

# Cardiol Therapeutics Inc.

Canada, USA, Germany / Biotechnology  
 Nasdaq, US; TSX, Canada; FSE, Germany  
 Bloomberg: CRDL US  
 ISIN: CA14161Y2006

Pipeline news

**RATING** **BUY**  
**PRICE TARGET** **USD 3.60**  
 Return Potential 104.5%  
 Risk Rating High

## ORPHAN DRUG DESIGNATION & PHASE II ENROLMENT IN RP IN THE US COMPLETE

Cardiol Therapeutics (Cardiol) announced that the FDA has granted Orphan Drug Designation (ODD) in the US for its lead drug candidate CardiolRx™ for the treatment of pericarditis, including recurrent pericarditis (RP). Importantly, the FDA's decision was based on pre-clinical data as well as initial clinical data from the ongoing RP phase II study. This is excellent news, as in our view it indicates that the undisclosed data from the phase II study that was reported to the FDA is in all likelihood favourable. Based on this encouraging news, we see our positive assessment of CardiolRx™'s prospects in RP confirmed. The ODD will provide the company with attractive benefits, including seven years of market exclusivity. In addition, the company announced the completion of patient enrolment in the phase II RP study and confirmed that topline results are expected to be published in Q2 2024. We reiterate our Buy recommendation and price target of USD 3.60 (€3.30).

**CardiolRx™ obtained ODD in pericarditis – implications for the ongoing RP and acute myocarditis (AM) studies** Based on a combination of preclinical data and initial clinical data from the ongoing phase II open-label pilot US study (MAVERIC-Pilot) in RP in 25 patients, Cardiol applied for an ODD in RP. Encouragingly, the FDA granted an ODD for the broader indication of pericarditis. This is excellent news in four respects: 1) As noted above, we believe that the grant of the ODD is an indication that the initial phase II data provided to the FDA is in all likelihood favourable, thus increasing, in our view, the probability that the overall RP phase II study will deliver positive results; 2) ODD will offer seven years of market exclusivity, exemptions from certain FDA fees, protocol assistance, a potentially shorter waiting time for drug approval, and tax credits for qualified clinical trials; 3) the FDA's decision to grant ODD in pericarditis increases the chances of market expansion. Pericarditis has a broader patient population than RP. Based on statistics provided by the American Heart Association, ~160k patients p.a. suffer from acute pericarditis in the US and ~25% of them, or ~40k people, are affected by RP. (p.t.o.)

### FINANCIAL HISTORY & PROJECTIONS

	2020	2021	2022	2023E	2024E	2025E
Revenue (CAD m)	0.00	0.08	0.00	0.00	0.00	0.00
Y-o-y growth	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
EBIT (CAD m)	-20.69	-38.66	-41.34	-27.00	-24.00	-19.00
EBIT margin	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Net income (CAD m)	-20.64	-31.64	-30.93	-25.00	-23.55	-18.85
EPS (diluted) (CAD)	-0.69	-0.73	-0.49	-0.39	-0.35	-0.26
DPS (CAD)	0.00	0.00	0.00	0.00	0.00	0.00
FCF (CADm)	-9.17	-23.55	-27.30	-21.48	-19.10	-15.10
Net gearing	-105.7%	-110.0%	-113.9%	-118.0%	-138.7%	-157.6%
Liquid assets (CAD m)	14.03	83.90	59.47	37.93	18.78	13.62

### RISKS

Risks include, but are not limited to development, regulatory, competition and financial risks.

### COMPANY PROFILE

Founded in 2017, Cardiol Therapeutics Inc is a Canadian biotech company focused on the research and development of new drugs to treat heart diseases. The lead drug candidate, CardiolRx™ (cannabidiol) oral solution, is undergoing a US phase II multi-centre open-label pilot study in 25 patients with recurrent pericarditis and a multi-national phase II study in 100 patients with acute myocarditis.

### MARKET DATA

As of 26 Feb 2024  
 Closing Price USD 1.76  
 Shares outstanding 64.10m  
 Market Capitalisation USD 112.81m  
 52-week Range USD 0.45 / 1.76  
 Avg. Volume (12 Months) 200,167

Multiples	2022	2023E	2024E
P/E	n.a.	n.a.	n.a.
EV/Sales	n.a.	n.a.	n.a.
EV/EBIT	n.a.	n.a.	n.a.
Div. Yield	0.0%	0.0%	0.0%

### STOCK OVERVIEW



### COMPANY DATA

As of 30 Sep 2023  
 Liquid Assets CAD 40.54m  
 Current Assets CAD 42.45m  
 Intangible Assets CAD 0.23m  
 Total Assets CAD 43.05m  
 Current Liabilities CAD 8.03m  
 Shareholders' Equity CAD 34.87m

### SHAREHOLDERS

MMCAP International Inc 5.2%  
 Management and Directors 4.4%  
 Advisorshares Investments LLC 1.7%  
 Mirae Asset Global Investments Co Ltd 1.7%  
 Freefloat & others 86.9%



While we expect that Cardiol will conduct a phase III study in RP, and if successful obtain a registration in RP, because of the broader designation a potential strategic partner might find that a more attractive opportunity as it already has market exclusivity for the full indication. In addition, there is a chance that the product will benefit from off-the-label prescribing in pericarditis; and 4) As the underlying causes of RP and AM is inflammation, a positive result in the ongoing RP study increases the chances of obtaining a positive result in the ongoing international AM phase II study.

