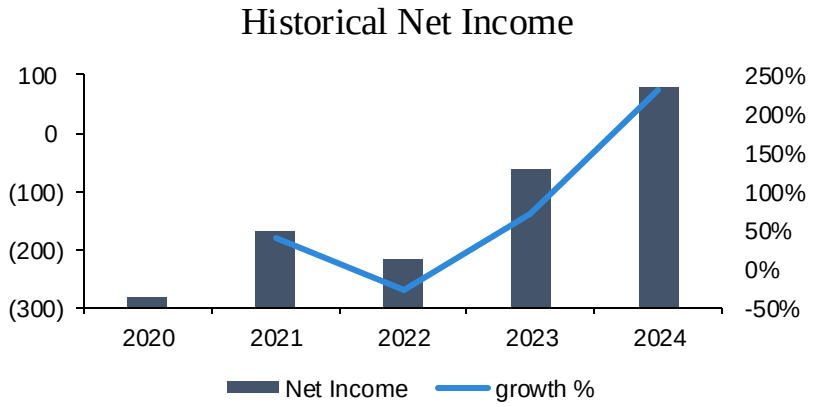
Business Overview

Financial Snapshot





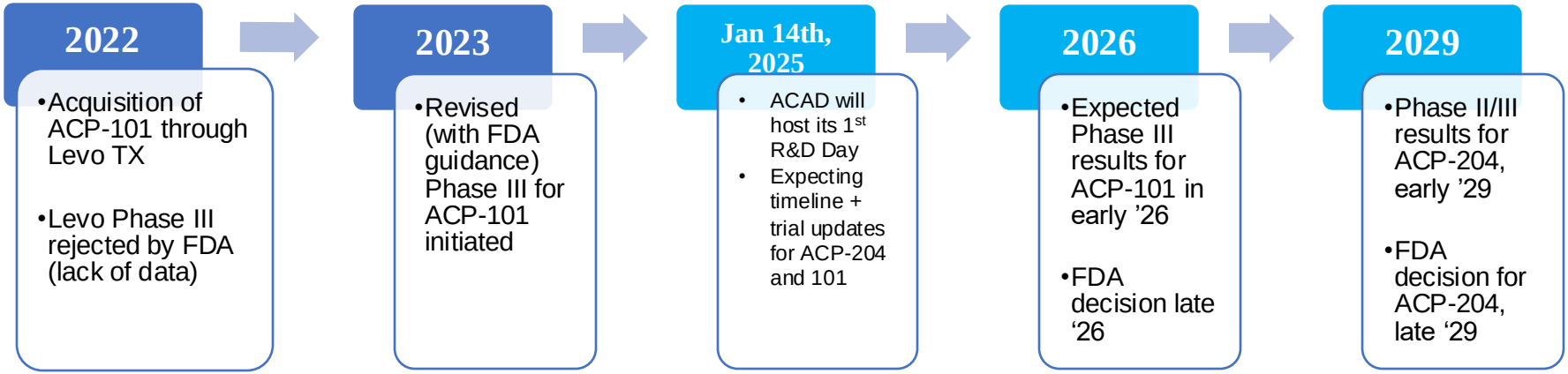




Acadia SEC 10Ks and 10Qs

Business Overview

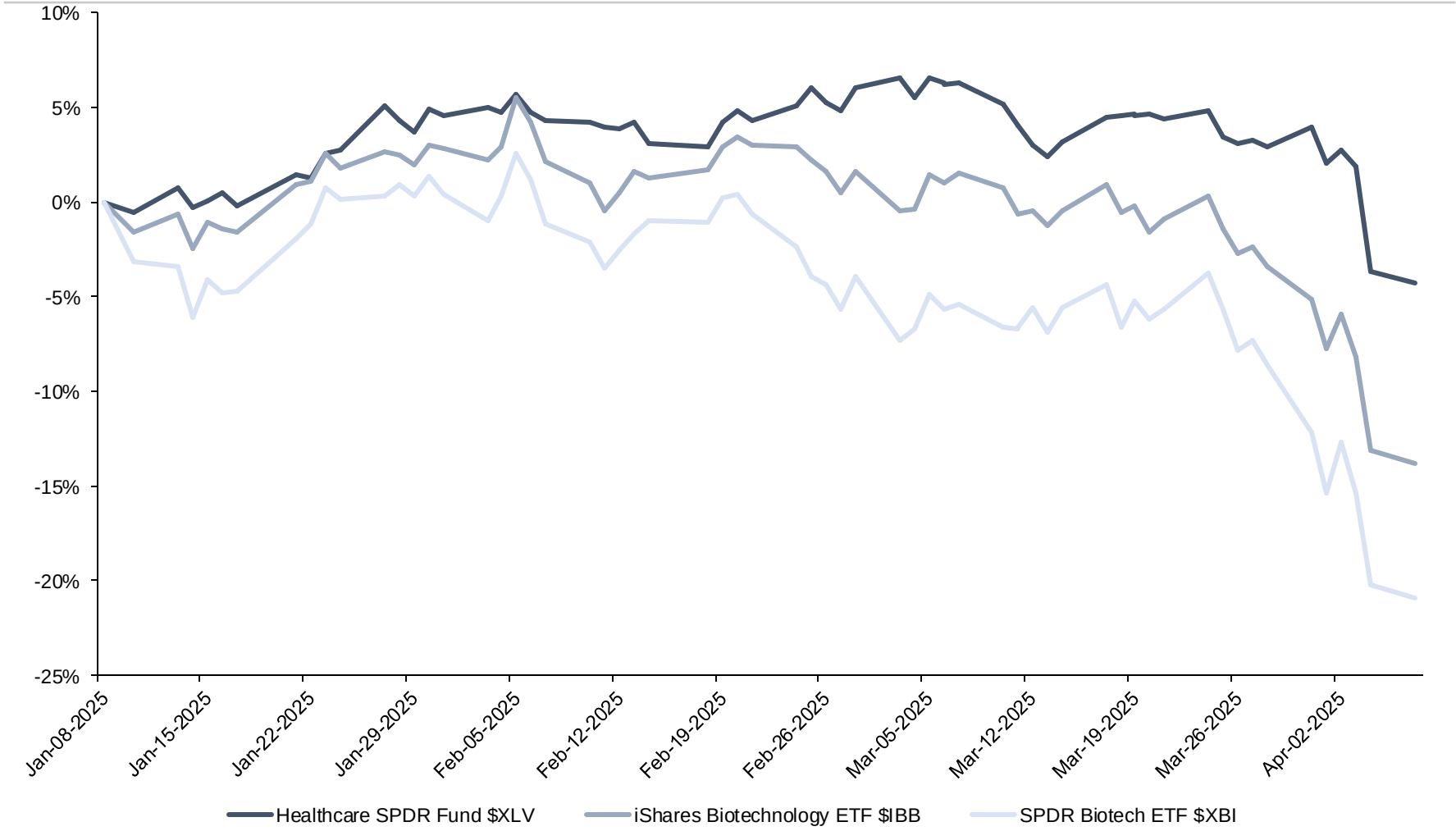
Timeline of Catalysts



Industry Overview

Biotech Sector Selloff

RFK Jr Pressured Peter Marks to Resign from the FDA, Causing Sector-Wide Panic



Industry Overview

Parkinson's, Alzheimer's, Rett and Schizophrenia

Name	Indication	Economics	Event	Timing
NGN-401	Rett Syndrome	Neurogene	Phase II start	2025
CVL-231	Schizophrenia	Abbvie	Phase II data	Q4'24
Anavex2-73	Parkinson's dimensia	Anavex	Phase IIb/III	Q4'24
TSHA-102	Rett Syndrome	Taysha	Phase I/II data	1H '25
CVL-231	Alzheimer's psychosis	Abbvie	Phase I results	Q1'25
RP5063	Schizophrenia	Reviva	Phase III Results	Q2'25
