VALUATIONLAB
FINANCIAL ANALYSIS

NEWRON PHARMACEUTICALS

FOCUS AREA: DISEASES OF THE CENTRAL NERVOUS SYSTEM (CNS) AND ORPHAN DISEASES

KEY DATA			SIX: NWRN
MARKET CAPITALIZATION (CHF MN)	128	**PRICE ON 08 JANUARY 2024**	7.2
ENTERPRISE VALUE (CHF MN)	112	**RISK-ADJUSTED NPV PER SHARE** (CHF)	12.6
CASH (30 JUNE 2023) (CHF MN)	16	**UPSIDE/DOWNSIDE** (%)	76%
MONTHLY OPERATING EXPENSE (CHF MN)	1.9	**RISK PROFILE**	HIGH RISK
CASH RUNWAY (YEAR)	Q3 2024	**SUCCESS PROBABILITY LEAD PIPELINE DRUG**	50%
BREAK-EVEN (YEAR)	2024*	**EMPLOYEES** (GROUP)	23
FOUNDED (YEAR)	1998	**LISTED** (YEAR)	2006
KEY PRODUCTS:	**STATUS**	**MAJOR SHAREHOLDERS:**	**(%)**
- XADAGO (PARKINSON'S DISEASE)	MARKETED	- ZAMBON GROUP	4.4
- EVENAMIDE (NON-TREATMENT-RESISTANT SCHIZOPHRENIA)	PHASE II/III	- EUROPEAN INVESTMENT BANK	3.7
- EVENAMIDE (TREATMENT-RESISTANT SCHIZOPHRENIA INCL. CTRS**)	POC ESTABLISHED	- EXECUTIVE MANAGEMENT	0.6
		- FREE FLOAT	99.4
		- AVERAGE TRADING VOLUME (30-DAYS)	69,307
UPCOMING CATALYSTS:	**DATE**	**ANALYST(S):**	BOB POOLER
- EVENAMIDE - TOPLINE RESULTS "STUDY 008A" IN NON-TRS^^ PATIENTS	MARCH 2024		BP@VALUATIONLAB.COM
- EVENAMIDE - PARTNERING AGREEMENT	BEFORE START "STUDY 016"		+41 79 652 67 68
- EVENAMIDE - START PIVOTAL "STUDY 016" IN TRS^ PATIENTS	END Q2 2024		

* ASSUMES PARTNERING EVENAMIDE IN 2024; **CTRS = CLOZAPINE TREATMENT-RESISTANT SCHIZOPHRENIA; ^ TRS = TREATMENT-RESISTANT SCHIZOPHRENIA; ^^ NON-TRS (INADEQUATE RESPONDERS)

ESTIMATES AS OF 8 JANUARY 2024

SOURCE: VALUATIONLAB ESTIMATES, NEWRON PHARMACEUTICALS

A pivotal year

"Study 014/015" excels – "Study 008A" results in March

Newron Pharmaceuticals has a product pipeline that targets diseases of the peripheral & central nervous system (CNS) and rare diseases. Key value drivers include 1) Xadago, a once-daily oral add-on therapy for Parkinson's disease with a unique dual mechanism of action, launched in the EU (2015), US (2017), and Japan (2019), and 2) evenamide, an add-on therapy for schizophrenia and treatment-resistant schizophrenia (TRS), including CTRS (clozapine treatment-resistant schizophrenia, an orphan-like indication). With cash and current financial assets of EUR 17 mn (30 June 2023), increasing Xadago revenues, and Italian R&D tax credits, Newron sees a cash runway into Q3 2024. The company is adequately funded beyond its key value inflection points, including the first of two potentially pivotal phase II/III trials with evenamide in schizophrenia and TRS. We derive a sum-of-parts risk-adjusted (r)NPV value of CHF 12.6 per share, with 11% of the value related to Xadago, 84% to evenamide, and 5% to cash. Newron's risk profile is High Risk as the company is loss-making with revenues only from Xadago royalties in Parkinson's disease.

Key catalysts:

- **Results "Study 008A" of evenamide in non-TRS (March 2024):** the first, potentially pivotal, phase II/III trial of 30 mg evenamide twice-daily (BID) as add-on therapy in 290 schizophrenia patients who are inadequate responders to second-generation antipsychotics.
- **Partnering evenamide with a major CNS player (before starting "Study 016"):** Out-licensing of evenamide to a major CNS player in return for substantial upfront, regulatory, and sales milestones and royalties on sales, which extends the cash reach and can be used to in-license new CNS compounds and to build its own US specialist sales force for evenamide in CTRS.
- **Start pivotal "Study 016" trial of evenamide in TRS (end Q2 2024):** this marks the second potentially pivotal phase III trial needed for approval of evenamide in schizophrenia, including (clozapine) treatment-resistant schizophrenia; our success rate increases to 50% (phase II/III trial) from 35% (POC established) resulting in an increase of our rNPV by CHF 1.1 per share.

Flash Update

"Study 015" 1-year results show unprecedented efficacy, with ~25% of TRS patients in remission (cure) and >70% experiencing a meaningful reduction in disease severity
On 4 January 2024, Newron reported unprecedented efficacy results of the open-label (unblinded) "Study 015" 1-year extension trial of the 6-week phase II "Study 014" safety and dose-ranging trial of evenamide as an add-on to current antipsychotics in treatment-resistant schizophrenia (TRS) patients. Evenamide was safe and well-tolerated at one-year treatment in TRS patients, with >70% of patients experiencing a clinically meaningful reduction in disease severity, ~50% of patients no longer meeting any of the TRS protocol severity criteria, and ~25% of patients achieving remission (cure), which has never been seen before in this treatment population. Moreover, the clinically significant benefit of evenamide was sustained and increased throughout the one-year treatment course. The increasing benefit over time from six weeks to one year suggests that the glutamate-modulating effect of evenamide could lead to a progressive and long-standing alteration in brain processes synergizing with the effect of antipsychotics to which the patient had become resistant with the potential to transform the management and societal outlook for these difficult to treat TRS patients.

"Study 014/015" was the final safety trial required by the FDA to start a pivotal phase III trial. The EMA, FDA, and Canada have agreed upon the trial design of the potentially pivotal phase III trial dubbed "Study 016" (previously named "Study 003"), a 12-week, double-blind, randomized, placebo-controlled trial in more than 510 patients with TRS. If "Study 016" replicates the exceptional efficacy results seen in "Study 014/015", approval in TRS should follow swiftly based on this single pivotal trial alone. TRS provides a large market opportunity representing more than 30% of the schizophrenia population.

Upon the start of the pivotal phase III "Study 016" at the end of Q2 2024, our risk-adjusted NPV for evenamide in TRS will increase by CHF 1.1 per share with a 50% (single pivotal phase III) success rate from currently 35% (POC established).

Final results indicate evenamide can be safely added to current antipsychotic therapy
The final results of "Study 015" at one-year treatment indicate that adding evenamide to antipsychotics (excluding clozapine) was well tolerated, with a low incidence of treatment-emergent adverse events (TEAEs), and without any pattern of motor or central nervous system (CNS) symptoms, weight gain, sexual dysfunction, or laboratory/electrocardiogram (EKG) abnormalities (a major concern of the FDA). The favorable safety profile of evenamide indicates it could be added to any current antipsychotics in patients with schizophrenia without the risk of drug-to-drug interaction or additional toxicity.

Safe and well tolerated, with less than 30% of patients experiencing a side effect
Of the 161 TRS patients randomized in the trial, 121 (75%) completed one year of treatment. A total of 31 patients (19%) discontinued due to withdrawal of consent (23 patients), not rolling over into the 1-year extension trial "Study 015" after completing the 6-week "Study 014" (9 patients), lost to follow up (5 patients), and adverse events (3 patients). Less than 30% of patients experienced at least one treatment-emergent adverse event (TEAE). Two serious adverse events (SAEs) were reported: 1 death with autopsy findings suggestive of atherosclerosis and 1 patient with dilutional hyponatremia (water intoxication) followed by

an acute symptomatic seizure that occurred beyond 1 year of treatment. There is no pattern of extrapyramidal side effects, endocrine or metabolic syndrome, sexual dysfunction, significant CNS events, or laboratory abnormalities. No patient relapsed during one year of evenamide treatment.

Key efficacy findings of "Study 015" after one year of treatment with evenamide

"Study 015" is the 1-year extension trial of the six-week open-label (unblinded) "Study 014" safety and dose-ranging trial (twice-daily 7.5 mg, 15 mg, or 30 mg evenamide, no placebo) that determined the long-term benefits of glutamate release inhibition by adding evenamide to current antipsychotics (excluding clozapine). The preliminary efficacy assessment was based on changes from baseline in the Positive and Negative Syndrome Scale (PANSS). Changes from baseline in the Clinical Global Impression of Change (CGI-C), Severity of Illness (CGI-S), and Strauss-Carpenter Level of Functioning (LOF) scale were secondary objectives. Despite these patients being on therapeutic doses of antipsychotics, the PANSS total score, the CGI-S, and the LOF all showed a statistically significant improvement at one year of evenamide treatment (p-value < 0.001: paired t-test, OC/LOCF) in the modified intent-to-treatment (mITT) population. Moreover, all efficacy scales showed gradual and sustained improvement over the treatment period.

