Kenan–Flagler Business School

ALPHA CHALLENGE

The University of North Carolina

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Team Number: 8

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1. Executive Summary

Executive Summary

Company Ticker	NASDAQ: VRDN
Recommendation	BUY
Target Price (1Y)	$ 36.85, 22% upside
Current Price (2025/11/23)	$ 30.34
52-Week Range	$9.90 – 30.77
Market Cap (US$ bn)	$3.69

Business Overview

- Viridian Therapeutics is a biotechnology company focused on developing best-in-class medicines for autoimmune and rare diseases
- Two lead assets:
  - Veligrotug (VRDN-001), an anti-IGF-1R antibody for moderate-to-severe thyroid eye disease (TED); BLA submitted in October 2025
  - VRDN-003, a subcutaneous version of anti-IGF-1R antibody for TED; phase 3 pivotal trials fully enrolled

Investment Thesis

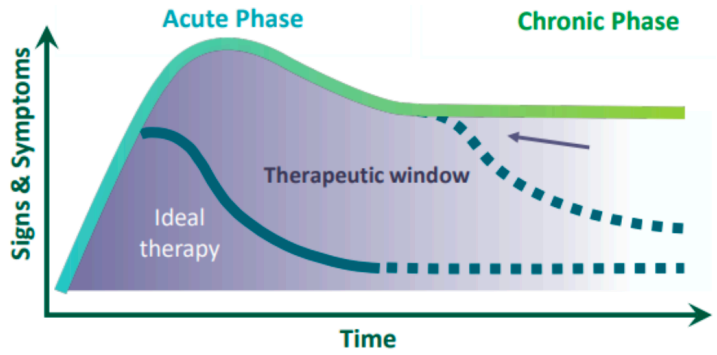
- **VRDN Delivers Best-in-Class TED Efficacy with a Much Easier Treatment Experience:** Veligrotug demonstrates strong, rapid improvements in proptosis, inflammation, and diplopia across active and chronic TED with a safety profile consistent with the IGF-1R class. A five-dose, shorter-infusion IV regimen and the planned at-home SC VRDN-003 meaningfully reduce treatment burden for patients, physicians, and infusion centers
- **VRDN Is Positioned to Capture Significant Share in a Large, Underpenetrated TED Market:** TED is a validated multi-billion-dollar biologics market with low penetration of moderate-to-severe and chronic patients and meaningful ex-US upside. Veligrotug and VRDN-003 broaden the addressable pool and create a credible path to both conversion from Tepezza and expansion into previously untreated or undertreated segments
- **VRDN's Early-Mover, Differentiated IGF-1R Franchise Supports a Durable Competitive Moat:** Early BLA timing, clearly communicated Phase 3 SC readouts, a purpose-built low-volume autoinjector, and a highly potent, validated IGF-1R mechanism together create a defensible position versus Tepezza SC and other emerging mechanisms, supporting durable share and attractive long-term economics

Thyroid Eye Disease (TED)

How it works

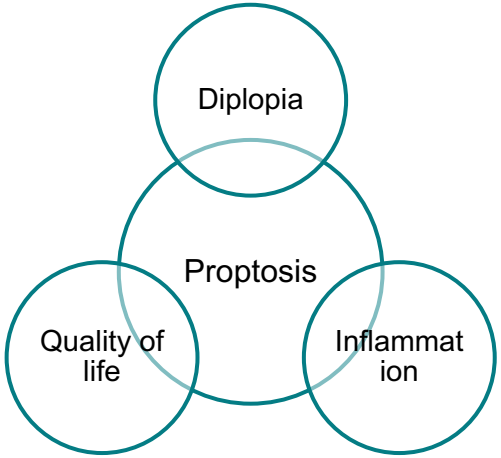
- In TED, the immune system attacks tissues behind the eye, turning on "switches" on those cells that cause swelling and scarring
- VRDN-001 and VRDN-003 are lab-made antibodies that stick to one of these switches (called IGF-1 receptor) and turn it off
- By blocking this switch, they are designed to stop the chain reaction that leads to: swelling and fluid buildup behind the eye; the eyes being pushed forward ("bulging/proptosis"); and double vision ("diplopia")
- TED has an initial active inflammatory phase lasting ~18–24 months followed by a chronic/inactive in which progression and inflammation subsides, but the disease does not resolve
- 25% have active disease vs. 75% with chronic