Pitolisant	Prader-Willi syndrome	Harmony Bio	Phase III Results	Q2'26

ClinicalTrials.gov, PubMed

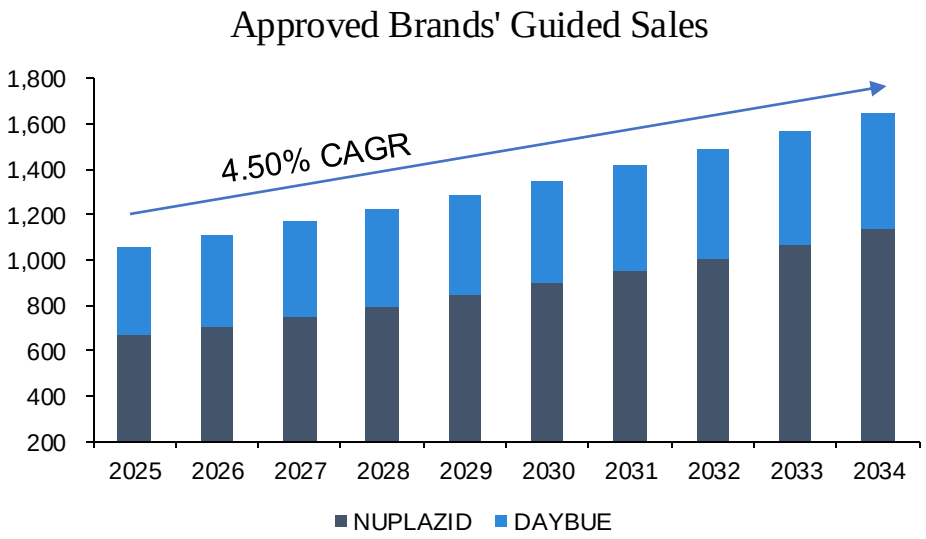
- Currently no other approved drug for Parkinson's psychosis and Rett Syndrome
- Potential new NUPLAZID competitor in ~'30 (Anavex2-73), depending on results
- Biggest threat is CVL-231, but it has a different MOA to NUPLAZID and ACP-101

Investment Theses

Investment Theses for Bear Case

At $14.10/share, the Market is Undermining ACAD's Approved Brands' Future Guided Sales

- This revenue build is in line with ACAD's guided # of patients on both NUPLAZID and DAYBUE
- My bear case investment thesis for ACAD is that, even if ACP-101 and 204 don't get approved, the firm's campaigns to increase the volume of sales (incremental growth) are underpriced by ~20%