- **Treatment response – PANSS total score (primary efficacy objective):**
  - The mean change from baseline in the PANSS total score dropped by 15.5 points or 19.4% from 79.5 at baseline to 63.9 at one year of treatment.
  - The percentage of patients with a clinically important response (a PANSS total score ≥20% improvement from baseline) amounted to 41.8% of patients at one year of treatment (up from 34% at 6 months and 24.8% at 18 weeks)
  - Approximately 90% of the patients who had responded to the treatment by a clinically important reduction (≥ 20% from baseline) on the PANSS total score at six months (~45%) maintained their response at one year.
- **Disease severity – CGI-S (secondary efficacy objective):**
  - A 1.1-point drop was seen in the CGI-S mean change from baseline from 4.5 (moderate-to-severe disease) at baseline to 3.5 (mild-to-moderate disease) at one year of treatment.
  - 75.2% of patients experienced a clinically important reduction in disease severity (an improvement of ≥ 1-category from baseline) at one year of treatment (up from 74.5% at 6 months and 70.9% at 18 weeks).
  - The percentage of patients classified by the physician as "much improved" amounted to 37.6% at one year of treatment (up from 30.5% at 6 months and 27.0% at 18 weeks)
- **Level of functioning – LOF (secondary efficacy objective):** a 2.4-point improvement was seen in the LOF mean change from baseline (up from 18.0 at baseline to 20.4 at one year of treatment).
- **Relapse:** no patient relapsed during the one-year treatment period with evenamide, in contrast to common clinical experience.
- **TRS protocol severity criteria:** a review of the efficacy data indicated that treatment with evenamide resulted in approximately 50% of patients at one year no longer meeting any of the protocol severity criteria used to diagnose treatment resistance.
- **Remission:** approximately 25% of all patients achieved remission, defined as a level of symptomology that does not interfere with an individual's behavior and is also below that required for a diagnosis of schizophrenia. Remission represents the highest level of

improvement that can be obtained in a patient with schizophrenia. Remission in TRS patients has never been seen before.

Pivotal "Study 008A" fully enrolled with topline results expected in March 2024

On 29 December 2023, Newron announced it completed patient enrollment in "Study 008A", the first potentially pivotal trial of evenamide as an add-on treatment to standard antipsychotics in inadequately controlled schizophrenia patients. A total of 290 patients were enrolled at study centers in Europe, Asia, and Latin America. "Study 008A" is a four-week, double-blind, randomized, and placebo-controlled trial assessing the efficacy, tolerability, and safety of evenamide 30 mg twice daily (BID) in patients with chronic schizophrenia treated with second-generation antipsychotics with an inadequate response. The primary endpoint is the improvement in the PANSS (Positive and Negative Syndrome Scale) total score from the baseline. Secondary endpoints include additional efficacy scores and safety and tolerability measures. Topline results are expected to be reported in March 2024.

A lucrative partnering deal with a major CNS player is expected before end Q2 2024

Based on the unprecedented findings of the "Study 014/015" trial and potentially positive results of the first potentially pivotal trial, "Study 008A" of evenamide in chronic schizophrenia patients who inadequately respond to current antipsychotic therapy, we assume Newron to sign a global (co)development and commercialization agreement with a major CNS player in return for substantial upfront, regulatory and sales milestones and royalties on sales before the starting the second pivotal "Study 016" in TRS at the end of Q2 2024. This would strengthen the company's cash position with the potential to in-license external CNS and rare disease clinical compounds. We assume Newron will establish its own small specialist sales force to commercialize evenamide in the CTRS orphan indication in the lucrative US market to optimize its long-term value.

Investment case, strategy & cash

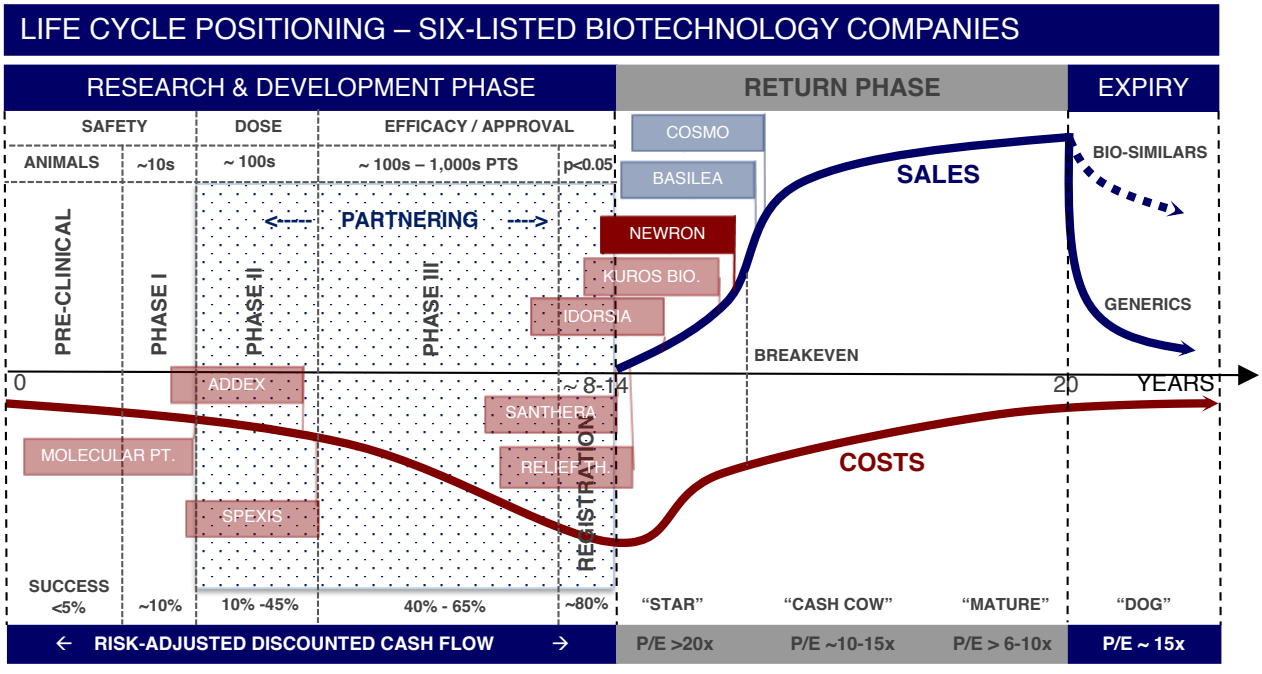
Investment case in a nutshell

Newron's key driver, evenamide for schizophrenia, continues to provide exciting data in treatment-resistant schizophrenia (TRS), with its phase II "Study 014/015" trial showing unprecedented efficacy results after one year of treatment. The company will submit these results and the protocol for the second pivotal "Study 016" (previously named "Study 003") in TRS patients to the FDA. The first pivotal "Study 008A of evenamide in inadequate responders to current antipsychotics will report topline results in March 2024; the second pivotal "Study 016" in TRS patients is planned to start by the end of Q2 2024. Both should add significantly to the value while substantially increasing the success rate and reducing the clinical development risk. Moreover, the unprecedented results in "Study 014/015" might trigger a potential global partnering deal with a major CNS player earlier than expected, providing further equity upside. Hence, we believe substantial equity upside should be unlocked in 2024.

Based on our detailed bottom-up forecasts for Newron's key drivers, with ample patent life and market exclusivity, targeting blockbuster markets, we conservatively calculate a sum-of-the-parts risk-adjusted NPV of CHF 225 mn or CHF 12.6 per share, providing equity upside of 76% from the current share price.

Life Cycle Positioning – High Risk

We qualify Newron's risk profile as High Risk as the company is still loss-making, and revenues depend solely on Xadago in Parkinson's disease. On reaching breakeven in 2024 (assuming a significant agreement for evenamide in schizophrenia with substantial upfront payments) and the successful completion of the pivotal development of evenamide in schizophrenia and CTRS, the company should see a re-rating of the risk profile to Medium Risk. (See Important Disclosures for our Risk Qualification).



SOURCE: VALUATIONLAB

Italian biopharmaceutical company specializing in CNS and rare diseases
Newron Pharmaceuticals S.p.A. is an Italian biopharmaceutical company specializing in prescription drugs to treat peripheral & central nervous system (CNS) disorders and rare, so-called orphan diseases, with expertise in ion channel blockers, an important class of CNS drugs. Newron is based in Bresso, near Milan, Italy, and was established in December 1998 as a spin-off from Pharmacia & Upjohn (now part of Pfizer). In 2014, the company opened a US office in Morristown, New Jersey, USA. Currently, the group has 23 employees. Newron was listed on the SIX Swiss Stock Exchange in 2006 with the ticker code: NWRN. In addition to the primary listing in Switzerland, Newron began trading in Germany on the Düsseldorf Stock Exchange and XETRA (ticker code: NP5) to facilitate access for investors based in the EU via EU brokers in 2019.

Strategy to develop CNS drug to an optimal value, then out-license major indications and preferably market orphan indications by an own small specialist salesforce
Newron's strategy is to develop drugs originated from earlier discovery capabilities, acquire or in-license CNS disease drugs and develop them to their optimal value, and in case of rare diseases like evenamide in clozapine treatment-resistant schizophrenia (CTRS), whenever possible, commercialize them to optimize long-term value. Where necessary or advantageous, the company seeks co-development and commercialization agreements to reduce research and development costs and generate revenue through R&D funding, milestone payments, and royalties on future sales.

