BofA SECURITIES

# Prothena Corporation

# Further clarity needed on competitive positioning in Alzheimer's; D/G to Neutral

**Rating Change: NEUTRAL | PO: 38.00 USD | Price: 33.76 USD**

## Next AD program update could come in 2025

We downgrade PRTA to Neutral from Buy with new $38 PO (prev. $68) as we think clarity on the potential clinical profile for PRX012 in AD is needed. Recall in January PRTA provided an initial update on the ongoing ph 1 trial evaluating '012 in AD highlighting initial encouraging amyloid reduction and ARIA-E rate at the 70mg dose but did not provide additional details on the magnitude of effect. When we caught up with mgmt to discuss, CEO Gene Kinney indicated that AD is a competitive space and that upon discussion with the PRTA board the company decided to wait until collection of more data to provide a fulsome update to the Street. The company noted the 45mg and 200mg cohorts are ongoing with the option to add additional dose cohorts up to 400mg, if needed. Mgmt did not provide specific guidance on the timing of the next update and commented it could move into 2025. They highlighted that results so far support monthly dosing and they remain confident on the potential for a competitive profile. While we think this update is a step in the right direction, we think it is prudent to assume a more conservative stance on '012 given the potential for a longer timeline to answer our and the Street's questions on how the drug compares to competition. In our DCF-based model, we roll the quarter and reduce our peak penetration for '012 in AD 5% (prev. 10%). We also push our estimated launch for birtamimab in AL to 2026 based on new timelines (see below) and assume a more conservative early ramp for the launch. These changes result in our new $38 PO. '012 now contributes $9/sh to our PO. While we still believe PRTA's science could allow for a differentiated product, we await clinical validation in what is an increasingly competitive AD space.

## Ph 3 AFFIRM-AL topline now not expected before 4Q24

PRTA also noted they now expect the readout of the ph 3 AFFIRM-AL trial evaluating bir' in Mayo Stage IV AL amyloidosis between 4Q24-2Q25 (prev. 2024) based on their latest estimates. They highlighted this is an event-driven trial and the timing is still within expectations but noted a slower event rate compared to previous trials. The company noted an interim analysis for overwhelming efficacy is planned when ~50% of events have occurred and highlighted there is no futility analysis. Mgmt noted they will wait until the full readout to provide the next update. We note that a potential later readout is not uncommon for event-driven trials, but the delay could mean a lack of meaningful catalysts in the next 12 mos for the company. That said, when the AL amyloidosis study reads out, if positive, would provide meaningful upside to our current estimates given the potential to generate sales soon. Bir' now contributes $15/sh to our PO.

| Estimates (Dec) (US$) | 2021A | 2022A | 2023E | 2024E | 2025E |
|---|---|---|---|---|---|
| EPS | 1.38 | (2.47) | (2.35) | (4.51) | (5.62) |
| GAAP EPS | 1.51 | (2.47) | (2.35) | (4.51) | (5.62) |
| EPS Change (YoY) | NM | NM | 4.9% | -91.9% | -24.6% |
| Consensus EPS (Bloomberg) | | | (2.79) | (4.32) | (4.39) |
| DPS | 0 | 0 | 0 | 0 | 0 |
| **Valuation (Dec)** | | | | | |
| P/E | 24.5x | NM | NM | NM | NM |
| GAAP P/E | 22.4x | NM | NM | NM | NM |
| EV / EBITDA* | 18.0x | NM | NM | NM | NM |
| Free Cash Flow Yield* | 5.1% | -6.0% | -5.5% | -12.8% | -17.8% |

* For full definitions of *iQ*method℠ measures, see page 5.