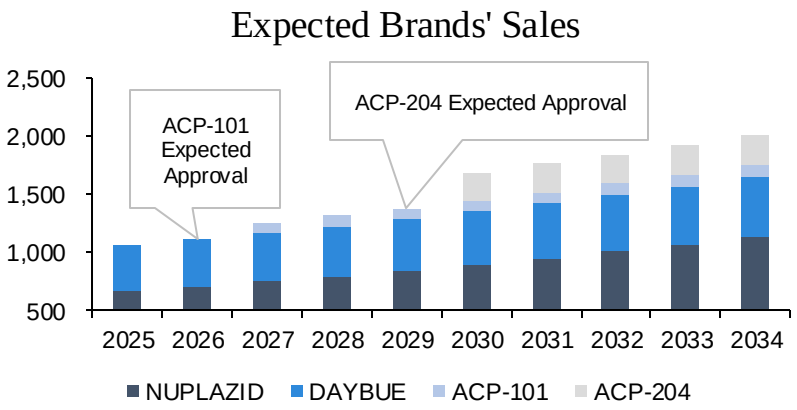


Assumptions	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Income Statement										
NUPLAZID Growth %	**10%**	**6%**	**6%**	**6%**	**6%**	**6%**	**6%**	**6%**	**6%**	**6%**
DAYBUE Growth %	**13%**	**3%**	**3%**	**3%**	**3%**	**3%**	**3%**	**3%**	**3%**	**3%**
# of Rett Patients on drug	1,050	1,071	1,092	1,114	1,137	1,159	1,182	1,206	1,230	1,255
# of Rett Patients in NA+EU	*12,120*	*12,241*	*12,364*	*12,487*	*12,612*	*12,738*	*12,866*	*12,994*	*13,124*	*13,255*
# of PD Psychosis Patients on drug	18,750	19,688	20,672	21,705	22,791	23,930	25,127	26,383	27,702	29,087
# of PD Psychosis Patients in NA+EU	*815,157*	*847,764*	*881,674*	*916,941*	*953,619*	*991,764*	*1,031,434*	*1,072,692*	*1,115,599*	*1,160,223*
Annual avg net cost to payors for DAYBUE	375,000	378,750	382,538	386,363	390,227	394,129	398,070	402,051	406,071	410,132
Annual avg net cost to payors for NUPLAZID	35,635	35,991	36,351	36,715	37,082	37,453	37,827	38,206	38,588	38,973
DAYBUE Revenue Build *usd*	**393,750,000**	**405,641,250**	**417,891,616**	**430,511,943**	**443,513,403**	**456,907,508**	**470,706,115**	**484,921,439**	**499,566,067**	**514,652,962**
NUPLAZID Revenue Build *usd*	**668,156,250**	**708,579,703**	**751,448,775**	**796,911,426**	**845,124,567**	**896,254,604**	**950,478,007**	**1,007,981,927**	**1,068,964,833**	**1,133,637,206**

Investment Theses for Bull Case

Upcoming Approvals

- **I expect ACP-101 (for Hyperphagia in PWS) to get approved in late '26**
- **I also expect ACP-204 (for Alzheimer's Psychosis) to get approved in late '29**



Why Will ACP-101 Get Approved?

- Previous Phase III reached statistically significant primary endpoint efficacy target
- ACAD designed its new Phase III around FDA guidance (closely resembles last trial = same results?)
- Direct delivery to the brain with intranasal admin. Overall reduction in hyperphagia behaviors in last trial.

Why Will ACP-204 Get Approved?

- Both NUPLAZID (approved) and ACP-204 have the same MOA and targets
- Both indications for NUPLAZID and ACP-204 are very similar (neuropsychiatric diseases similar in symptoms)
- Scientifically, very unlikely that ACP-204 doesn't reach stat sig, given reverse agonist of 5-HT2A receptors and similar trial design to NUPLAZID

Acadia Phase III Results, Prader-Willi News

Pivotal Phase III Design, Acadia Pharmaceuticals IR

Risks & Catalysts

Risks & Catalysts

Where I Might be Wrong

- I'm confident that both ACP-101 and ACP-204 will get approved, but probabilistically, the approval odds are not 100%
- **The main risk in my analysis stems from ACP-101 and ACP-204 not getting approved and never materializing sales**
- **The other substantial risk is the approval of a competitor's drug (most likely CLV-231 and Anavex2-73), which could hinder future sales**
- If any of these two risks/catalysts were to occur, my assumptions and forecasts would need to be revised

Valuation

WACC Calculation

Funded Debt + D/E + Bottom-Up Beta

Debt/Equity Weightings	
Funded Debt (usd millions)	52
Market Cap (usd millions)	2,352
Firm Value	2,404
Debt Weighting	2.16%
Equity Weighting	97.84%

Funded Debt (Q4'24), *usd mm*

Current portion of leases	10
Non-current operating lease liability	42
Total Funded Debt	52
Weighted-avg lease discount rate	*4.50%*

Bottom-Up Beta, *usd mm* - April 9, '25

levered beta/[1+(1-tax)*(DE)]

TICKER	INDICATION	GEOGRAPHY	MKT CAP	LTM EBITDA Margin	Levered Beta (5Y)	D/E	Effective Tax Rate LTM	Unlevered Beta	Weight	Weight Rationale
NASDAQ: HALO	Human Hyaluronizade	US	7,086	61.80%	1.32	4.22x	20.30%	0.30	10%	Abnormal DE
NASDAQ: CORT	Hypercortisolism	US	7,437	22.90%	0.14	0.01x	12.60%	0.14	22.50%	Similar Growth and Mkt Cap to ACAD
NASDAQ: CPRX	Lambert-Eaton myasthenic	US	2,599	47.40%	0.79	0.00x	24.20%	0.79	22.50%	Similar Growth and Mkt Cap to ACAD
NASDAQ: PTGX	Plaque psoriasis	US	2,558	58.40%	2.3	0.02x	1.50%	2.26	22.50%	Similar Growth and Mkt Cap to ACAD
NASDAQ: LGND	IgA Nephropathy	US	1,861	34.90%	0.97	0.01x	260.10%	0.98	22.50%	Similar Growth and Mkt Cap to ACAD
NASDAQ: ACAD	Neuropsychiatric + CNS	US	2,352	8.11%	0.38	0.07x	37.52%	0.36		
								Relevered Beta	**1.01**	