Newron’s pipeline consists of a nice mix of major and rare disease indications
Newron’s pipeline consists of a nice mix of major indications, such as Xadago, which already generates revenues through its partners in Parkinson’s disease, and evenamide as an add-on to antipsychotics in schizophrenia, and an orphan-like indication, such as evenamide in CTRS (clozapine treatment-resistant schizophrenia) with a high unmet medical need. Substantial value will be unlocked with the approval and launch of evenamide in schizophrenia with blockbuster sales potential. Newron’s individual products includes:

- **Evenamide – A new paradigm in schizophrenia, transformational potential**
  Evenamide is Newron’s pipeline project with the highest peak sales potential, targeting a USD 12 bn schizophrenia market, and will be transformational for Newron upon approval. In 2017, evenamide established proof-of-concept (POC) as an add-on to current antipsychotics in patients with schizophrenia. The compound is being developed as an add-on treatment for 1) non-treatment-resistant schizophrenia (non-TRS) patients experiencing inadequate response to current atypical antipsychotic monotherapy and 2) treatment-resistant schizophrenia (TRS) patients who are not responding adequately to any second-generation antipsychotics, including the orphan-like indication clozapine treatment-resistant schizophrenia (CTRS), covering roughly 70% of schizophrenia patients. Approximately 30% of schizophrenia patients respond well to monotherapy.

  Health authorities (Spain, Denmark, Sweden, Germany, UK, CHMP, US, Canada) have agreed with the current phase III development program for evenamide in schizophrenia. In 2021, Newron provided additional informative trials requested by the FDA before starting phase III development. The preclinical part of the safety work was completed and submitted to the FDA with no toxicity issues reported. The first 4-week clinical safety (EEG – electroencephalogram) trial dubbed “Study 008” in 138 patients was completed in March 2021, with no safety issues.

In January 2024, unprecedented topline results were presented of the open-label (unblinded) phase II "Study 014/015" safety and dose-ranging trial of evenamide (twice daily 7.5 mg, 15 mg, or 30 mg evenamide, no placebo) as an add-on to current antipsychotics (excluding clozapine) in 161 patients suffering from TRS. This was the final safety requirement by the FDA before starting phase III development in schizophrenia. Newron plans to start the potentially pivotal phase III "Study 016" trial (previously named "Study 003") of evenamide in TRS patients by the end of Q2 2024. Newron plans to recruit roughly 15-20% of clozapine treatment-resistant schizophrenia (CTRS) patients to address this orphan-like population. If the exceptional results seen in "Study 014/015" are replicated, approval of evenamide in TRS could follow swiftly based on this single pivotal trial alone. Evenamide could become the first drug for TRS since clozapine in 1989.

In September 2021, Newron started the first potentially pivotal phase II/III "Study 008A" trial of evenamide in 290 non-TRS patients in Europe, Asia, and Latin America, with topline results expected in March 2024.

The company plans to out-license evenamide to global and/or local CNS players in return for substantial upfront, regulatory, and sales milestones and royalties on sales. This is expected to occur in H1 2024. Newron would like to commercialize evenamide in CTRS in the lucrative US market to optimize the long-term value, as limited marketing resources are required for this indication.

- **Xadago – Global rollout underway – sales uptake hampered by cheap generics**

Xadago (safinamide) is Newron's first-ever approved drug for treating patients with mid-to-late-stage Parkinson's disease and was launched by its partners in the EU in 2015 and in the US in 2017 and in Canada (branded Onstryv) and Japan (branded Equfina) in 2019. Xadago stems from Newron's earlier ion channel discovery capabilities and is the first New Chemical Entity (NCE) approved and launched for treating Parkinson's disease in over a decade. The company receives sales royalties and milestone payments from its development and commercialization partners Zambon (worldwide rights excluding Meiji Seika territories) and Meiji Seika (Japan and Asia). Uptake in the lucrative US market (now marketed by Supernus Pharma) is hampered by widespread cheap generic versions of Teva's Azilect (rasagiline), which belongs to the same drug class as Xadago. In 2021, several generic manufacturers filed Paragraph IV ANDA's for Xadago in the US, potentially leading to generics entering the US market earlier than we forecast. However, the impact should be minor, given the low portion of Xadago sales in the US.

Newron's key priorities in the next 12-18 months include:

- The continued rollout of Xadago in Parkinson's disease by its partners in new countries/areas and contracting new commercialization/distribution partners for Xadago beyond the EU, US, Japan, and Asia.
- Prevent generic manufacturers that filed Paragraph IV ANDA's for Xadago from entering the US market before expiry in 2031 through legal action.
- Submit the exciting "Study 014/015" trial results to the FDA to address the remaining safety issues and finalize the protocol for the phase III "Study 016" of evenamide in TRS
- Report topline results of the first potentially pivotal phase II/III "Study 008A" trial of evenamide in schizophrenia in March 2024.
- Start the phase III "Study 016" trial of evenamide in TRS patients by the end of Q2 2024

- Determine potential options for global or local partnering or co-development and commercialization of evenamide before the start of the pivotal “Study 016”.
- Seek new CNS development projects to replenish the company’s development pipeline.

Newron sufficiently funded into Q3 2024 beyond key value inflection points

With EUR 17.1 mn in cash and short-term investments (30 June 2023), increasing royalty payments on Xadago sales, and Italian R&D tax credits (approximately EUR 8 mn), Newron expects to be sufficiently funded into Q3 2024. Following the unprecedented “Study 014/015” topline results, Newron is evaluating potential options for partnering or co-developing evenamide in schizophrenia to potentially share the development risk, reduce the cash burn, and replenish its cash position to increase financial flexibility, which can be used to broaden the pipeline with promising external CNS compounds.

Valuation Overview

Risk-adjusted sum-of-parts NPV points to a fair value of CHF 12.6 per share

We derive a sum-of-parts risk-adjusted NPV of CHF 12.6 per share, with cash of CHF 1.0 per share (30 June 2023), overhead of CHF 6.2 per share (including the repayment of the EUR 40 mn EIB loan starting in 2024), with a WACC of 10% (consisting of a market risk premium of 6%, a beta of 1.5, and a risk-free rate (10-year Swiss bond yield) of 1%).

SUM OF PARTS

PRODUCT NAME	INDICATION	PEAK SALES (EUR MN)	LAUNCH YEAR	UNADJUSTED NPV/SHARE	SUCCESS PROBABILITY	RISK-ADJUSTED NPV/SHARE (CHF)	PERCENTAGE OF TOTAL
XADAGO (SAFINAMIDE)	PARKINSON'S DISEASE	103	2015 (EU) I 2017 (US)	2.1	100%	2.1	11%
EVENAMIDE	SCHIZOPHRENIA (INADEQUATE RESPONDERS, TRS*)	879	2026	26.6	50%	13.3	71%
EVENAMIDE	CLOZAPINE TREATMENT-RESISTANT SCHIZOPHRENIA (CTRS)	121	2026	7.0	35%	2.5	13%
RALFINAMIDE	NEUROPATHIC PAIN	NON CORE					
CASH & CASH EQUIVALENTS (30 JUNE 2023)		17		1.0		1.0	5%
TOTAL ASSETS				**36.7**		**18.8**	**100%**
OVERHEAD EXPENSES (INCLUDING REPAYMENT OF THE EUR 40 MN EIB LOAN)				-6.2		-6.2	
NPV/SHARE (CHF)				**30.5**		**12.6**	
PRICE ON 08 JANUARY 2024						7.2	
PERCENTAGE UPSIDE / (DOWNSIDE)						76%	

* TRS = TREATMENT RESISTANT SCHIZOPHRENIA

ESTIMATES AS OF 8 JANUARY 2024

SOURCE: VALUATIONLAB ESTIMATES

Newron's key value drivers include:

Xadago (Parkinson's disease) - NPV of CHF 2.1 per share

Xadago is Newron's first-ever drug to be approved and launched and marks the first new chemical entity (NCE) for Parkinson's disease in over a decade. The drug was launched in the EU (2015), in the US (2017), and in Japan (2019) to treat mid-to-late-stage Parkinson's disease. In the lucrative US market, sales uptake continues to be hampered by cheap generic versions of Teva's Azilect (rasagiline), which belongs to the same drug class as Xadago. We assume Newron will receive a remaining EUR 3 mn in milestone payments from its partners Zambon (and sub-licensors) and Meiji Seika (and partner Eisai), with royalties on sales ranging between 10-12% in EU/ROW, 7% in the US, and 2.5% in Japan. We calculate an NPV of CHF 2.1 per share with peak sales of EUR 103 mn for Xadago in Parkinson's disease.

Evenamide (schizophrenia) – risk-adjusted NPV of CHF 13.3 per share

Evenamide targets a global USD 12 bn antipsychotics market. Evenamide could become the first add-on antipsychotic to be approved for inadequately responding and treatment-resistant schizophrenia (TRS) patients and the first drug for TRS since the approval of clozapine in 1989. Topline results of the first potentially pivotal phase II/III "Study 008A" trial of evenamide in non-TRS patients who inadequately respond to current antipsychotic monotherapy are expected in March 2024. The second pivotal phase III "Study 016" of evenamide in TRS, is expected to start by the end of Q2 2024, with topline results expected approximately 18 months later. Upon positive "Study 008A" results, we assume Newron to license the compound to a major CNS player in return for substantial upfront, regulatory, and sales milestone payments and royalties on sales. We forecast peak sales for evenamide to amount to EUR 879 mn in schizophrenia, with the first launches in 2026. We calculate an rNPV of CHF 13.3 per share with a conservative 50% (single pivotal phase II/III) success rate, with Newron receiving up to EUR 332 mn in global upfront, development, regulatory, and sales milestones and 15% royalties on net sales.