### Recruitment of the pilot phase II study in RP completed – topline results expected in Q2 2024

The company announced the completion of enrolment of the targeted 25 patients, and the countdown to the publication of the topline results of this study has begun. According to the study design, the assessment period for the primary endpoint of patient-reported pericarditis pain using an 11-point numeric rating scale (NRS) is 8 weeks. We therefore expect that the company will report positive topline data from the full study in RP as early as the second half of April 2024. Management has guided that topline data will be reported in Q2 2024. This could lead to the FDA giving an immediate go ahead for the start of the phase III study. Secondary endpoints of the phase II study include the NRS pain score after 26 weeks of treatment and changes in circulating levels of C-reactive protein, a relevant marker of inflammation (see RP study design in figure 2 overleaf). The study will also assess freedom from pericarditis recurrence. Assuming a successful phase III trial and approval of the drug candidate, we expect CardiolRx™ to achieve peak sales of >USD 400m five years after market launch.

## VALUATION MODEL

**Buy rating and price target confirmed** Following excellent news on the achievement of orphan drug designation for pericarditis and the completion of recruitment for CardiolRx™ in the ongoing pilot phase II study for RP, we see a positive outlook for the upcoming major milestone of topline data of this programme in the second half of April or early May. Our sum-of-the-parts valuation model still yields a price target for Cardiol of USD 3.60 (€3.30). We reiterate our Buy rating.

**Table 1: "Sum-of-the-parts" valuation model**

Compound	Project <sup>1)</sup>	Present Value	Patient Pop (K)	Treatment Cost (USD)	Market Size (USDm)	Market Share (%)	Peak Sales (USDm)	PACME Margin <sup>2)</sup> (%)	Discount Factor (%)	Market Exclusivity <sup>3)</sup> (years)	Time to Market (years)
CardiolRx™	RP - US	USD 171.2M	40K	52,000	2,080.0M	18%	474.3M	30%	17.0%	7	3
CardiolRx™	AM - US	USD 89.2M	54K	52,000	2,808.0M	18%	652.1M	20%	17.0%	7	5
CardiolRx™	AM - EU	USD 34.0M	72K	18,000	1,296.0M	18%	322.9M	20%	17.0%	7	5
<b>PACME PV</b>		<b>USD 294.4M</b>			<b>6,184.0M</b>		<b>1,449.3M</b>				
Costs PV <sup>4)</sup>		USD 63.6M									
<b>NPV</b>		<b>USD 230.8M</b>									
Milestones PV		USD 0.0M									
Net cash (proforma)		USD 43.1M									
Fair Value		USD 273.9M									
Share Count (proforma)		76,118K									
Price Target		USD 3.60									
Price Target		EUR 3.30	(based on EUR-USD exchange rate of 1.09)								

1) A project typically refers to a specific indication or, where necessary or relevant, a combination between indication and geographic market

2) PACME (Profit After Costs and Marketing Expenses) reflects the company's profit share on future revenues.

This share may be derived in the form of royalties (outsourced marketing/manufacturing) or operating EBITDA margin (in-house model), or some mix of both (depending on the specific parameters of partnership agreements)

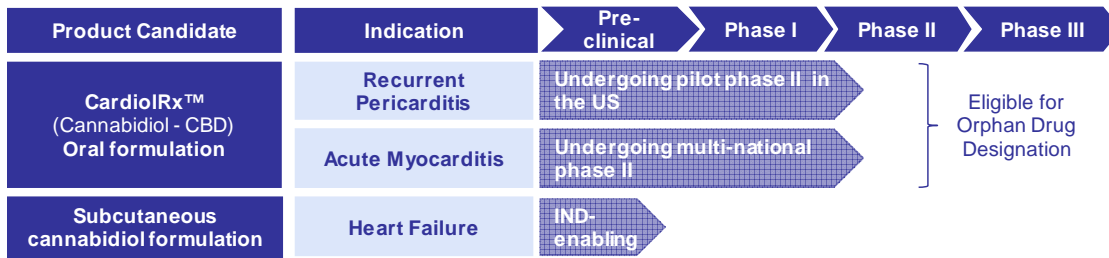
3) Remaining market exclusivity after the point of approval

4) Includes company-level R&D, G&A, Financing Costs and CapEx; COGS and S&M are factored into the PACME margin for each project