Acadia 10Ks and 10Qs

WACC Calculation

WACC + TV WACC Breakdown

Cost of Equity (Ke)	Ke = Rf + B(ERP)	
Rf	4.59%	10-year avg US 10Y
Beta	1.01	bottoms up
ERP	4.43%	Damodaran's Apr. '24
Cost of Equity (Ke)	**9.07%**	

Cost of Debt (Kd)	Kd = Rf + Credit Spread	
Credit Rating	4.50%	Weighted-avg op. lease discount
Credit Spread	0.45%	Damodaran credit spread
Rf	4.59%	24-Dec US 10y
Cost of Debt (Kd)	**5.04%**	

WACC = ((E/V * Ke) + ((D/V*Kd) * (1 - Tc)))

WACC Calculations FCF

Cost of Debt	5.04%
Weight of Debt	2.16%
Marginal Tax Rate	25.00%
Cost of Equity	9.07%
Weight of Equity	97.84%
WACC	8.96%

WACC = ((E/V * Ke) + ((D/V*Kd) * (1 - Tc)))

TV WACC Calculations

Cost of Debt	5.04%
Weight of Debt	2.16%
Marginal Tax Rate	25.00%
Cost of Equity	11%
Weight of Equity	97.84%
TV WACC	10.35%

Larger WACC, bc of current growth phase

Acadia 10Ks and 10Qs

CapitalIQ

Working Capital Forecast

Non-Cash Working Capital (NCWC)

usd mm	Historicals					Assumptions	Forecasts									
	2020	**2021**	**2022**	**2023**	**2024**		**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**
Revenues	**442**	**484**	**517**	**726**	**958**		**1,062**	**1,114**	**1,169**	**1,227**	**1,289**	**1,353**	**1,421**	**1,493**	**1,569**	**1,648**
growth %		*10%*	*7%*	*40%*	*32%*		*11%*	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*
Accounts Receivable	50	65	63	102	105											
% of revenue	*11%*	*13%*	*12%*	*14%*	*11%*											
Inventory	10	8	7	36	22											
% of revenue	*2%*	*2%*	*1%*	*5%*	*2%*											
Prepaids + Other CA	26	24	21	39	56											
% of revenue	*6%*	*5%*	*4%*	*5%*	*6%*											
Non-Cash Current Assets	86	97	91	177	182											
% of revenue	*19%*	*20%*	*18%*	*24%*	*19%*											
Accounts Payable	8	7	13	18	16											
% of revenue	*2%*	*1%*	*2%*	*2%*	*2%*											
Accrued + Other CL	97	89	113	237	379											
% of revenue	*22%*	*18%*	*22%*	*33%*	*40%*											
Current Liabilities	106	96	126	254	395											
% of revenue	*24%*	*20%*	*24%*	*35%*	*41%*											
Non-Cash Working Capital	(20)	1	(35)	(77)	(213)		(53)	(56)	(58)	(61)	(64)	(68)	(71)	(75)	(78)	(82)
% of revenue	*-5%*	*0%*	*-7%*	*-11%*	*-22%*	*-5%*	*-5%*	*-5%*	*-5%*	*-5%*	*-5%*	*-5%*	*-5%*	*-5%*	*-5%*	*-5%*
Change in NCWC		21	(36)	(42)	(136)		159	(3)	(3)	(3)	(3)	(3)	(3)	(4)	(4)	(4)

Acadia 10Ks and 10Qs

Reverse DCF Matrix

What the Market is Assuming

Revenue Build											
	FY	Projected									
usd mm	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
NUPLAZID	609	668	709	751	797	845	896	950	1,008	1,069	1,134
DAYBUE	348	394	406	418	431	444	457	471	485	500	515
ACP-101											
ACP-204											
Total Revenue	**958**	**1,062**	**1,114**	**1,169**	**1,227**	**1,289**	**1,353**	**1,421**	**1,493**	**1,569**	**1,648**
growth %		*11%*	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*
DCF Summary											
Revenue	958	1,062	1,114	1,169	1,227	1,289	1,353	1,421	1,493	1,569	1,648
(-) COGS	82	64	67	70	74	77	81	85	90	94	99
Gross Profit	876	998	1,047	1,099	1,154	1,211	1,272	1,336	1,403	1,474	1,549
gross margin %	*91%*	*94%*	*94%*	*94%*	*94%*	*94%*	*94%*	*94%*	*94%*	*94%*	*94%*
(-) R&D	303	320	435	456	479	503	528	554	582	612	643
% of rev	*32%*	*30%*	*39%*	*39%*	*39%*	*39%*	*39%*	*39%*	*39%*	*39%*	*39%*
(-) SG&A	488	550	501	526	552	580	609	640	672	706	742
% of rev	*51%*	*52%*	*45%*	*45%*	*45%*	*45%*	*45%*	*45%*	*45%*	*45%*	*45%*
EBIT	84	128	111	117	123	129	135	142	149	157	165
(-) Taxes	32	27	24	35	37	39	41	43	45	47	49
% of EBIT	*38%*	*21%*	*22%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*
NOPAT	53	101	87	82	86	90	95	99	105	110	115
(+) D&A	7	5	6	6	6	6	7	7	7	8	8
% of rev	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*
(-) CapEx	(1)	1	1	1	1	1	1	1	1	2	2
% of rev	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*
(-) Δ in NCWC	(136)	(53)	(56)	(58)	(61)	(64)	(68)	(71)	(75)	(78)	(82)
% of rev	*-14%*	*-5%*	*-5%*	*-5%*	*-5%*	*-5%*	*-5%*	*-5%*	*-5%*	*-5%*	*-5%*
FCFF	195	159	148	145	152	160	168	176	185	194	204
PV of FCFF		146	124	112	108	104	100	97	93	90	87