Evenamide (CTRS) – risk-adjusted NPV of CHF 2.5 per share

Newron's development plans for evenamide to include CTRS next to schizophrenia were

triggered by the high unmet medical need for new CTRS treatments, with studies suggesting the involvement of the glutamate system in CTRS, and US orphan disease designation. CTRS provides a fast-to-market indication (we expect the US launch in 2026 based on accelerated approval) with 7-year orphan disease market exclusivity upon US approval. We assume Newron to commercialize evenamide in CTRS in the US through its own small specialist sales force and seek partners outside the US in return for EUR 15 mn upfront, development, regulatory, and sales milestones, and 15% royalties on net sales. We forecast peak sales to amount to EUR 121 mn. Our rNPV amounts to CHF 2.5 per share with a conservative 35% (proof-of-concept established) success rate.

NOTE: Our success rate for evenamide in CTRS will increase to 50% (single potentially pivotal trial) when the second potentially pivotal phase II/III "Study 016" of evenamide in TRS, including CTRS, starts by the end of Q2 2024. Consequently, our rNPV for evenamide in CTRS will increase by CHF 1.1 per share to CHF 3.6 per share.

Additional upside to our forecasts could come from higher pricing if the results of the phase III program point to a new treatment paradigm with evenamide increasing quality of life and significantly reducing the social burden. In particular, CTRS patients consume the most resources of all schizophrenia patients and would justify higher pricing if evenamide is effective.

Sensitivities that can influence our valuation

Development risk: With Xadago approved in the major markets, Newron's major risk is the development risk of evenamide as an add-on therapy for treating schizophrenia and CTRS. We have a conservative 50% (potentially pivotal phase II/III) success rate for evenamide in schizophrenia. Our 35% (POC established) success rate for CTRS will also increase to 50% once the phase III "Study 016" trial in TRS starts at the end of Q2 2024. Successful development and approval of evenamide in schizophrenia will be transformational for Newron. The company has secured the necessary funds to develop evenamide in schizophrenia and CTRS. Additional funding is expected from the global partnering of evenamide.

Pricing and reimbursement: Following EMA and FDA approval, Xadago and evenamide must be priced and reimbursed by local healthcare providers. In the EU, pricing and reimbursement occur on a country-by-country base, leading to different pricing and reimbursement and potential market launch delays. Pricing and reimbursement have been established in the US.

Partnering: In 2012, Newron out-licensed Xadago to Zambon, which gained worldwide rights, excluding Japan and Asia, which Meiji Seika acquired. Zambon lacks a strong CNS presence in all markets and needs to secure strong commercialization partners in some regions. In June 2020, Supernus Pharmaceuticals acquired the commercial rights of Xadago from US WorldMeds for the critical US market. We assume Newron to seek a global (co)development and commercialization partner for evenamide in schizophrenia in return for substantial upfront, development, regulatory and sales milestones, and royalties on sales. Partnering will reduce the development risk and cash burn and increase financial flexibility for Newron to acquire external CNS clinical compounds to boost its pipeline. Timing and terms could differ from our forecasts.

Commercialization: Newron's revenues and earnings for Xadago are entirely dependent on its commercialization partners to position successfully and market Xadago against existing Parkinson's treatments such as Teva's Azilect (rasagiline) and generic versions of rasagiline. Newron needs a major CNS player to commercialize evenamide in schizophrenia and other antipsychotic indications successfully. Revenues and earnings for evenamide in schizophrenia will depend entirely on its commercialization partner to successfully position and market evenamide against existing and new treatments. Newron plans to build up its own specialist field force for evenamide in CTRS in the US, which could require additional funding.

Patent and market exclusivity: Xadago's composition of matter patent expired in 2010. Patent protection and market exclusivity beyond this period rely heavily on the combination patent with levodopa that runs until 2024 (EU) and 2026 (US) with extensions of up to 5 years. A synthesis patent provides additional protection until 2027. We conservatively assume patent protection for Xadago until 2031 (including extension). In 2021, several generic manufacturers filed a Paragraph IV ANDA for Xadago in the US, which could lead to generics entering the US market earlier than our forecasts. Evenamide's patent protection runs until 2028, with extensions of up to another five years. NCE (new chemical entity) exclusivity amounts to 5 years in the US, orphan disease exclusivity adds 7 years upon US approval, while data protection provides 10-year exclusivity in the EU.

Catalysts

CATALYST TIMELINES

TIME LINE	PRODUCT	INDICATION	MILESTONE	COMMENT	IMPACT ON RNPV/SHARE
2024					
4 JAN	EVENAMIDE	TREATMENT-RESISTANT SCHIZOPHRENIA (TRS)	"STUDY 014/15" - FINAL (1-YEAR) RESULTS	FINAL RESULTS OF THE 1-YEAR "STUDY 015" EXTENSION TRIAL OF EVENAMIDE AS ADD-ON TREATMENT TO ANTIPSYCHOTICS IN TRS SHOW UNPRECEDENTED RESULTS WITH >70% PATIENTS HAVING MEANINGFUL REDUCTION IN DISEASE SEVERITY, ~50% OF PATIENTS NO LONGER MEETING TRS PROTOCOL SEVERITY CRITERIA, AND ~25% ACHIEVING REMISSION (NEVER SEEN BEFORE IN A TRS TRIAL)	
MAR (TBD)			FY 2023 RESULTS	FY 2023 RESULTS TYPICALLY REPORTED IN MARCH	
MAR	EVENAMIDE	NON-TREATMENT-RESISTANT RESISTANT SCHIZOPHRENIA (NTRS)	"STUDY 008A" - TOPLINE RESULTS (1ST PIVOTAL TRIAL)	TOPLINE RESULTS OF THE FIRST POTENTIALLY PIVOTAL PHASE II/III "STUDY 008A" OF EVENAMIDE AS AN ADD-ON THERAPY IN SCHIZOPHRENIA PATIENTS WHO ARE INADEQUATE RESPONDERS TO SECOND-GENERATION ANTIPSYCHOTICS; 4-WEEK, RANDOMIZED 30 MG BID EVENAMIDE VS. PLACEBO, DOUBLE-BLIND TRIAL IN >200 PATIENTS	
SPRING			AGM	MARGARITA CHAVEZ TO BE NOMINATED FOR ELECTION TO THE BOARD AT THE ANNUAL GENERAL MEETING (AGM)	
BEFORE START "STUDY 016"	EVENAMIDE	SCHIZOPHRENIA	POTENTIAL PARTNERING AGREEMENT(S)	NEWRON EXPECTS A POTENTIAL (CO-) DEVELOPMENT AND COMMERCIALIZATION AGREEMENT(S) WITH (A) MAJOR CNS PLAYER(S) FOR EVENAMIDE TO ENHANCE DEVELOPMENT AND COMMERCIALIZATION, REDUCE CASH BURN AND STRENGTHEN ITS CASH POSITION	
END Q2	EVENAMIDE	TREATMENT-RESISTANT SCHIZOPHRENIA (TRS)	START "STUDY 016" (2ND PIVOTAL TRIAL)	START SECOND POTENTIALLY PIVOTAL PHASE III "STUDY 016" OF EVENAMIDE IN TREATMENT-RESISTANT SCHIZOPHRENIA (TRS) INCLUDING CLOZAPINE TREATMENT-RESISTANT SCHIZOPHRENIA (CTRS) IN PATIENTS WITH ONE OF THE LEADING 2ND GENERATION ANTIPSYCHOTICS; 12-WEEK, RANDOMIZED, DOUBLE-BLIND PLACEBO-CONTROLLED GLOBAL TRIAL IN >510 TRS PATIENTS; TOPLINE RESULTS 2025	+ CHF 1.1
DURING 2024			EXTERNAL CNS PIPELINE PRODUCTS	ONGOING SEARCH FOR STRATEGICALLY RELEVANT ASSETS TO ADD TO NEWRON'S CNS PIPELINE	

ESTIMATES AS OF 8 JANUARY 2024

SOURCE: VALUATIONLAB ESTIMATES, NEWRON PHARMACEUTICALS

Key catalysts:

- **Results "Study 008A" of evenamide in non-TRS (March 2024):** the first, potentially pivotal, phase II/III trial of 30 mg evenamide twice-daily (BID) as add-on therapy in 290 schizophrenia patients who are inadequate responders to second-generation antipsychotics.
- **Partnering evenamide with a major CNS player (before starting "Study 016"):** Out-licensing of evenamide to a major CNS player in return for substantial upfront, regulatory, and sales milestones and royalties on sales, which extends the cash reach and can be used to in-license new CNS compounds and to build its own US specialist sales force for evenamide in CTRS.
- **Start pivotal "Study 016" trial of evenamide in TRS (end Q2 2024):** this marks the second potentially pivotal phase III trial needed for approval of evenamide in schizophrenia, including (clozapine) treatment-resistant schizophrenia; our success rate increases to 50% (phase III trial) from 35% (POC established) resulting in an increase of our rNPV by CHF 1.1 per share.