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**Refer to important disclosures on page 6 to 8. Analyst Certification on page 4. Price Objective Basis/Risk on page 4.** **12652410**

Timestamp: 30 January 2024 06:00AM EST

**30 January 2024**

Equity

### Key Changes

| (US$) | Previous | Current |
|---|---|---|
| Inv. Opinion | C-1-9 | C-2-9 |
| Inv. Rating | BUY | NEUTRAL |
| Price Obj. | 68.00 | 38.00 |
| 2025E Rev (m) | 46.3 | 10.0 |
| 2025E EPS | -4.32 | -5.62 |

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### Stock Data

| | |
|---|---|
| Price | 33.76 USD |
| Price Objective | 38.00 USD |
| Date Established | 30-Jan-2024 |
| Investment Opinion | C-2-9 |
| 52-Week Range | 28.51 USD - 79.65 USD |
| Mrkt Val (mn) / Shares Out (mn) | 1,812 USD / 53.7 |
| Free Float | 73.8% |
| Average Daily Value (mn) | 34.41 USD |
| BofA Ticker / Exchange | PRTA / NAS |
| Bloomberg / Reuters | PRTA US / PRTA.OQ |
| ROE (2023E) | -23.4% |
| Net Dbt to Eqty (Dec-2022A) | -114.2% |
| ESGMeter™ | Medium |

**ESGMeter is not indicative of a company's future stock price performance and is not an investment recommendation or rating. ESGMeter is independent of BofA Global Research's equity investment rating, volatility risk rating, income rating, and price objective for that company.** For full details, refer to "BofA ESGMeter Methodology".

**See inside for abbreviations**

# *iQprofile*℠ Prothena Corporation

***iQ***method℠ **– Bus Performance***

| (US$ Millions) | 2021A | 2022A | 2023E | 2024E | 2025E |
|---|---|---|---|---|---|
| Return on Capital Employed | 14.7% | -17.6% | -19.9% | -39.4% | -50.3% |
| Return on Equity | 20.6% | -21.5% | -23.4% | -49.7% | -65.3% |
| Operating Margin | 35.9% | -244.1% | -176.9% | -3,097.7% | -3,868.5% |
| Free Cash Flow | 92 | (109) | (100) | (232) | (323) |

***iQ***method℠ **– Quality of Earnings***

| (US$ Millions) | 2021A | 2022A | 2023E | 2024E | 2025E |
|---|---|---|---|---|---|
| Cash Realization Ratio | 1.4x | NM | NM | NM | NM |
| Asset Replacement Ratio | 0.5x | 0.6x | 1.6x | 2.4x | 2.9x |
| Tax Rate | 6.9% | 6.9% | 8.9% | 4.7% | 3.7% |
| Net Debt-to-Equity Ratio | -124.3% | -114.2% | -124.2% | -122.8% | -128.4% |
| Interest Cover | NM | NA | NA | NA | NA |

**Income Statement Data (Dec)**

| (US$ Millions) | 2021A | 2022A | 2023E | 2024E | 2025E |
|---|---|---|---|---|---|
| Sales | 201 | 54 | 101 | 10 | 10 |
| % Change | 23,414.3% | -73.1% | 87.5% | -90.1% | 0% |
| Gross Profit | 201 | 54 | 101 | 10 | 10 |
| % Change | NM | -73.1% | 87.5% | -90.1% | 0% |
| EBITDA | 72 | (132) | (179) | (310) | 0 |
| % Change | NM | NM | -35.9% | -73.3% | 100.0% |
| Net Interest & Other Income | 0 | 6 | 36 | 37 | 39 |
| **Net Income (Adjusted)** | **67** | **(117)** | **(130)** | **(259)** | **(335)** |
| **% Change** | **NM** | **NM** | **-11.4%** | **-99.2%** | **-29.0%** |

**Free Cash Flow Data (Dec)**

| (US$ Millions) | 2021A | 2022A | 2023E | 2024E | 2025E |
|---|---|---|---|---|---|
| Net Income from Cont Operations (GAAP) | 67 | (117) | (130) | (259) | (335) |
| Depreciation & Amortization | 1 | 1 | 1 | 1 | 1 |
| Change in Working Capital | (10) | (19) | (11) | (21) | (36) |
| Deferred Taxation Charge | 4,573 | (11,133) | 0 | 0 | 0 |
| Other Adjustments, Net | (4,538) | 11,159 | 42 | 50 | 50 |
| Capital Expenditure | (1) | 0 | (1) | (2) | (3) |
| **Free Cash Flow** | **92** | **-109** | **-100** | **-232** | **-323** |
| **% Change** | **NM** | **NM** | **8.8%** | **-132.5%** | **-39.3%** |
| Share / Issue Repurchase | 175 | 224 | 0 | 300 | 250 |
| Cost of Dividends Paid | 0 | 0 | 0 | 0 | 0 |
| Change in Debt | 0 | 0 | 0 | 0 | 0 |