Reverse DCF

Detailed Assumptions

	WACC	*8.96%*
	TV WACC	*10.35%*
	Terminal Growth %	*-1.50%*
	Sum of PV of FCFF	1,061
(FCFFlast*(1+TVg))/(WACC-TVg)	Terminal Value	1,698
TV/((1+TVWACC)^10)	PV of Terminal Value	634
	Enterprise Value	1,695
Q4'24	(+) Cash	756
Q4'24	(-) Debt	52
	Equity Value	2,399
Q4'24	Shares Out.	167
	Implied Share Price	$14.38
	Current Share Price	$14.10
	Upside %	1.99%

- At the low $14 share price range, the market is assuming:
  - FCFF growth of 2.57% CAGR for next 10yrs
  - SG&A of roughly 45% of sales/per year for next 10yrs
  - R&D of roughly 39% of sales/per year for next 10yrs
- This means that if ACAD outperforms on any of these metrics, the stock should increase

Bear Case DCF Matrix (No Approval of ACP-101 nor ACP-204)

Revenue Build											
	FY	Projected									
usd mm	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
NUPLAZID	609	668	709	751	797	845	896	950	1,008	1,069	1,134
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growth %		*11%*	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*
DCF Summary											
Revenue	958	1,062	1,114	1,169	1,227	1,289	1,353	1,421	1,493	1,569	1,648
(-) COGS	82	64	67	70	74	77	81	85	90	94	99
Gross Profit	876	998	1,047	1,099	1,154	1,211	1,272	1,336	1,403	1,474	1,549
gross margin %	*91%*	*94%*	*94%*	*94%*	*94%*	*94%*	*94%*	*94%*	*94%*	*94%*	*94%*
(-) R&D	303	320	312	327	344	361	379	398	418	439	462
% of rev	*32%*	*30%*	*28%*	*28%*	*28%*	*28%*	*28%*	*28%*	*28%*	*28%*	*28%*
(-) SG&A	488	550	501	526	552	580	609	640	672	706	742
% of rev	*51%*	*52%*	*45%*	*45%*	*45%*	*45%*	*45%*	*45%*	*45%*	*45%*	*45%*
EBIT	84	128	234	246	258	271	284	298	314	329	346
(-) Taxes	32	27	46	67	71	74	78	82	86	90	95
% of EBIT	*38%*	*21%*	*20%*	*27%*	*27%*	*27%*	*27%*	*27%*	*27%*	*27%*	*27%*
NOPAT	53	101	188	178	187	197	206	217	228	239	251
(+) D&A	7	5	6	6	6	6	7	7	7	8	8
% of rev	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*
(-) CapEx	(1)	1	1	1	1	1	1	1	1	2	2
% of rev	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*
(-) Δ in NCWC	(136)	(53)	(56)	(58)	(61)	(64)	(68)	(71)	(75)	(78)	(82)
% of rev	*-14%*	*-5%*	*-5%*	*-5%*	*-5%*	*-5%*	*-5%*	*-5%*	*-5%*	*-5%*	*-5%*
FCFF	195	159	248	241	253	266	279	293	308	324	340
PV of FCFF		146	209	187	180	173	167	161	155	150	144

Bear Case DCF Assumptions

Revenue Build Assumptions

	Historical						Forecast									
Assumptions	2020	2021	2022	2023	2024	Average	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Income Statement																
NUPLAZID Growth %		**10%**	**7%**	**6%**	**11%**	**8%**	**10%**	**6%**	**6%**	**6%**	**6%**	**6%**	**6%**	**6%**	**6%**	**6%**
DAYBUE Growth %					**97%**		**13%**	**3%**	**3%**	**3%**	**3%**	**3%**	**3%**	**3%**	**3%**	**3%**
# of Rett Patients on drug				1,925	920		1,050	1,071	1,092	1,114	1,137	1,159	1,182	1,206	1,230	1,255
# of Rett Patients in NA+EU	*10,000*	*10,500*	*11,000*	*11,500*	*12,000*		*12,120*	*12,241*	*12,364*	*12,487*	*12,612*	*12,738*	*12,866*	*12,994*	*13,124*	*13,255*
# of PD Psychosis Patients on drug					17,100		18,750	19,688	20,672	21,705	22,791	23,930	25,127	26,383	27,702	29,087
# of PD Psychosis Patients in NA+EU	*670,000*	*696,800*	*724,672*	*753,659*	*783,805*		*815,157*	*847,764*	*881,674*	*916,941*	*953,619*	*991,764*	*1,031,434*	*1,072,692*	*1,115,599*	*1,160,223*
Annual avg net cost to payors for DAYBUE							375,000	378,750	382,538	386,363	390,227	394,129	398,070	402,051	406,071	410,132
Annual avg net cost to payors for NUPLAZID							35,635	35,991	36,351	36,715	37,082	37,453	37,827	38,206	38,588	38,973
DAYBUE Revenue Build *usd*							**393,750,000**	**405,641,250**	**417,891,616**	**430,511,943**	**443,513,403**	**456,907,508**	**470,706,115**	**484,921,439**	**499,566,067**	**514,652,962**
NUPLAZID Revenue Build *usd*							**668,156,250**	**708,579,703**	**751,448,775**	**796,911,426**	**845,124,567**	**896,254,604**	**950,478,007**	**1,007,981,927**	**1,068,964,833**	**1,133,637,206**
Revenue Growth %		10%	7%	40%	32%	22%	11%	5%	5%	5%	5%	5%	5%	5%	5%	5%
COGS as a % of rev	5%	4%	2%	6%	9%	5%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
SG&A as a % of rev	88%	82%	71%	56%	51%	70%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%
R&D as a % of rev	72%	49%	70%	48%	32%	54%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
Interest Income as a % of rev	1%	0%	1%	2%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Operating Margin %	-65%	-35%	-43%	-10%	9%											
Effective Tax Rate %	0%	0%	-1%	-20%	28%		18%	18%	25%	25%	25%	25%	25%	25%	25%	25%
Net Margin %	-64%	-35%	-42%	-8%	8%											