Forecasts & Sensitivity Analysis

Schizophrenia - Inadequate responders (non-TRS) and TRS (excl. CTRS)

EVENAMIDE - FINANCIAL FORECASTS FOR SCHIZOPHRENIA

INDICATION	ADD-ON THERAPY TO ANTIPSYCHOTICS FOR REDUCING POSITIVE SYPMTOMS AND PSYCHOTIC WORSENING IN PATIENTS WITH SCHIZOPHRENIA
DOSAGE	30 MG TWICE DAILY (TBD)
PRICE	USA: USD 15/DAY, EU/ROW: EUR 10/DAY; PRICING MAY PROVE CONSERVATIVE IF EVENAMIDE BECOMES A NEW TREATMENT PARADIGM IN SCHIZOPHRENIA
STANDARD OF CARE	ATYPICAL (2ND GENERATION) ANTIPSYCHOTICS SUCH AS ZYPREXA, SEROQUEL, RISPERDAL, GEODON, ABILIFY
UNIQUE SELLING POINT	FIRST ADD-ON TO MAINSTAY ANTIPSYCHOTICS FOR SCHIZOPHRENIA WITH THE POTENTIAL TO PROLONG RESPONSE RATES AND REDUCE FREQUENT SWITCHING

7Ps ANALYSIS

PATENT	US: PROTECTION UNTIL 2033 BASED ON COMPOSITION OF MATTER PATENT GRANTED UNTIL 2028 + 5 YEARS EXTENSION; EU: 10-YEARS DATA EXCLUSIVITY
PHASE	PHASE II/III "STUDY 008A" (NON-TRS) RESULTS MARCH 2024; PHASE III "STUDY 016" (TRS) START END Q2 2024, RESULTS END 2025, LAUNCH H2 2026
PATHWAY	1) TWO POSITIVE PHASE III TRIALS (6 MONTHS TREATMENT); 2) AT LEAST 1,500 TREATED (INCL. SEVERAL HUNDRED 6 MONTHS); 3) AT LEAST 100 TREATED FOR 1 YEAR
PATIENT	POORLY RESPONDING PATIENTS CAN POTENTIALLY REGAIN A NORMAL SOCIAL AND PRODUCTIVE LIFE WITH A HIGHER LIFE EXPECTANCY
PHYSICIAN	POTENTIAL TO ADDRESS POORLY RESPONDING PATIENTS OR PATIENTS WITH BREAKTHROUGH SYMPTOMS ON CURRENT ANTIPSYCHOTIC TREATMENT
PAYER	SUBSTANTIAL REDUCTION OF ASSOCIATED COSTS SUCH AS UNEMPLOYMENT, LONG-TERM CARE, HOSPITALIZATION, SUICIDE RISK
PARTNER	PHASE IIA POC COMPLETED; NEXT STEPS: FUNDS SECURED TO START REGISTRATIONAL TRIALS; GLOBAL PARTNERING LIKELY ON POSITIVE "STUDY 008A" RESULTS

REVENUE MODEL

EUROPE / REST OF WORLD (PARTNER TBD)	**2023E**	**2024E**	**2025E**	**2026E**	**2027E**	**2028E**	**2029E**	**2030E**	**2031E**	**2032E**	**2033E**
NUMBER OF PATIENTS (MN)	5.7	5.8	5.9	6.0	6.1	6.2	6.3	6.4	6.5	6.5	6.6
GROWTH (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
PERCENTAGE WITH POSITIVE SYMPTOMS (%)	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%
PATIENTS WITH POSITIVE SYMPTOMS (MN)	4.0	4.1	4.1	4.2	4.3	4.3	4.4	4.4	4.5	4.6	4.7
COMPLIANCE RATE (%)	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
PATIENTS TREATED	1,002,020	1,017,051	1,032,306	1,047,791	1,063,508	1,079,460	1,095,652	1,112,087	1,128,768	1,145,700	1,162,886
-/- PATIENTS WITH CTRS (SEE EVANAMIDE CTRS MODEL)	-42,211	-42,844	-43,487	-44,139	-44,801	-45,473	-46,155	-46,848	-47,550	48,264	48,988
INADEQUATE RESPONDERS (~57%)	547,091	555,298	563,627	572,082	580,663	589,373	598,213	607,186	616,294	625,539	634,922
TREATMENT RESISTANT SCHIZOPHRENIA (TRS) PATIENTS (~43%)	412,718	418,909	425,192	431,570	438,044	444,614	451,284	458,053	464,924	471,898	478,976
PATIENTS TREATED (EXCLUDING CTRS PATIENTS)	959,809	974,206	988,820	1,003,652	1,018,707	1,033,987	1,049,497	1,065,239	1,081,218	1,097,436	1,113,898
PENETRATION (%)	0%	0%	0%	2%	5%	7%	9%	10%	11%	12%	13%
NUMBER OF TREATED PATIENTS	0	0	0	20,073	50,935	72,379	94,455	106,524	118,934	131,692	144,807
COST OF THERAPY PER YEAR (EUR)	3,650	3,650	3,650	3,650	3,650	3,650	3,650	3,650	3,650	3,650	3,650
SALES (EUR MN)	**0**	**0**	**0**	**73**	**186**	**264**	**345**	**389**	**434**	**481**	**529**
CHANGE (%)					154%	42%	31%	13%	12%	11%	10%
ROYALTY (%)	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
ROYALTIES (EUR MN)	0	0	0	11	28	40	52	58	65	72	79
UPFRONT & MILESTONE PAYMENTS (EUR MN)		20	10	20	15		30				50
R&D COSTS	-12	-2	0	0	0	0	0	0	0	0	0
PROFIT BEFORE TAX (EUR MN)	**-12**	**18**	**10**	**31**	**43**	**40**	**82**	**58**	**65**	**72**	**129**
TAXES (EUR MN)	0	-1	-2	-5	-13	-12	-26	-18	-20	-23	-41
PROFIT (EUR MN)	**-12**	**17**	**8**	**26**	**29**	**27**	**56**	**40**	**45**	**49**	**89**

UNITED STATES (PARTNER TBD)	**2023E**	**2024E**	**2025E**	**2026E**	**2027E**	**2028E**	**2029E**	**2030E**	**2031E**	**2032E**	**2033E**
NUMBER OF PATIENTS (MN)	2.7	2.7	2.8	2.8	2.8	2.9	2.9	3.0	3.0	3.1	3.1
GROWTH (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
PERCENTAGE WITH POSITIVE SYMPTOMS (%)	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%
PATIENTS WITH POSITIVE SYMPTOMS (MN)	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.2
COMPLIANCE RATE (%)	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
PATIENTS TREATED	467,218	474,226	481,339	488,559	495,888	503,326	510,876	518,539	526,317	534,212	542,225
-/- PATIENTS WITH CTRS (SEE EVENAMIDE CTRS MODEL)	-22,962	-23,307	-23,656	-24,011	-24,371	-24,737	-25,108	-25,485	-25,867	26,255	26,649
INADEQUATE RESPONDERS (~57%)	253,226	257,024	260,879	264,793	268,764	272,796	276,888	281,041	285,257	289,536	293,879
TREATMENT RESISTANT SCHIZOPHRENIA (TRS) PATIENTS (~43%)	191,030	193,895	196,804	199,756	202,752	205,793	208,880	212,013	215,194	218,422	221,698
PATIENTS TREATED (EXCLUDING CTRS PATIENTS)	444,255	450,919	457,683	464,548	471,516	478,589	485,768	493,055	500,450	507,957	515,577
PENETRATION (%)	0%	0%	0%	2%	6%	9%	11%	13%	14%	15%	8%
NUMBER OF TREATED PATIENTS	0	0	0	9,771	29,753	45,299	56,196	67,410	73,684	80,132	40,667
COST OF THERAPY PER YEAR (EUR)	5,113	4,970	4,970	4,970	4,970	4,970	4,970	4,970	4,970	4,970	4,970
SALES (EUR MN)	**0**	**0**	**0**	**49**	**148**	**225**	**279**	**335**	**366**	**398**	**202**
CHANGE (%)					205%	52%	24%	20%	9%	9%	-49%
ROYALTY (%)	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
ROYALTIES (EUR MN)	0	0	0	7	22	34	42	50	55	60	30
UPFRONT & MILESTONE PAYMENTS (EUR MN)	0	18	9	18	0	18	0	27	0	36	0
PROFIT BEFORE TAX (USD MN)	**0**	**20**	**10**	**28**	**24**	**57**	**46**	**85**	**61**	**106**	**33**
TAXES (EUR MN)	0	-1	-2	-4	-7	-16	-13	-24	-17	-30	-10
PROFIT (EUR MN)	**0**	**17**	**7**	**21**	**15**	**36**	**29**	**53**	**38**	**66**	**21**

	2023E	**2024E**	**2025E**	**2026E**	**2027E**	**2028E**	**2029E**	**2030E**	**2031E**	**2032E**	**2033E**
GLOBAL SALES (EUR MN)	**0**	**0**	**0**	**122**	**334**	**489**	**624**	**724**	**800**	**879**	**731**
CHANGE (%)					174%	47%	28%	16%	11%	10%	-17%
GLOBAL PROFIT (EUR MN)	**-12**	**34**	**15**	**48**	**45**	**63**	**85**	**93**	**82**	**115**	**109**
CHANGE (%)	2%	-386%	-55%	207%	-6%	41%	35%	10%	-12%	40%	-5%

WACC (%)	10%	
NPV TOTAL PROFIT (CHF MN)	**474**	
NUMBER OF SHARES (MN)	17.8	
NPV PER SHARE (CHF)	27	
SUCCESS PROBABILITY	50%	(SINGLE POTENTIALLY PIVOTAL PHASE IIB TRIAL)
RISK ADJUSTED NPV PER SHARE (CHF)	**13.3**	