Phases And Therapeutic Window In Thyroid Eye Disease



Source: Horizon Therapeutics

How to measure treatment efficacy



Metric	Standard
Proptosis (Bulging)	▪ The more reduction the better
Diplopia (Double vision)	▪ Score ranging from 0-3, 0 indicating no diplopia
Inflammation	▪ Measured by Clinical Activity Score (CAS) 0-7, 2 pts change considered meaningful
Quality of life	▪ Measured by ophthalmopathy-specific questionnaire, 8 pts change considered meaningful

2. Investment Thesis

1) VRDN Delivers Best-in-Class TED Efficacy with a Much Easier Treatment Experience

Veligrotug Efficacy

- Veligrotug hit all primary and secondary endpoints at Week 15 in phase 3 trial

Veligrotug Efficacy for Active TED

		Veligrotug (*n*=75)	Placebo (*n*=38)
Proptosis	**Primary Endpoint:** Proptosis responder rate (exophthalmometry)[1]	70%	5%
	Proptosis mean change from baseline (exophthalmometry)	-2.89 mm	-0.48 mm
Diplopia	Diplopia complete resolution[2]	54%	12%
	Diplopia responder rate[3]	63%	20%
CAS	Clinical activity score (CAS) 0 or 1	64%	18%
	CAS mean change from baseline	-3.4	-1.7
Overall Response	Overall responder rate (ORR)[4]	67%	5%

Fewer infusions, ~70% reduction in infusion time

Tepezza 

8 infusions every 3 weeks, 60-90 min each at infusion center

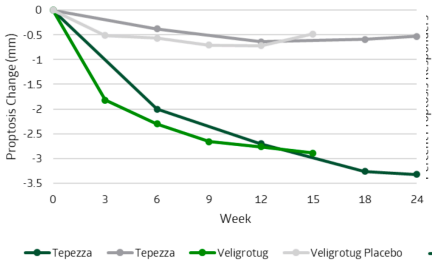
Veligrotug 

5 infusions every 3 weeks, ~30 min each at infusion center

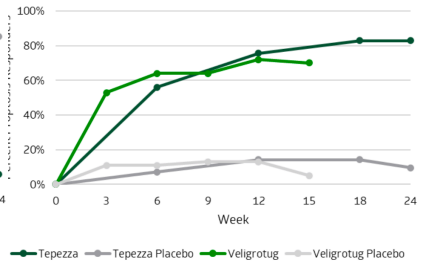
Veligrotug vs. Tepezza

- Comparable efficacy with better logistics: Veligrotug shows a similar overall efficacy profile to Tepezza but uses a **lower drug concentration, requires fewer infusions, and may cut infusion time by ~70%**
- Rapid response: **53% of patients having a response within 3 week**s vs. 54% at 6 weeks for Tepezza
- Stronger impact on double vision: Placebo-adjusted complete diplopia response is **higher with veligrotug at 15 weeks (42%)** vs Tepezza at 24 weeks (28%), addressing one of the most burdensome symptoms for patients
- Similar safety class profile: Both drugs share **broadly similar adverse events**, mainly hyperglycemia and hearing issues typical of IGF-1R blockers

Proptosis Change In Active TED



Proptosis Response In Active TED

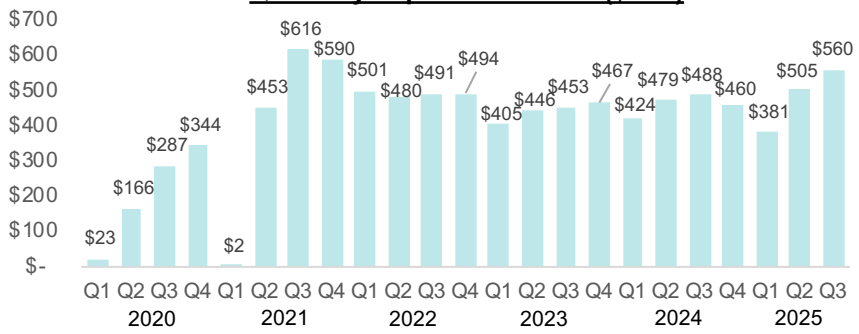


Source: Viridian, TD Cowen

2) VRDN Is Positioned to Capture Significant Share in a Large, Underpenetrated TED Market

Large and Growing Proven Market, Yet Significantly Underpenetrated

Quarterly Tepezza Revenue ($mm)