Bear Case DCF Implied Price

	WACC	*8.96%*
	TV WACC	*10.35%*
	Terminal Growth %	*-1.50%*
	Sum of PV of FCFF	1,671
(FCFFlast*(1+TVg))/(WACC-TVg)	Terminal Value	2,828
TV/((1+TVWACC)^10)	PV of Terminal Value	1,056
	Enterprise Value	2,727
Q4'24	(+) Cash	756
Q4'24	(-) Debt	52
	Equity Value	3,431
Q4'24	Shares Out.	167
	Implied Share Price	$20.57
	Current Share Price	$14.10
	Upside %	45.90%

- Even if ACP-101 and ACP-204 don't get approved, ACAD's Direct-to-Consumer campaigns are already starting to show volume growth translating to higher NUPLAZID sales
- I believe ACAD's R&D and SG&A futures expenses are largely overestimated by the market, because the company has already slashed both expenses (as a % of revenue) by more than half since 2020. Although they've outlined their intention to pursue hiring sales rep and develop their pipeline, ACAD has historically done so at a significantly lower rate than what is assumed in the reverse DCF (by the market)

Bull Case DCF Matrix (Both ACP-101 and 204 Get Approved)

Revenue Build												
		FY	Projected									
usd mm		2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
NUPLAZID		609	668	709	751	797	845	896	950	1,008	1,069	1,134
DAYBUE		348	394	406	418	431	444	457	471	485	500	515
ACP-101					90	92	94	96	97	99	101	103
ACP-204								240	245	250	255	260
Total Revenue		**958**	**1,062**	**1,114**	**1,259**	**1,319**	**1,382**	**1,689**	**1,763**	**1,842**	**1,925**	**2,012**
	growth %		*11%*	*5%*	*13%*	*5%*	*5%*	*22%*	*4%*	*4%*	*4%*	*5%*

DCF Summary												
Revenue		958	1,062	1,114	1,259	1,319	1,382	1,689	1,763	1,842	1,925	2,012
(-) COGS		82	64	67	76	79	83	101	106	111	115	121
Gross Profit		876	998	1,047	1,184	1,240	1,299	1,587	1,658	1,732	1,809	1,891
	gross margin %	*91%*	*94%*	*94%*	*94%*	*94%*	*94%*	*94%*	*94%*	*94%*	*94%*	*94%*
(-) R&D		303	297	312	353	369	387	473	494	516	539	563
	% of rev	*32%*	*28%*	*28%*	*28%*	*28%*	*28%*	*28%*	*28%*	*28%*	*28%*	*28%*
(-) SG&A		488	478	501	567	594	622	760	794	829	866	905
	% of rev	*51%*	*45%*	*45%*	*45%*	*45%*	*45%*	*45%*	*45%*	*45%*	*45%*	*45%*
EBIT		**84**	**223**	**234**	**264**	**277**	**290**	**355**	**370**	**387**	**404**	**422**
(-) Taxes		32	27	46	72	76	79	97	101	106	111	116
	% of EBIT	*38%*	*12%*	*20%*	*27%*	*27%*	*27%*	*27%*	*27%*	*27%*	*27%*	*27%*
NOPAT		**53**	**196**	**188**	**192**	**201**	**211**	**258**	**269**	**281**	**294**	**307**
(+) D&A		7	5	6	6	7	7	8	9	9	10	10
	% of rev	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*
(-) CapEx		1	1	1	1	1	1	2	2	2	2	2
	% of rev	*0.1%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*
(-) Δ in NCWC		(136)	(53)	(56)	(63)	(66)	(69)	(84)	(88)	(92)	(96)	(101)
	% of rev	*-14%*	*-5%*	*-5%*	*-5%*	*-5%*	*-5%*	*-5%*	*-5%*	*-5%*	*-5%*	*-5%*
FCFF		194	253	248	260	272	285	349	364	380	397	415
PV of FCFF			233	209	201	193	186	208	200	191	184	176