SENSITIVITY ANALYSIS

		WACC (%)				
	CHF/SHARE	8	9	10	11	12
	100%	30.2	28.3	26.6	25.0	23.5
	90%	27.2	25.5	23.9	22.5	21.1
	80%	24.2	22.7	21.3	20.0	18.8
SUCCESS PROBABILITY	70%	21.2	19.8	18.6	17.5	16.4
	60%	18.1	17.0	15.9	15.0	14.1
	50%	15.1	14.2	**13.3**	12.5	11.7
	40%	12.1	11.3	10.6	10.0	9.4

ESTIMATES AS OF 8 JANUARY 2024

SOURCE: VALUATIONLAB ESTIMATES

Clozapine treatment-resistant schizophrenia (orphan-like indication)

EVENAMIDE - FINANCIAL FORECASTS FOR CLOZAPINE TREATMENT-RESISTANT SCHIZOPHRENIA (CTRS)

INDICATION	ADD-ON THERAPY TO ANTIPSYCHOTICS FOR REDUCING POSITIVE SYPMTOMS & PSYCHOTIC WORSENING IN CLOZAPINE TREATMENT-RESISTANT SCHIZOPHRENIA (CTRS)
DOSAGE	15 OR 30 MG TWICE DAILY (TBD)
PRICE	USA: USD 15/DAY, EU/ROW: EUR 10/DAY; PRICING MAY PROVE CONSERVATIVE IF EVENAMIDE BECOMES A NEW TREATMENT PARADIGM IN SCHIZOPHRENIA
STANDARD OF CARE	CLOZAPINE AND OTHER ATYPICAL (2ND GENERATION) ANTIPSYCHOTICS SUCH AS ZYPREXA (OLANZAPINE), SEROQUEL (QUETIAPINE), RISPERDAL (RISPERIDONE)
UNIQUE SELLING POINT	POTENTIALLY FIRST ADD-ON THERAPY TO ANTIPSYCHOTICS IN PATIENTS WITH CLOZAPINE TREATMENT-RESISTANT SCHIZOPHRENIA (ORHPAN INDICATION)

7Ps ANALYSIS

PATENT	US: PATENT PROTECTION UNTIL 2033 BASED ON COMPOSITION OF MATTER PATENT GRANTED UNTIL 2028 + 5 YEARS EXTENSION; EU: 10-YEAR DATA EXCLUSIVITY
PHASE	FILINGS RELATING TO ORPHAN/PRIME/FAST TRACT DESIGNATION; START PHASE III "STUDY 016" TRS TRIAL END Q2 2024, RESULTS END 2025; LAUNCH H2 2026
PATHWAY	PHASE III TRIAL IN INADEQUATE RESPONDERS + PHASE III TRIAL IN TREATMENT-RESISTANT SCHIZOPHRENIA (INCL. CTRS); 18 MONTHS TO COMPLETION FOR EACH TRIAL
PATIENT	CLOZAPINE TREATMENT-RESISTANT SCHIZOPHRENIA PATIENTS CAN POTENTIALLY REGAIN A NORMAL SOCIAL AND PRODUCTIVE LIFE WITH A HIGHER LIFE EXPECTANCY
PHYSICIAN	POTENTIAL TO ADDRESS TREATMENT-RESISTANT PATIENTS WHERE CLOZAPINE NO LONGER WORKS OR OTHER ATYPICAL ANTIPSYCHOTICS
PAYER	TREATMENT-RESISTANT SCHIZOPHRENIA IS ASSOCIATED WITH SOME OF THE HIGHEST HOSPITALIZATION COSTS, COSTS TO SOCIETY AND RISK OF SUICIDE
PARTNER	PHASE IIA POC COMPLETED IN SCHIZOPHRENIA; FUNDS SECURED TO COMPLETE BOTH PHASE III TRIALS; OWN US SALES FORCE, PARTNERING ON PHASE III IN EU/ROW

REVENUE MODEL

EUROPE / REST OF WORLD (PARTNER TBD)	**2023E**	**2024E**	**2025E**	**2026E**	**2027E**	**2028E**	**2029E**	**2030E**	**2031E**	**2032E**	**2033E**
NUMBER OF PATIENTS (MN)	5.7	5.8	5.9	6.0	6.1	6.2	6.3	6.4	6.5	6.5	6.6
GROWTH (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
PERCENTAGE WITH POSITIVE SYMPTOMS (%)	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%
PATIENTS WITH POSITIVE SYMPTOMS (MN)	4.0	4.1	4.1	4.2	4.3	4.3	4.4	4.4	4.5	4.6	4.7
TREATMENT-RESISTANT SCHIZOPHRENIA (%)	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
TREATMENT-RESISTANT SCHIZOPHRENIA PATIENTS	1,202,424	1,220,461	1,238,768	1,257,349	1,276,209	1,295,353	1,314,783	1,334,505	1,354,522	1,374,840	1,395,463
PATIENTS ON CLOZAPINE (%)	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
PATIENTS ON CLOZAPINE	140,703	142,814	144,956	147,131	149,338	151,578	153,851	156,159	158,501	160,879	163,292
CLOZAPINE-RESISTANT SCHIZOPHRENIA (%)	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
CLOZAPINE-RESISTANT SCHIZOPHRENIA PATIENTS	42,211	42,844	43,487	44,139	44,801	45,473	46,155	46,848	47,550	48,264	48,988
PENETRATION (%)	0%	0%	0%	2%	12%	20%	26%	30%	31%	32%	33%
NUMBER OF TREATED PATIENTS	0	0	0	883	5,376	9,095	12,000	14,054	14,741	15,444	15,921
COST OF THERAPY PER YEAR (EUR)	3,650	3,650	3,650	3,650	3,650	3,650	3,650	3,650	3,650	3,650	3,650
SALES (EUR MN)	**0**	**0**	**0**	**3**	**20**	**33**	**44**	**51**	**54**	**56**	**58**
CHANGE (%)					509%	69%	32%	17%	5%	5%	3%
ROYALTY (%)	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
ROYALTIES (EUR MN)	0	0	0	0	3	5	7	8	8	8	9
UPFRONT & MILESTONE PAYMENTS (EUR MN)		5		5				5			
R&D COSTS	-4	-2	-2	0	0	0	0	0	0	0	0
PROFIT BEFORE TAX (EUR MN)	**-4**	**3**	**-2**	**5**	**3**	**5**	**7**	**13**	**8**	**8**	**9**
TAXES (EUR MN)	0	0	0	-1	-1	-2	-2	-4	-3	-3	-3
PROFIT (EUR MN)	**-4**	**3**	**-2**	**5**	**2**	**3**	**5**	**9**	**6**	**6**	**6**

UNITED STATES (NEWRON SPECIALIST SALES FORCE)	**2023E**	**2024E**	**2025E**	**2026E**	**2027E**	**2028E**	**2029E**	**2030E**	**2031E**	**2032E**	**2033E**
NUMBER OF PATIENTS (MN)	2.7	2.7	2.8	2.8	2.8	2.9	2.9	3.0	3.0	3.1	3.1
GROWTH (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
PERCENTAGE WITH POSITIVE SYMPTOMS (%)	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%
PATIENTS WITH POSITIVE SYMPTOMS (MN)	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.2
TREATMENT-RESISTANT (%)	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%
TREATMENT-RESISTANT SCHIZOPHRENIA	654,105	663,916	673,875	683,983	694,243	704,657	715,226	725,955	736,844	747,897	759,115
PATIENTS ON CLOZAPINE (%)	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
PATIENTS ON CLOZAPINE	76,541	77,689	78,854	80,037	81,238	82,456	83,693	84,949	86,223	87,516	88,829
CLOZAPINE-RESISTANT SCHIZOPHRENIA (%)	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
CLOZAPINE-RESISTANT SCHIZOPRENIA PATIENTS	22,962	23,307	23,656	24,011	24,371	24,737	25,108	25,485	25,867	26,255	26,649
PENETRATION (%)	0%	0%	0%	18%	30%	40%	48%	49%	50%	50%	15%
NUMBER OF TREATED PATIENTS	0	0	0	4,322	7,311	9,895	12,052	12,487	12,804	12,996	3,957
COST OF THERAPY PER YEAR (EUR)	5,113	4,970	4,970	4,970	4,970	4,970	4,970	4,970	4,970	4,970	4,970
SALES (EUR MN) - BOOKED BY NEWRON	**0**	**0**	**0**	**21**	**36**	**49**	**60**	**62**	**64**	**65**	**20**
CHANGE (%)					69%	35%	22%	4%	3%	2%	-70%
COGS (%)	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
COGS (EUR MN)	0	0	0	-3	-5	-7	-9	-9	-10	-10	-3
S,G&A (EUR MN)	0	0	0	-10	-10	-10	-10	-11	-11	-11	-3
PROFIT BEFORE TAX (EUR MN)	**0**	**0**	**0**	**9**	**21**	**32**	**41**	**42**	**43**	**44**	**13**
TAXES (EUR MN)	0	0	0	-1	-7	-10	-13	-13	-14	-14	-4
PROFIT (EUR MN)	**0**	**0**	**0**	**7**	**14**	**22**	**28**	**29**	**30**	**30**	**9**