**Balance Sheet Data (Dec)**

| (US$ Millions) | 2021A | 2022A | 2023E | 2024E | 2025E |
|---|---|---|---|---|---|
| Cash & Equivalents | 579 | 710 | 611 | 679 | 606 |
| Trade Receivables | 0 | 0 | 0 | 0 | 0 |
| Other Current Assets | 6 | 9 | 10 | 12 | 13 |
| Property, Plant & Equipment | 2 | 2 | 2 | 2 | 2 |
| Other Non-Current Assets | 23 | 37 | 13 | 13 | 13 |
| **Total Assets** | **609** | **758** | **636** | **705** | **634** |
| Short-Term Debt | 0 | 0 | 0 | 0 | 0 |
| Other Current Liabilities | 33 | 50 | 49 | 49 | 48 |
| Long-Term Debt | 0 | 0 | 0 | 0 | 0 |
| Other Non-Current Liabilities | 110 | 86 | 94 | 104 | 114 |
| **Total Liabilities** | **143** | **136** | **144** | **152** | **162** |
| **Total Equity** | **466** | **622** | **492** | **553** | **472** |
| **Total Equity & Liabilities** | **609** | **758** | **636** | **705** | **634** |

* For full definitions of *iQmethod*℠ measures, see page 5.

## Company Sector

Biotechnology

## Company Description

Prothena (PRTA) is a development-stage biotechnology company that was spun-off from Irish drug maker Elan in 2012. The company is based in Ireland, with US offices in South San Francisco, California. PRTA's pipeline includes both wholly-owned and partnered programs being developed for the potential treatment of diseases including AL amyloidosis, ATTR amyloidosis, Alzheimer's disease, Parkinson's disease and a number of other neurodegenerative diseases.

## Investment Rationale

We rate PRTA shares Neutral. The company has PRX012 in development for Alzheimer's disease (AD) which benefit from read-through of recently approved Aduhelm (similar mechanism) data but we look for clarity on timelines for clinical validation in this increasingly competitive space. The company also has several programs in development including birtamimab for AL Amyloidosis and prasinezumab for PD.

## Stock Data

| | |
|---|---|
| Average Daily Volume | 1,019,245 |

## Quarterly Earnings Estimates

| | 2022 | 2023 |
|---|---|---|
| Q1 | -0.78A | -0.89A |
| Q2 | -0.88A | -1.03A |
| Q3 | -0.97A | 0.38E |
| Q4 | 0.12A | -0.87E |

## Partner-led program readouts expected in 2024

The company also reported results from the phase 2b PADOVA study (led by Roche) evaluating prasinezumab in Parkinson's disease are expected in 2024. Management commented the next payments related to the program are related to regulatory milestones. Prasinezumab contributes $7/sh to our PO. Topline phase 2 data for NNC6019 (PRX004, led by novo Nordisk) in transthyretin amyloidosis are also expected in 2024. Management commented they expect a potential clinical development milestone payment. Additionally, the company reported that BMS-986446 (PRX005) in Alzheimer's disease (led by Bristol Myers Squibb) is expected to move into phase 2 in 1H following phase 1 results.

## Abbreviations

AD: Alzheimer's disease

AL: Light chain

ARIA-E: Amyloid-related Imaging Abnormalities -Effusion and Edema

mgmt: management

mos: months

ph: phase

PRTA: Prothena

## Price objective basis & risk

**Prothena Corporation (PRTA)**

We use a sum of the parts DCF valuation approach to arrive at our NPV based PO of $38/share. We assume a WACC of 11% and model a value of $15/sh for birtamimab in AL amyloidosis, a WACC of 12% and model a value of $9/sh for PRX012 in AD, and a WACC of 12% and model a value of $7/sh for prasinezumab in Parkinson's. The balance of our value for PRTA comes from cash ($10/sh), and pipeline value (-$3). Our DCF goes out to 2040 and we assume zero terminal value (consistent with the way we model our other companies).

Upside risks to our PO are 1) earlier-than-expected approval and launch of prasinezumab or birtamimab, 2) success of pipeline clinical trials, and 3) faster-than-expected revenue ramp. Downside risks to our PO are 1) failure of one or more of PRTA's products to reach market, 2) higher-than-expected competition, and 3) negative news on competitor (BIIB) AB program in AD.