Bull Case DCF Assumptions

Revenue Build Assumptions of ACP-101 and 204

Assumptions	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Income Statement										
NUPLAZID Growth %	**10%**	**6%**	**6%**	**6%**	**6%**	**6%**	**6%**	**6%**	**6%**	**6%**
DAYBUE Growth %	**13%**	**3%**	**3%**	**3%**	**3%**	**3%**	**3%**	**3%**	**3%**	**3%**
# of Rett Patients on drug	1,050	1,071	1,092	1,114	1,137	1,159	1,182	1,206	1,230	1,255
# of Rett Patients in NA+EU	*12,120*	*12,241*	*12,364*	*12,487*	*12,612*	*12,738*	*12,866*	*12,994*	*13,124*	*13,255*
# of PD Psychosis Patients on drug	18,750	19,688	20,672	21,705	22,791	23,930	25,127	26,383	27,702	29,087
# of PD Psychosis Patients in NA+EU	*815,157*	*847,764*	*881,674*	*916,941*	*953,619*	*991,764*	*1,031,434*	*1,072,692*	*1,115,599*	*1,160,223*
Annual avg net cost to payors for DAYBUE	375,000	378,750	382,538	386,363	390,227	394,129	398,070	402,051	406,071	410,132
Annual avg net cost to payors for NUPLAZID	35,635	35,991	36,351	36,715	37,082	37,453	37,827	38,206	38,588	38,973
DAYBUE Revenue Build *usd*	**393,750,000**	**405,641,250**	**417,891,616**	**430,511,943**	**443,513,403**	**456,907,508**	**470,706,115**	**484,921,439**	**499,566,067**	**514,652,962**
NUPLAZID Revenue Build *usd*	**668,156,250**	**708,579,703**	**751,448,775**	**796,911,426**	**845,124,567**	**896,254,604**	**950,478,007**	**1,007,981,927**	**1,068,964,833**	**1,133,637,206**
ACP-101 Estimated Price			50,000	50,500	51,005	51,515	52,030	52,551	53,076	53,607
PWS Patient Population (US)			9,000	9,090	9,181	9,273	9,365	9,459	9,554	9,649
Penetration Rate (US)			20%	20%	20%	20%	20%	20%	20%	20%
ACP-101 Revenue Build *usd*			**90,000,000**	**91,809,000**	**93,654,361**	**95,536,814**	**97,457,104**	**99,415,991**	**101,414,253**	**103,452,679**
ACP-204 Estimated Price						8,000	8,080	8,161	8,242	8,325
AD Psychosis Patient Population (US)						600,000	606,000	612,060	618,181	624,362
Penetratioon Rate (US)						5%	5%	5%	5%	5%
ACP-204 Revenue Build *usd*						**240,000,000**	**244,824,000**	**249,744,962**	**254,764,836**	**259,885,609**

Bull Case DCF Implied Price

	WACC	8.96%
	TV WACC	10.35%
	TV Growth	-0.50%
	Sum of PV of FCFF	1,981
(FCFFlast*(1+TVg))/(WACC-TVg)	Terminal Value	3,808
TV/((1+TVWACC)^10)	PV of Terminal Value	1,422
	Enterprise Value	3,403
Q4'24	(+) Cash	756
Q4'24	(-) Debt	52
	Equity Value	4,107
Q4'24	Shares	167
	Implied Share Price	$24.62
	Current Share Price	$14.10
	Upside %	74.62%

- My bull case includes the same assumptions for NUPLAZID and DAYBUE sales, but includes the commercialization of ACP-101 and 204
- Conservatively forecasted, both new drugs should start monetizing sales in 2027 (ACP-101) and 2030 (ACP-204) and with a very modest penetration rate (shown in assumptions on prior slide)
- Overall, I have strong confidence in the approval of the two drugs because of the scientific analysis shown in the next section

Scientific Analysis

Scientific Analysis

Indication Descriptions

- **Hyperphagia in Prader-Willi Syndrome (PWS)** is characterized by an intense and insatiable sensation of hunger.
- Approx. 9,000 patients in the U.S.
- 30 years average life expectancy
- Currently NO APPROVED DRUG for the disease

- **Alzheimer's disease psychosis** is a common complication of AD, characterized by delusions and hallucinations.
- 50% of AD cases (~3.5m) in the U.S. and 27.5m in the World (in '19).
- Acadia believes AD psychosis is very similar to Parkinson's psychosis (already approved NUPLAZID)
- Currently NO APPROVED DRUG for both Alzheimer's and AD psychosis

How many AD Cases in the World and US? - Perplexity AI

Acadia Corporate Presentation

Scientific Analysis

ACP-101 (Intranasal Carbetocin)

- **Indication**: Hyperphagia in PWS
- **MOA**: selective oxytocin receptor agonist
- **Target**: oxytocin receptors in the central nervous system
- **Safety**: Phase III showed drug is safe and well-tolerated
- Previously owned by Levo TX (acquired by Acadia in '22) – drug was named LV-101

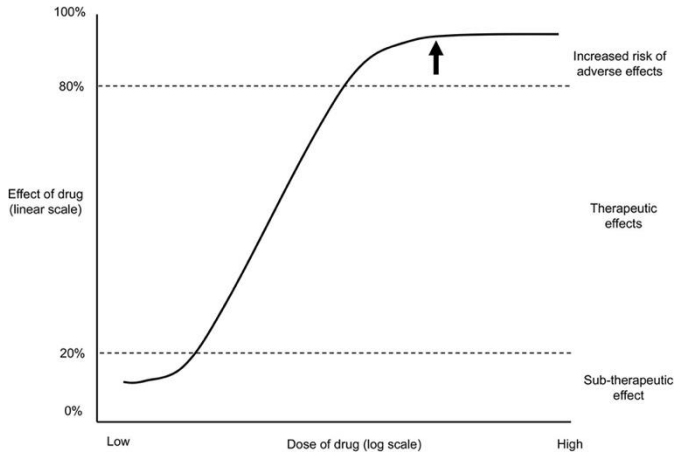
- Previous Phase III trial of LV-101 didn't reach stat sig PE for 9.6mg
- The drug wasn't approved, by lack of data
- Prior study (NCT03649477) was 8-week, double-blind, randomized, placebo-controlled (130 patients)
- New study (COMPASS PWS) is a double-blind, randomized, placebo-controlled 12-week trial (170 patients)

LV-101 Phase III Trial Results - Perplexity AI

Scientific Analysis

ACP-101 Phase III COMPASS PWS Prediction

- Prior Phase III showed 3.2mg dose more efficient than 9.6mg dose
- Higher dose showing lower efficacy (& not reaching stat sig) isn't impossible, but very uncommon (dose response curve plateau)
- Possible that 9.6mg dose was inefficacious because of receptor saturation and by activating off-target pathways