- **Large proven market**: The incumbent Tepezza reported **average $1.7bn annual sales** since launching, reflecting resilient demand and payer acceptance
- **Low penetration**: Only **6.75%** patients with moderate-to-severe TED had been treated, presenting significant upside
  - TED prevalence in US: 155 in 100,000 → ~500K patients in US
    - 65% patients manifest mild disease
    - 35% have moderate-to-severe disease → ~175K patients US candidates for biologics treatment
      - Diagnosis rate: ~50%
        - 25% with active TED, of which 24% had been treated
        - 75% with chronic TED, of which 10% had been treated

Source: Viridian, Amgen, TD Cowen

Veligrotug and VRDN-003 Poised to Take Share from Tepezza and Unlock New TED Market Segments

- Veligrotug demonstrates greater near-term potential to capture Tepezza market share
  - Far fewer infusions & dramatically reduced chair time
    - Veligrotug IV: 5 infusions, ~150min chair time
    - Tepezza IV: 8 infusions, ~480–720min chair time
  - Faster and more durable clinical response
    - Majority of veligrotug patients achieve proptosis response after one infusion (~3 weeks)
    - 70% of early responders maintain benefit through wk52
- VRDN-003 offers superior long-term new market potential
  - First subcutaneous option in TED
    - No SC competitor exists today
    - VRDN-003 becomes the first at-home, self-administered TED biologic
  - Expands prescriber base beyond infusion-capable centers
    - Current biologics concentrated in oculoplastic surgeons
    - SC delivery enables general ophthalmologists and endocrinologists to prescribe without infusion logistics
  - Opens new patient segments
    - SC biologics in other markets typically drive ~30% conversion of new patient starts within ~3 years

3) VRDN's Early-Mover, Differentiated IGF-1R Franchise Supports a Durable Competitive Moat

- IGF-1R antagonism is so potent in TED, it will be difficult for other mechanisms of action to compete on efficacy
- Viridian's early mover advantage and comprehensive strategy across active/chronic disease put it in a favorable position

Company	Product	Modality	Stage	Comments
Amgen	TEPEZZA (teprotumumab)	IV anti-IGF-1R mAb; SC route in development	Marketed (UK/EU/Japan) and SC Phase 3	UK and EU marketing authorizations; Japan approval for active TED; Japan chronic TED Phase 3 enrolling/complete; subcutaneous Phase 3 ongoing **but no specific timing for topline data disclosed**
Viridian Therapeutics	Veligrotug	IV anti-IGF-1R mAb	BLA submitted	BLA filed Oct-2025 with Priority Review; Phase 3 trials met endpoints in active and chronic TED; potential U.S. launch mid-2026 if approved
Viridian Therapeutics	VRDN-003	SC anti-IGF-1R mAb (half-life-extended)	Phase 3	Two global Phase 3 trials in active & chronic TED ongoing; topline data expected in 1H 2026; If positive, BLA filing planned in H2 2026
Roche	Satralizumab (RG6168/SA237)	SC anti-IL-6R mAb	Phase 3	Two Phase 3 trials completed in 2025 with **mixed results**. The active TED trial **failed to meet its primary endpoint** (no significant proptosis benefit), whereas the chronic/inactive TED trial met its primary endpoint (53% vs 23% proptosis responders). **Inconsistent efficacy signal potentially limiting the path to approval**
Immunovant	Batoclimab (IMVT-1401)	SC anti-FcRn mAb	Phase 3	**Topline results delayed until H1:26** from active TED studies; **Ph. IIb trial had a clinical hold + was discontinued early** due to increases in lipid
Argenx	Efgartigimod PH20 SC (UplighTED)	SC anti-FcRn mAb (prefilled syringe)	Phase 3	Registrational UplighTED studies; primary endpoint proptosis responders; **topline readouts expected H2 2026**