## Analyst Certification

I, Tazeen Ahmad, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

**US - Biotechnology Coverage Cluster**

| Investment rating | Company | BofA Ticker | Bloomberg symbol | Analyst |
|---|---|---|---|---|
| **BUY** | | | | |
| | 4D Molecular Therapeutics, Inc. | FDMT | FDMT US | Tazeen Ahmad |
| | Alnylam Pharmaceuticals | ALNY | ALNY US | Tazeen Ahmad |
| | Amicus Therapeutics | FOLD | FOLD US | Tazeen Ahmad |
| | Annexon Biosciences | ANNX | ANNX US | Tazeen Ahmad |
| | Apellis Pharmaceuticals | APLS | APLS US | Tazeen Ahmad |
| | Argenx SE | ARGX | ARGX US | Tazeen Ahmad |
| | Arvinas | ARVN | ARVN US | Tazeen Ahmad |
| | Ascendis Pharma | ASND | ASND US | Tazeen Ahmad |
| | Biocryst Pharmaceuticals Inc | BCRX | BCRX US | Tazeen Ahmad |
| | BioNTech | BNTX | BNTX US | Tazeen Ahmad |
| | Denali Therapeutics | DNLI | DNLI US | Tazeen Ahmad |
| | Inozyme Pharma, Inc. | INZY | INZY US | Tazeen Ahmad |
| | Merus | MRUS | MRUS US | Tazeen Ahmad |
| | Neurocrine Biosciences | NBIX | NBIX US | Tazeen Ahmad |
| | PepGen Inc | PEPG | PEPG US | Tazeen Ahmad |
| | Rhythm Pharmaceuticals | RYTM | RYTM US | Tazeen Ahmad |
| | Sarepta Therapeutics | SRPT | SRPT US | Tazeen Ahmad |
| | Ultragenyx Pharmaceuticals | RARE | RARE US | Tazeen Ahmad |
| **NEUTRAL** | | | | |
| | Acadia Pharmaceuticals | ACAD | ACAD US | Tazeen Ahmad |
| | Incyte Corporation | INCY | INCY US | Tazeen Ahmad |
| | Prothena Corporation | PRTA | PRTA US | Tazeen Ahmad |
| | SAGE Therapeutics | SAGE | SAGE US | Tazeen Ahmad |
| **UNDERPERFORM** | | | | |
| | Achilles Therapeutics | ACHL | ACHL US | Tazeen Ahmad |
| | Fate Therapeutics | FATE | FATE US | Tazeen Ahmad |
| | Fulcrum Therapeutics | FULC | FULC US | Tazeen Ahmad |
| | Pharvaris | PHVS | PHVS US | Tazeen Ahmad |
| | PTC Therapeutics | PTCT | PTCT US | Tazeen Ahmad |

# iQmethod℠ Measures Definitions

| Business Performance | Numerator | Denominator |
|---|---|---|
| Return On Capital Employed | NOPAT = (EBIT + Interest Income) × (1 – Tax Rate) + Goodwill Amortization | Total Assets – Current Liabilities + ST Debt + Accumulated Goodwill Amortization |
| Return On Equity | Net Income | Shareholders' Equity |
| Operating Margin | Operating Profit | Sales |
| Earnings Growth | Expected 5 Year CAGR From Latest Actual | N/A |
| Free Cash Flow | Cash Flow From Operations – Total Capex | N/A |

| Quality of Earnings | Numerator | Denominator |
|---|---|---|
| Cash Realization Ratio | Cash Flow From Operations | Net Income |
| Asset Replacement Ratio | Capex | Depreciation |
| Tax Rate | Tax Charge | Pre-Tax Income |
| Net Debt-To-Equity Ratio | Net Debt = Total Debt – Cash & Equivalents | Total Equity |
| Interest Cover | EBIT | Interest Expense |

| Valuation Toolkit | Numerator | Denominator |
|---|---|---|
| Price / Earnings Ratio | Current Share Price | Diluted Earnings Per Share (Basis As Specified) |
| Price / Book Value | Current Share Price | Shareholders' Equity / Current Basic Shares |
| Dividend Yield | Annualised Declared Cash Dividend | Current Share Price |
| Free Cash Flow Yield | Cash Flow From Operations – Total Capex | Market Cap = Current Share Price × Current Basic Shares |
| Enterprise Value / Sales | EV = Current Share Price × Current Shares + Minority Equity + Net Debt + Other LT Liabilities | Sales |
| EV / EBITDA | Enterprise Value | Basic EBIT + Depreciation + Amortization |