- ACP-101 and LV-101 Phase 3 **PE**: Δ in hyperphagia behaviors assessed by HQ-CT questionnaire
- ACP-101 and LV-101 **other endpoints**:
  - Δ in Clinical Global Impression of Improvement (CGI-I) score
  - Δ in anxiety and distress behaviors, measured by the PWS Anxiety and Distress Behaviors Questionnaire (PADQ)
  - Δ in obsessive-compulsive behaviors, assessed by Yale-Brown Obsessive Compulsive Scale (CY-BOCS)

Approval Pros

- 3.2mg dose reduced hyperphagia behaviors at ($p = 0.016$)
- 3.2mg improvements in CGI-I ($p = 0.027$) and PADQ ($p = 0.027$)
- Preclinical science + research supports mechanistic rationale of PWS pathophysiology (1, 2 and 3 in bibliography)
- Mild side effects + prior FDA concerns have been addressed

Scientific Analysis

ACP-204

- **Indication**: Alzheimer's disease psychosis
- **MOA**: inverse agonist 5-HT2A serotonin receptor
- **Target**: 5-HT2A serotonin receptor
- **Safety**: Phase I showed safety, Phase II/III will further investigate this

Preclinical Science

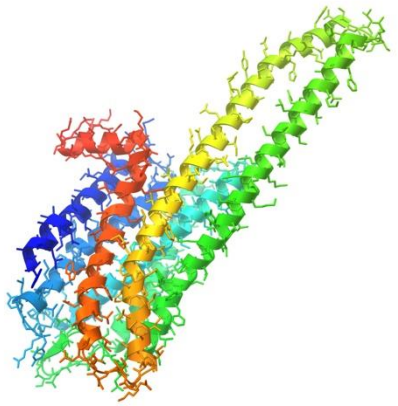
- ACP-204 successfully targets 5-HT2A receptor, which we know is responsible for AD psychosis (3, bibliography)
- Both NUPLAZID and ACP-204 share the same target, and one drug is already approved (proved meaningful target and cured psychosis in Parkinson's)
- Phase I showed steady state PK reached in 5 days VS 12 days for NUPLAZID

Scientific Analysis

ACP-204 Phase II/III Trial Prediction

- We don't have any data regarding Phase I of ACP-204, instead I'll analyze NUPLAZID's Phases II and III as a baseline of what to expect for ACP-204
- Phase II (4 –week, double-blind, randomized, placebo-controlled)
  - PE: change in psychosis measured with Scale for the Assessment of Positive Symptoms (SAPS)
  - SAPS overall (p = 0.09), but improvement in SAPS hallucinations (p = 0.02) and delusions (p = 0.03)
- Phase III (six-week, randomized, double-blind, placebo-controlled)
  - PE: change in SAPS at 34mg dose
  - Mean Δ in SAPS 5.79 vs 2.73 (placebo) – 95% CI (-4.91, -1.20) at p = 0.0014

5-HT2A Serotonin Receptor



Phase II/IIITrial Design

- 3 independent trials
  - **Substudy 1 (Phase II):** to assess optimal dose of ACP-204, against placebo, between 30mg and 60mg
  - **Substudy 2A and 2B (Phase III):** to assess safety and efficacy (initiation upon Phase II success)
- seamless and continuous enrollment, double-blind and placebo-controlled
- Phase II N = 318 and two other Phase III's expect similar N

Approval Pros

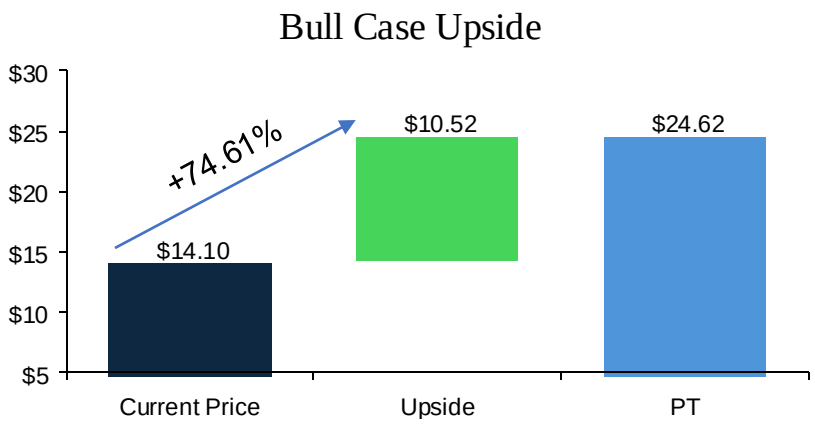
- Directly targets 5-HT2A receptor, pertinent in AD psychosis
- Currently no approved drug for the indication + huge patient population
- Builds on NUPLAZID's success in similar indication
- Enhanced and better PK profile for faster and safer delivery

Summary

How The Stock Will Go Up

- The reverse DCF implies that the market isn't pricing the approval of either ACP-101 and ACP-204
- Reverse DCF implies the market is forecasting ~2.57%/year FCFF growth (next 10 yrs)
- **This means if any new drug gets approved, if FCFF grow more than 2.57%/year or margins are increased, the stock will increase**

- I believe ACP-101 will get APPROVED because its past Phase III successfully reached PE for the 3.2mg(stat sig), but only got rejected because FDA "lacked data"
- The new Phase III (COMPASS PWS) is designed similarly to the successful past trial, but directly assessed FDA concerns with bigger patient population
- I believe ACP-204 will get approved, because the target has already demonstrated efficacious outcomes in psychosis
- Both Parkinson's and AD have been shown to have similar psychosis origins



- If any of the following occur, my price target will incrementally decrease:
  - FCFF grows below 2.57%/year
  - ACP-101 failed Phase III
  - ACP-204 failed Phase II/III

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