Source: Company filings

3. Valuation

Revenue Build

Thyroid Eye Disease	**2025E**	**2026E**	**2027E**	**2028E**	**2029E**	**2030E**	**2031E**	**2032E**	**2033E**	**2034E**	**2035E**	**2036E**	**2037E**	**2038E**	**2039E**	**2040E**	**2041E**
US Population (000)	340,000	341,700	343,409	345,126	346,851	348,585	350,328	352,080	353,840	355,610	357,388	359,175	360,970	362,775	364,589	366,412	368,244
% growth		*0.50%*	*0.50%*	*0.50%*	*0.50%*	*0.50%*	*0.50%*	*0.50%*	*0.50%*	*0.50%*	*0.50%*	*0.50%*	*0.50%*	*0.50%*	*0.50%*	*0.50%*	*0.50%*
TED prevalence	*0.16%*	*0.16%*	*0.16%*	*0.16%*	*0.16%*	*0.16%*	*0.16%*	*0.16%*	*0.16%*	*0.16%*	*0.16%*	*0.16%*	*0.16%*	*0.16%*	*0.16%*	*0.16%*	*0.16%*
Estimated # patients with TED (000)	527	530	532	535	538	540	543	546	548	551	554	557	560	562	565	568	571
% of patients that are moderate to severe	*35.0%*	*35.0%*	*35.0%*	*35.0%*	*35.0%*	*35.0%*	*35.0%*	*35.0%*	*35.0%*	*35.0%*	*35.0%*	*35.0%*	*35.0%*	*35.0%*	*35.0%*	*35.0%*	*35.0%*
# moderate to severe TED patients (000)	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
% of patients diagnosed	*50.0%*	*50.0%*	*50.0%*	*50.0%*	*50.0%*	*50.0%*	*50.0%*	*50.0%*	*50.0%*	*50.0%*	*50.0%*	*50.0%*	*50.0%*	*50.0%*	*50.0%*	*50.0%*	*50.0%*
# diagnosed patients with TED (000)	92	93	93	94	94	95	95	96	96	96	97	97	98	98	99	99	100
% of patients with active disease	*25.0%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*
# patients with active TED (000)	23	23	23	23	24	24	24	24	24	24	24	24	24	25	25	25	25
% penetration in patients with active disease	*0.0%*	*0.0%*	*2.0%*	*3.0%*	*4.0%*	*5.0%*	*6.0%*	*7.0%*	*7.0%*	*7.0%*	*7.0%*	*7.0%*	*7.0%*	*7.0%*	*7.0%*	*7.0%*	*7.0%*
# patients on VRDN therapies with active TED (000)	-	-	0	1	1	1	1	2	2	2	2	2	2	2	2	2	2
% of patients with chronic disease	*75.0%*	*75.0%*	*75.0%*	*75.0%*	*75.0%*	*75.0%*	*75.0%*	*75.0%*	*75.0%*	*75.0%*	*75.0%*	*75.0%*	*75.0%*	*75.0%*	*75.0%*	*75.0%*	*75.0%*
# patients with chronic TED ('000)	69	70	70	70	71	71	71	72	72	72	73	73	73	74	74	75	75
% penetration in patients with chronic disease	*0.0%*	*0.0%*	*1.0%*	*2.0%*	*3.0%*	*4.0%*	*4.0%*	*4.0%*	*4.0%*	*4.0%*	*4.0%*	*4.0%*	*4.0%*	*4.0%*	*4.0%*	*4.0%*	*4.0%*
# patients on VRDN therapies with chronic TED (000)	-	-	1	1	2	3	3	3	3	3	3	3	3	3	3	3	3
Price Per Patient ($000)	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
Total VRDN therapy sales ($MM)	**-**	**-**	**466**	**843**	**1,223**	**1,607**	**1,710**	**1,815**	**1,824**	**1,833**	**1,842**	**1,851**	**1,860**	**1,870**	**1,879**	**1,888**	**1,898**
Proportion IV vs. Subcutaneous		*100.0%*	*100.0%*	*85.0%*	*70.0%*	*40.0%*	*30.0%*	*30.0%*	*30.0%*	*30.0%*	*30.0%*	*30.0%*	*30.0%*	*30.0%*	*30.0%*	*30.0%*	*30.0%*
VRDN-001 Sales ($MM)	-	-	466	716	856	643	513	544	547	550	553	555	558	561	564	567	569
VRDN-001 PoS	*80%*																
Risk-adjusted VRDN-001 Sales ($MM)	**-**	**-**	**373**	**573**	**685**	**514**	**411**	**435**	**438**	**440**	**442**	**444**	**446**	**449**	**451**	**453**	**455**
VRDN-003 Sales ($MM)	-	-	-	126	367	964	1,197	1,270	1,277	1,283	1,289	1,296	1,302	1,309	1,315	1,322	1,328
VRDN-003 PoS	*65%*																
Risk-adjusted VRDN-003 Sales ($MM)	**-**	**-**	**-**	**82**	**239**	**627**	**778**	**826**	**830**	**834**	**838**	**842**	**846**	**851**	**855**	**859**	**864**