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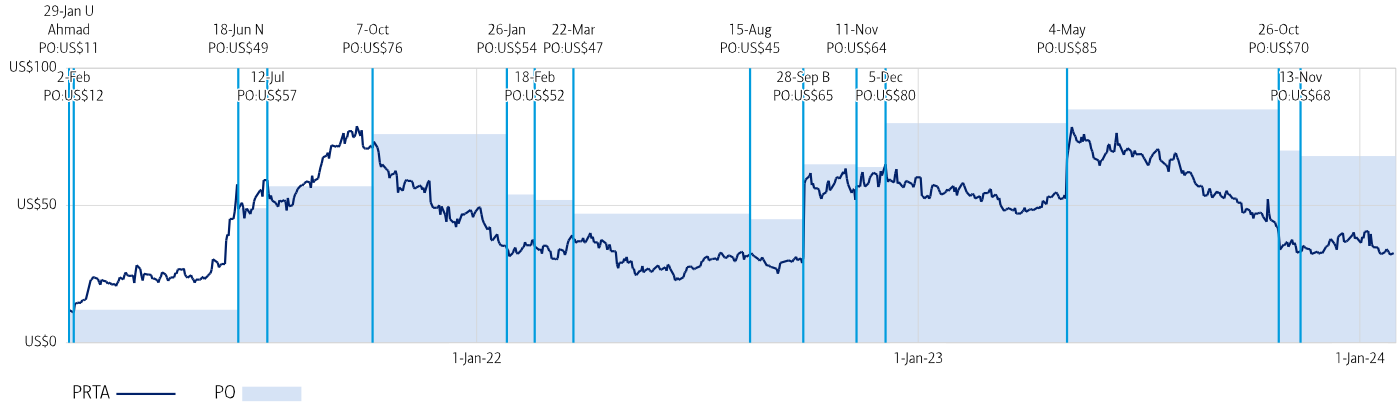
# Disclosures

## Important Disclosures

**Prothena (PRTA) Price Chart**




B: Buy, N: Neutral, U: Underperform, PO: Price Objective, NA: No longer valid, NR: No Rating

The Investment Opinion System is contained at the end of the report under the heading "Fundamental Equity Opinion Key". Dark grey shading indicates the security is restricted with the opinion suspended. Medium grey shading indicates the security is under review with the opinion withdrawn. Light grey shading indicates the security is not covered. Chart is current as of a date no more than one trading day prior to the date of the report.

**Equity Investment Rating Distribution: Health Care Group (as of 31 Dec 2023)**

| Coverage Universe | Count | Percent | Inv. Banking Relationships [R1] | Count | Percent |
|---|---|---|---|---|---|
| Buy | 234 | 60.94% | Buy | 115 | 49.15% |
| Hold | 80 | 20.83% | Hold | 36 | 45.00% |
| Sell | 70 | 18.23% | Sell | 29 | 41.43% |

**Equity Investment Rating Distribution: Global Group (as of 31 Dec 2023)**

| Coverage Universe | Count | Percent | Inv. Banking Relationships [R1] | Count | Percent |
|---|---|---|---|---|---|
| Buy | 1895 | 53.62% | Buy | 1083 | 57.15% |
| Hold | 832 | 23.54% | Hold | 454 | 54.57% |
| Sell | 807 | 22.84% | Sell | 383 | 47.46% |

[R1] Issuers that were investment banking clients of BofA Securities or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only stocks. A stock rated Neutral is included as a Hold, and a stock rated Underperform is included as a Sell.

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| Investment rating | Total return expectation (within 12-month period of date of initial rating) | Ratings dispersion guidelines for coverage cluster[R2] |
|---|---|---|
| Buy | ≥ 10% | ≤ 70% |
| Neutral | ≥ 0% | ≤ 30% |
| Underperform | N/A | ≥ 20% |

[R2] Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

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