	2023E	**2024E**	**2025E**	**2026E**	**2027E**	**2028E**	**2029E**	**2030E**	**2031E**	**2032E**	**2033E**
GLOBAL SALES (EUR MN)	**0**	**0**	**0**	**25**	**56**	**82**	**104**	**113**	**117**	**121**	**78**
CHANGE (%)					127%	47%	26%	9%	4%	3%	-36%
GLOBAL PROFIT (EUR MN)	**-4**	**3**	**-2**	**12**	**16**	**25**	**32**	**38**	**35**	**36**	**15**
CHANGE (%)	1900%	-171%	-157%	-831%	39%	54%	28%	16%	-6%	2%	-58%

WACC (%)	10%	
NPV TOTAL PROFIT (CHF MN)	**126**	
NUMBER OF SHARES (MN)	17.8	
NPV PER SHARE (CHF)	7	
SUCCESS PROBABILITY	35%	(PROOF-OF-CONCEPT ESTABLISHED)
RISK ADJUSTED NPV PER SHARE (CHF)	**2.5**	

SENSITIVITY ANALYSIS

		WACC (%)				
	CHF/SHARE	8	9	10	11	12
	100%	8.0	7.5	7.0	6.6	6.2
	80%	6.4	6.0	5.6	5.3	5.0
	65%	5.2	4.9	4.6	4.3	4.1
SUCCESS PROBABILITY	50%	4.0	3.7	3.5	3.3	3.1
	35%	2.8	2.6	**2.5**	2.3	2.2
	25%	2.0	1.9	1.8	1.7	1.6
	15%	1.2	1.1	1.1	1.0	0.9

ESTIMATES AS OF 8 JANUARY 2024

SOURCE: VALUATIONLAB ESTIMATES

Income Statement

NEWRON PHARMACEUTICALS										SHARE PRICE (CHF)	7.16	
IFRS												
INCOME STATEMENT (EUR MN)	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E
PRODUCT SALES (INCLUDING PARTNERS)	**66**	**69**	**75**	**81**	**235**	**486**	**675**	**822**	**909**	**943**	**1,011**	**815**
CHANGE (%)	6%	4%	9%	9%	189%	107%	39%	22%	10%	4%	7%	-19%
PRODUCT SALES (BY NEWRON)	**0**	**0**	**0**	**0**	**21**	**36**	**49**	**60**	**62**	**64**	**65**	**20**
CHANGE (%)						69%	35%	22%	4%	3%	2%	-70%
ROYALTIES	**6**	**7**	**8**	**8**	**28**	**63**	**89**	**109**	**122**	**130**	**141**	**119**
CHANGE (%)	4%	20%	8%	8%	233%	126%	42%	23%	12%	7%	8%	-16%
LICENCE, UPFRONT & MILESTONE INCOME	**0**	**2**	**43**	**19**	**43**	**15**	**18**	**33**	**32**	**0**	**36**	**50**
OTHER INCOME & GRANTS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
REVENUES (EXCL. PARTNER SALES)	**6**	**9**	**51**	**28**	**93**	**114**	**156**	**202**	**217**	**194**	**242**	**189**
CHANGE (%)	6%	53%	448%	-46%	236%	23%	37%	29%	7%	-10%	25%	-22%
COGS	**0**	**0**	**0**	**0**	**-3**	**-5**	**-7**	**-9**	**-9**	**-10**	**-10**	**-3**
GROSS PROFIT	**6**	**9**	**51**	**28**	**89**	**109**	**149**	**193**	**208**	**185**	**233**	**186**
CHANGE (%)	6%	53%	448%	-46%	224%	22%	37%	30%	7%	-11%	26%	-20%
MARGIN	100%	100%	100%	100%	97%	95%	95%	96%	96%	95%	96%	98%
R&D	**-12**	**-16**	**-8**	**-8**	**-8**	**-8**	**-9**	**-9**	**-10**	**-10**	**-11**	**-11**
CHANGE (%)	12%	33%	-50%	0%	0%	5%	5%	5%	5%	5%	5%	5%
S,G&A	**-7**	**-7**	**-7**	**-7**	**-17**	**-17**	**-17**	**-18**	**-18**	**-18**	**-18**	**-11**
CHANGE (%)	0%	0%	0%	0%	131%	1%	0%	2%	2%	1%	1%	-42%
OPERATING EXPENSES	**-19**	**-23**	**-15**	**-15**	**-28**	**-31**	**-33**	**-36**	**-37**	**-38**	**-39**	**-25**
CHANGE (%)	7%	21%	-34%	0%	84%	10%	8%	7%	3%	3%	2%	-36%
AS % REVENUES	318%	251%	30%	56%	31%	27%	21%	18%	17%	20%	16%	13%
EBITDA	**-13**	**-14**	**36**	**12**	**64**	**83**	**123**	**167**	**180**	**157**	**204**	**165**
CHANGE (%)	8%	6%	-358%	-65%	420%	29%	48%	35%	8%	-13%	30%	-19%
MARGIN (%)	-215%	-149%	70%	45%	70%	73%	79%	82%	83%	81%	84%	87%
DEPRECIATION & AMORTIZATION	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
AS % REVENUES	3%	2%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%
EBIT	**-13**	**-14**	**36**	**12**	**64**	**83**	**123**	**166**	**180**	**156**	**204**	**164**
CHANGE (%)	8%	6%	-353%	-66%	428%	29%	48%	35%	8%	-13%	30%	-19%
MARGIN (%)	-218%	-151%	70%	44%	69%	73%	79%	82%	83%	80%	84%	87%
NET FINANCIAL INCOME/(EXPENSE)	**-4**	**-4**	**-2**	**-1**	**0**	**1**	**1**	**1**	**2**	**2**	**3**	**4**
PROFIT BEFORE TAXES	**-17**	**-18**	**34**	**12**	**64**	**84**	**124**	**168**	**182**	**159**	**207**	**168**
MARGIN	-287%	-196%	66%	42%	70%	73%	79%	83%	84%	82%	85%	89%
TAXES	**0**	**0**	**-2**	**-5**	**-13**	**-31**	**-44**	**-57**	**-62**	**-55**	**-70**	**-57**
TAX RATE (%)	0%	0%	7%	42%	19%	37%	35%	34%	34%	34%	34%	34%
NET PROFIT/LOSS	**-17**	**-18**	**31**	**7**	**52**	**53**	**80**	**110**	**120**	**104**	**137**	**111**
CHANGE (%)	17%	4%	-272%	-79%	669%	2%	52%	38%	9%	-13%	32%	-19%
MARGIN (%)	-287%	-196%	62%	24%	56%	46%	51%	55%	55%	54%	57%	59%
PROFIT/(LOSS) PER SHARE (IN EUR)	**-0.98**	**-1.02**	**1.76**	**0.38**	**2.91**	**2.95**	**4.49**	**6.18**	**6.72**	**5.84**	**7.69**	**6.22**
PROFIT/(LOSS) PER SHARE (IN CHF)	**-1.02**	**-0.99**	**1.64**	**0.35**	**2.71**	**2.75**	**4.19**	**5.76**	**6.26**	**5.44**	**7.17**	**5.79**

ESTIMATES AS OF 8 JANUARY 2024 SOURCE: VALUATIONLAB ESTIMATES

NOTE: At the end of FY 2022, Newron had a total of EUR 282 mn tax loss carryforwards, which the company can use on current and future profits.