Source: Viridian, AlphaSense, TD Cowen, FactSet

Risk-Adjusted NPV Analysis

Risk-Adjusted NPV Analysis

$ and shares in millions, except per share data

Fiscal year end	12/31
Valuation date	11/23/25
Discount rate (WACC)	*10.1%*
Share price	30.34

	Forecasts																
	2025E	**2026E**	**2027E**	**2028E**	**2029E**	**2030E**	**2031E**	**2032E**	**2033E**	**2034E**	**2035E**	**2036E**	**2037E**	**2038E**	**2039E**	**2040E**	**2041E**
Risk-adjusted VRDN-001 Sales	-	-	373	573	685	514	411	435	438	440	442	444	446	449	451	453	455
Risk-adjusted VRDN-003 Sales	-	-	-	82	239	627	778	826	830	834	838	842	846	851	855	859	864
Revenue	-	-	373	655	923	1,141	1,189	1,261	1,267	1,274	1,280	1,287	1,293	1,299	1,306	1,312	1,319
% growth				*75.8%*	*41.0%*	*23.6%*	*4.2%*	*6.1%*	*0.5%*	*0.5%*	*0.5%*	*0.5%*	*0.5%*	*0.5%*	*0.5%*	*0.5%*	*0.5%*
COGS	-	-	37	66	92	114	119	126	127	127	128	129	129	130	131	131	132
% of revenue			*10.0%*	*10.0%*	*10.0%*	*10.0%*	*10.0%*	*10.0%*	*10.0%*	*10.0%*	*10.0%*	*10.0%*	*10.0%*	*10.0%*	*10.0%*	*10.0%*	*10.0%*
Gross Profit	-	-	335	590	831	1,027	1,070	1,135	1,141	1,146	1,152	1,158	1,164	1,169	1,175	1,181	1,187
% of revenue			*90.0%*	*90.0%*	*90.0%*	*90.0%*	*90.0%*	*90.0%*	*90.0%*	*90.0%*	*90.0%*	*90.0%*	*90.0%*	*90.0%*	*90.0%*	*90.0%*	*90.0%*
R&D	340	353	317	318	297	285	238	189	127	64	-	-	-	-	-	-	-
% of revenue			*85.1%*	*48.6%*	*32.2%*	*25.0%*	*20.0%*	*15.0%*	*10.0%*	*5.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
SG&A	86	121	160	183	224	224	224	224	224	224	224	224	224	224	224	224	224
% of revenue			*43.1%*	*27.9%*	*24.3%*	*19.6%*	*18.9%*	*17.8%*	*17.7%*	*17.6%*	*17.5%*	*17.4%*	*17.3%*	*17.2%*	*17.2%*	*17.1%*	*17.0%*
EBIT	(426)	(474)	(142)	88	309	518	608	722	790	859	928	934	940	945	951	957	963
% margin																	
Tax Expenses	-	-	-	19	65	109	128	152	166	180	195	196	197	199	200	201	202
Tax rate	*21.0%*	*21.0%*	*21.0%*	*21.0%*	*21.0%*	*21.0%*	*21.0%*	*21.0%*	*21.0%*	*21.0%*	*21.0%*	*21.0%*	*21.0%*	*21.0%*	*21.0%*	*21.0%*	*21.0%*
Proxy for Unlevered Free Cash Flo	**(426)**	**(474)**	**(142)**	**70**	**244**	**409**	**480**	**570**	**624**	**678**	**733**	**738**	**742**	**747**	**751**	**756**	**761**
Years	0.11	1.11	2.11	3.11	4.11	5.11	6.11	7.11	8.11	9.11	10.11	11.11	12.11	13.11	14.11	15.11	16.11
Discount Factor	0.99	0.90	0.82	0.74	0.67	0.61	0.56	0.50	0.46	0.42	0.38	0.34	0.31	0.28	0.26	0.23	0.21
NPV of Cash Flows	**(422)**	**(426)**	**(116)**	**52**	**165**	**250**	**267**	**288**	**286**	**282**	**277**	**253**	**232**	**212**	**193**	**177**	**162**

Perpetuity Method

Final year FCF	761
Perpetual growth rate	*(5.0%)*
Teminal value	**4,786**
Present value of terminal value	1,016
Present value of cash flows	2,131
Total enterprise value (TEV)	**3,148**
Net debt	**(655)**
Equity value	**3,803**
Shares outstanding	103
Equity value per share	**36.85**

Sensitivity Analysis

Market share assumptions

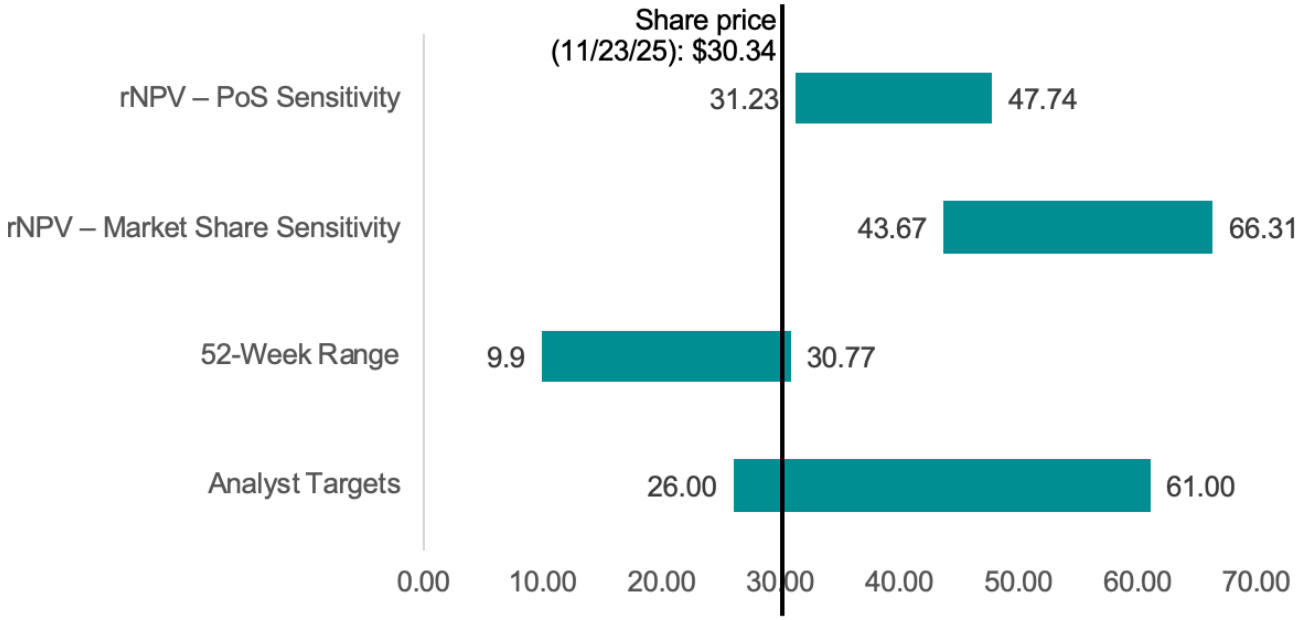
		% Penetration in active TED				
	$ 36.85	*6.0%*	*6.5%*	*7.0%*	*7.5%*	*8.0%*
	3.0%	43.67	48.01	52.36	56.70	61.04
	3.5%	44.99	49.33	53.68	58.02	62.36
% Penetration in chronic TED	*4.0%*	46.31	50.65	54.99	59.34	63.68
	4.5%	47.63	51.97	56.31	60.65	65.00
	5.0%	48.94	53.29	57.63	61.97	66.31