Ratios & Balance Sheet

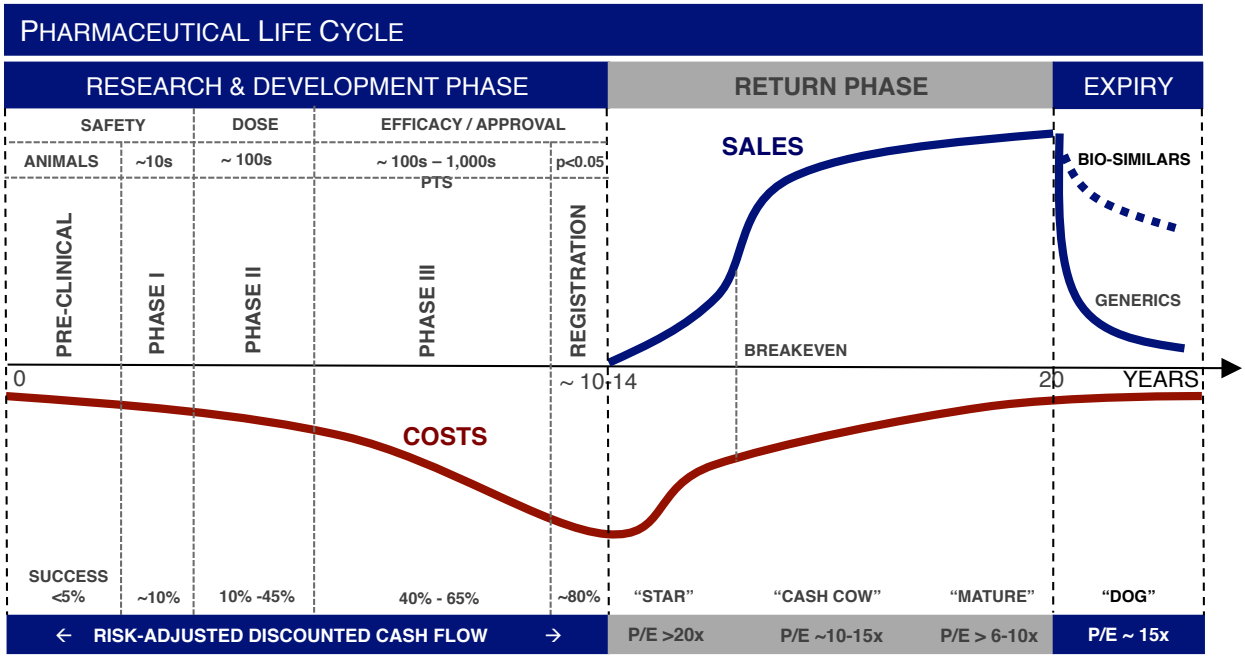
NEWRON PHARMACEUTICALS										SHARE PRICE (CHF)	7.16	
RATIOS	**2022**	**2023E**	**2024E**	**2025E**	**2026E**	**2027E**	**2028E**	**2029E**	**2030E**	**2031E**	**2032E**	**2033E**
P/E			**4.4x**	**20.3x**	**2.6x**	**2.6x**	**1.7x**	**1.2x**	**1.1x**	**1.3x**	**1.0x**	**1.2x**
P/S			**2.7x**	**5.0x**	**1.5x**	**1.2x**	**0.9x**	**0.7x**	**0.6x**	**0.7x**	**0.6x**	**0.7x**
P/NAV			**-151.3x**	**23.5x**	**2.4x**	**1.2x**	**0.7x**	**0.5x**	**0.3x**	**0.3x**	**0.2x**	**0.2x**
EV/EBITDA			**3.3x**	**9.7x**	**1.9x**	**1.4x**	**1.0x**	**0.7x**	**0.7x**	**0.8x**	**0.6x**	**0.7x**
PER SHARE DATA (CHF)	**2022**	**2023E**	**2024E**	**2025E**	**2026E**	**2027E**	**2028E**	**2029E**	**2030E**	**2031E**	**2032E**	**2033E**
EARNINGS	**-1.02**	**-0.99**	**1.64**	**0.35**	**2.71**	**2.75**	**4.19**	**5.76**	**6.26**	**5.44**	**7.17**	**5.79**
CHANGE (%)	11%	-3%	-265%	-79%	669%	2%	52%	38%	9%	-13%	32%	-19%
CASH	**1.33**	**0.67**	**1.62**	**2.18**	**5.50**	**10.30**	**17.21**	**26.42**	**36.36**	**45.12**	**56.39**	**65.67**
CHANGE (%)	-38%	-50%	142%	34%	153%	87%	67%	53%	38%	24%	25%	16%
DIVIDENDS	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
PAYOUT RATIO (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NET ASSET VALUE	**-0.82**	**-1.75**	**-0.05**	**0.31**	**3.01**	**5.76**	**9.95**	**15.71**	**21.97**	**27.41**	**34.57**	**40.37**
CHANGE (%)	-528%	114%	-97%	-745%	888%	91%	73%	58%	40%	25%	26%	17%
BALANCE SHEET (EUR MN)	**2022**	**2023E**	**2024E**	**2025E**	**2026E**	**2027E**	**2028E**	**2029E**	**2030E**	**2031E**	**2032E**	**2033E**
NET LIQUID FUNDS	**23**	**12**	**31**	**42**	**105**	**197**	**330**	**506**	**696**	**864**	**1,080**	**1,257**
TOTAL ASSETS	**37**	**27**	**45**	**56**	**120**	**212**	**344**	**520**	**711**	**878**	**1,094**	**1,272**
SHAREHOLDERS' EQUITY	**-14**	**-32**	**-1**	**6**	**58**	**110**	**190**	**301**	**421**	**525**	**662**	**773**
CHANGE (%)	-552%	130%	-97%	-745%	888%	91%	73%	58%	40%	25%	26%	17%
RETURN ON EQUITY (%)	125%	57%	-3467%	116%	90%	48%	42%	37%	29%	20%	21%	14%
FINANCIAL DEBT	**45**	**45**	**22**	**13**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
FINANCIAL DEBT AS % OF TOTAL ASSETS	121%	169%	49%	23%	4%	0%	0%	0%	0%	0%	0%	0%
EMPLOYEES	**23**	**23**	**23**	**24**	**24**	**25**	**25**	**26**	**26**	**27**	**27**	**28**
CHANGE (%)	0%	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
CASH FLOW STATEMENT (EUR MN)	**2022**	**2023E**	**2024E**	**2025E**	**2026E**	**2027E**	**2028E**	**2029E**	**2030E**	**2031E**	**2032E**	**2033E**
NET PROFIT / (LOSS) BEFORE TAX	**-17**	**-18**	**34**	**12**	**64**	**84**	**124**	**168**	**182**	**159**	**207**	**168**
DEPRECIATION & AMORTIZATION	0	0	0	0	0	0	0	0	0	0	0	0
OTHER NON-CASH ITEMS	4	6	6	6	6	6	6	6	6	6	6	6
CASH FLOW	**-13**	**-13**	**40**	**17**	**70**	**89**	**130**	**173**	**188**	**165**	**213**	**174**
NET INCREASE/(DECREASE) IN WORKING CAPITAL	2	2	2	2	2	3	3	3	3	3	3	3
OPERATING FREE CASH FLOW	**-11**	**-10**	**42**	**20**	**73**	**92**	**132**	**176**	**190**	**168**	**216**	**178**
NET CASH FLOWS FROM INVESTING ACTIVITIES	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
NET CASH USED IN OPERATING ACTIVITIES	**-11**	**-10**	**42**	**20**	**73**	**92**	**132**	**176**	**190**	**168**	**216**	**178**
NET CASH FLOWS FROM FINANCING ACTIVITIES	0	0	-23	-9	-9	0	0	0	0	0	0	0
NET INCREASE/(DECREASE) CASH & CASH EQUIVALENTS	**-12**	**-10**	**19**	**11**	**64**	**92**	**132**	**176**	**190**	**168**	**216**	**178**

ESTIMATES AS OF 8 JANUARY 2024 SOURCE: VALUATIONLAB ESTIMATES

NOTE: Newron's total available cash resources, including cash and cash equivalents of EUR 17.1 mn (30 June 2023), in addition to its royalty income from Xadago sales and Italian R&D tax credits, will fund its planned development programs and operations into Q3 2024.

APPENDIX

Pharmaceutical life cycle



SOURCE: VALUATIONLAB

To determine the value of a prescription (bio)pharmaceutical compound, it is critical to understand its life cycle. Fortunately, all compounds follow the same life cycle. The clock starts ticking after the compound is patented, providing 20 years of protection from generic competition. Market exclusivities can extend this protection period. The average Research & Development Phase takes 10-14 years, leading to an effective Return Phase of 6-10 years. The Development Phase has 3 distinct Phases, focused on safety (Phase I), dose (Phase II) and efficacy/clinical benefit (Phase III). The compound is filed for registration/approval at the FDA (US) or EMA (EU). The Return Phase is characterized by a star, cash cow, and mature phase. After patent expiry (or loss of market exclusivity) generic manufacturers may copycat the branded prescription drug, at significantly lower costs, leading to a sales and earnings implosion of the branded drug.

Success probabilities and royalties

In our risk-adjusted NPV calculations, we use standardized success probabilities based on historical clinical success rates. The success rate increases as the project progresses through development. Sales and earnings forecasts are based on the clinical and competitive profile of the compound. The more advanced the compound is, the more accurate the forecasts become as the target market can be defined. We conservatively exclude projects that lack Phase IIa proof-of-concept data in our valuations.

SUCCESS PROBABILITIES & ROYALTIES

DEVELOPMENT STAGE	AIM	WHAT / WHO	SUCCESS PROBABILITY (%)	COSTS (USD MN)	ROYALTIES (%)
PRE-CLINICAL	SAFETY & PHARMACOLOGY DATA	LAB TESTS / ANIMALS - NO HUMANS!	< 5	3	
PHASE I	SCREENING FOR SAFETY	HEALTHY VOLUNTEERS (10'S)	5-15	3	< 5
PHASE IIA	PROOF-OF-CONCEPT	PATIENTS WITH DISEASE (10'S)	10-20		
PHASE II	ESTABLISH THE TESTING PROTOCOL	PATIENTS WITH DISEASE (100'S)	15-35	5	5-15
PHASE IIB	OPTIMAL DOSAGE	PATIENTS WITH DISEASE (100'S)	20-45	5-10	
PHASE III	EVALUATE OVERALL BENEFIT/RISK	PATIENTS WITH DISEASE (1,000'S)	40-65	> 20-1,000	10-25
REGULATORY FILING	DETERMINE PHYSICIAN LABELING	CLINICAL BENEFIT ASSESSMENT	80-90		
APPROVAL	MARKETING AUTHORIZATION	PHYSICIANS FREE TO PRESCRIBE	100		15-30

SOURCE: VALUATIONLAB, TUFTS, FDA, EMA, CLINICALTRIALS.GOV

Important Research Disclosures

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Our financial analyses are based on the "Directives on the Independence of Financial Research" issued by the Swiss Bankers Association in January 2008.

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Speculative	less than 1 year cash and breakeven beyond 1 year
High Risk	profitable within 2 years and 1 approved product/key indication (patent expiry > 5 years)
Medium Risk	profitable and/or sales from at least 2 marketed products/key indications (patent expiry > 5 years)
Low Risk	profitable and sales from >2 marketed products/key indications (patent expiry > 5 years)

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