Clinical risk assumptions

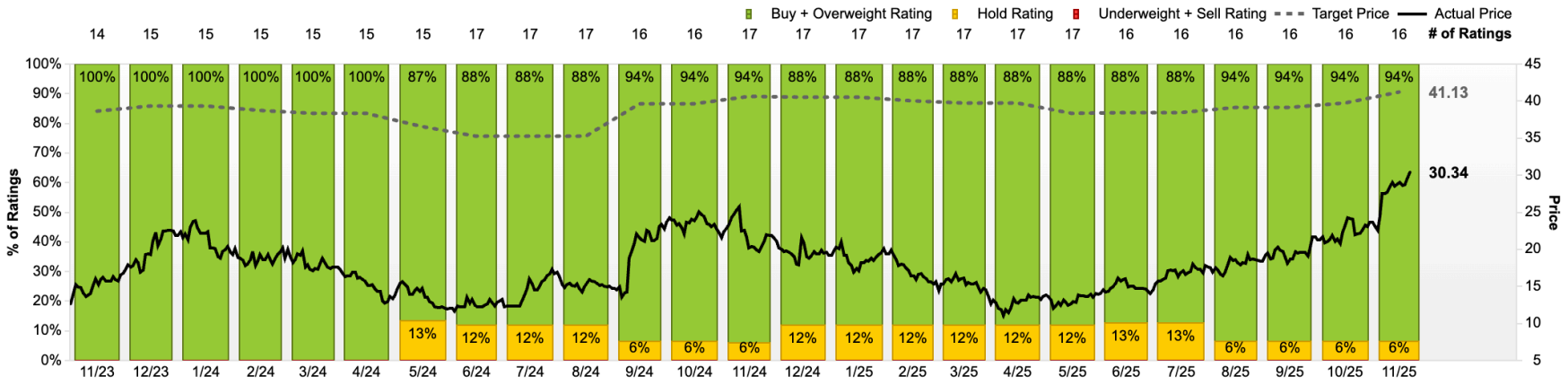
		VRDN-001 PoS				
	$ 36.85	*70.0%*	*75.0%*	*80.0%*	*85.0%*	*90.0%*
	55.0%	31.23	33.74	36.25	38.75	41.26
	60.0%	32.88	35.39	37.90	40.41	42.92
VRDN-003 PoS	*65.0%*	34.53	37.04	39.54	42.04	44.54
	70.0%	36.14	38.64	41.14	43.64	46.14
	75.0%	37.74	40.24	42.74	45.24	47.74

Source: Viridian, AlphaSense, FactSet

Valuation Summary



Consistently high buy ratings with stable coverage



Source: FactSet

Indexed stock performance outpacing MSCI

Source: Google Finance

4. Risks and Mitigation

Risks

Clinical Risk

- VRDN-003 (SC) may not be able to replicate VRDN-001's efficacy in large Phase 3 TED trials

Regulatory & Manufacturing Risk

- Even though veligrotug has positive trials, FDA could:
  - Delay approval and question reasonableness of trial design
  - Raise manufacturing (CMC) issues, especially as Viridian scales from clinical to commercial supply
  - Approve with a narrower label (e.g., only active TED, or specific subgroups), limiting peak sales

Commercial & Reimbursement Risk

- The market may adopt Viridian's products more slowly than expected because of:
  - Physician inertia / loyalty to incumbent therapy
  - Payer pushback on pricing, step edits, or prior auth hurdles
  - Underdiagnosis of TED and limited specialist capacity

Threat from Competition

- Amgen's SC Tepezza, future label updates, or pricing strategy could reduce Viridian's share
- Other mechanisms (e.g., IL-6, TSHR, FcRn, or next-gen biologics) may emerge with competitive or complementary profiles over time

Mitigation

Clinical Risk

- Mitigation:
  - TED is a highly IGF-1R–driven disease; mechanism is well validated
  - Same binding domain and mechanism as VRDN-001 → strong biological rationale that efficacy should translate
  - Phase 1 PK/PD for VRDN-003 demonstrates comparable or better exposure and target engagement vs. VRDN-001, supporting similar clinical effect

Regulatory & Manufacturing Risk

- Mitigation:
  - Pivotal program designed with standard TED endpoints (proptosis, CAS, diplopia, composite responders) aligned with the already-approved IGF-1R class
  - Viridian has had time to learn from Tepezza's regulatory path, likely reducing surprises on endpoints and patient population definitions
  - Company has raised substantial capital and struck royalty/financing deals, giving them resources to build robust manufacturing and quality systems ahead of launch

Commercial & Reimbursement Risk

- Mitigation:
  - Clear clinical and convenience advantages (especially SC, at-home administration) provide a strong "reason to switch" for both physicians and patients
  - Focused commercial model: relatively small, targetable prescriber base (KOL centers, high-volume TED specialists) makes adoption more tractable
  - Chronic TED and global expansion provide long-term growth legs even if U.S. uptake is slower in year 1–2

Threat from Competition

- Mitigation:
  - Viridian has a timing and profile advantage in SC TED
  - Stronger pharmacology preclinically plus clean clinical data support a best-in-class efficacy + convenience narrative
  - IGF-1R antagonism sets a very high bar on efficacy, making it harder for non–IGF-1R mechanisms to displace the class rather than coexist
  - Viridian is building a TED franchise (IV + SC + pipeline), not a single-asset story, which helps maintain relevance as the treatment landscape evolves

5. Q&A

Thank You