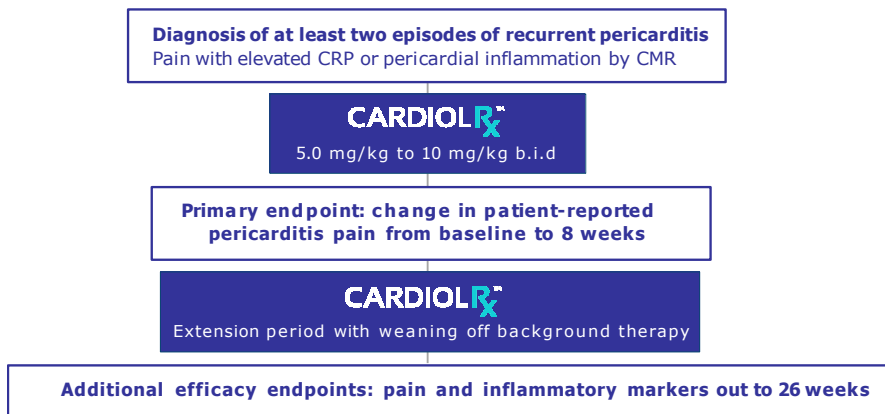
## CARDIOL'S R&D PIPELINE AND DESIGN OF ONGOING STUDIES

Figure 1: Snapshot of the R&D pipeline focusing on cardiac diseases



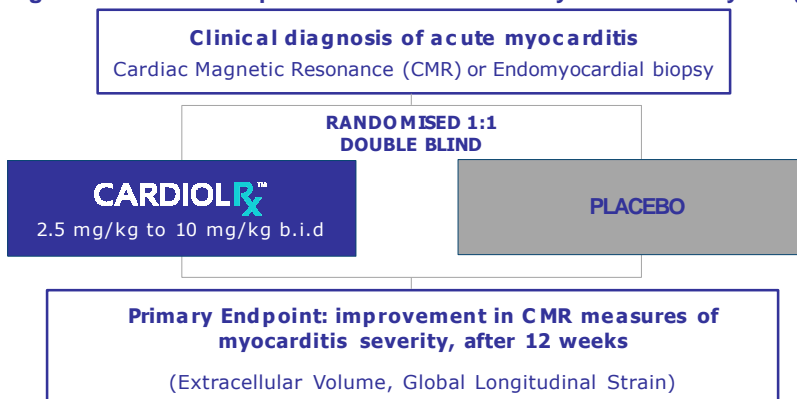
Source: First Berlin Equity Research, Cardiol Therapeutics Inc

Figure 2: Overview of the phase II MAVERIC-Pilot recurrent pericarditis study design



Source: First Berlin Equity Research, Cardiol Therapeutics Inc

Figure 3: CardiolRx™ phase II ARCHER acute myocarditis study design



Source: First Berlin Equity Research, Cardiol Therapeutics Inc



## INCOME STATEMENT

All figures in CAD '000	2020	2021	2022	2023E	2024E	2025E
<b>Revenue</b>	<b>0</b>	<b>79</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Cost of goods sold	0	0	0	0	0	0
<b>Gross profit</b>	<b>0</b>	<b>79</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
General & Administrative	-10,088	-27,873	-22,374	-16,000	-14,000	-11,000
Research & Development	-10,603	-10,870	-18,962	-11,000	-10,000	-8,000
<b>Total operating expenses (OPEX)</b>	<b>-20,690</b>	<b>-38,744</b>	<b>-41,336</b>	<b>-27,000</b>	<b>-24,000</b>	<b>-19,000</b>
<b>Operating income (EBIT)</b>	<b>-20,690</b>	<b>-38,664</b>	<b>-41,336</b>	<b>-27,000</b>	<b>-24,000</b>	<b>-19,000</b>
Net financial result	42	1,998	4,000	2,000	450	150
Non-operating income/expenses	7	5,029	6,406	0	0	0
<b>Pre-tax income (EBT)</b>	<b>-20,641</b>	<b>-31,638</b>	<b>-30,931</b>	<b>-25,000</b>	<b>-23,550</b>	<b>-18,850</b>
Income taxes	0	0	0	0	0	0
<b>Net income / loss</b>	<b>-20,641</b>	<b>-31,638</b>	<b>-30,931</b>	<b>-25,000</b>	<b>-23,550</b>	<b>-18,850</b>
<b>Diluted EPS (CAD)</b>	<b>-0.69</b>	<b>-0.73</b>	<b>-0.49</b>	<b>-0.39</b>	<b>-0.35</b>	<b>-0.26</b>
<b>Ratios</b>						
EBIT Margin on Revenue	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
EBITDA Margin on Revenue	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Net Margin on Revenue	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<b>Expenses as % of OPEX</b>						
Sales & Marketing	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
General & Administrative	48.8%	71.9%	54.1%	59.3%	58.3%	57.9%
Research & Development	51.2%	28.1%	45.9%	40.7%	41.7%	42.1%
<b>Y-Y Growth</b>						
Revenue	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Operating income	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Net income/ loss	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.



## BALANCE SHEET

All figures in CAD '000	2020	2021	2022	2023E	2024E	2025E
<b>Assets</b>						
<b>Current Assets, Total</b>	<b>14,950</b>	<b>87,140</b>	<b>61,438</b>	<b>39,302</b>	<b>20,049</b>	<b>14,692</b>
Cash and cash equivalents	14,025	83,899	59,470	37,935	18,782	13,619
Accounts receivables	220	407	480	460	450	420
Inventories	18	0	0	0	0	0
Other current assets	687	2,834	1,488	908	817	653
<b>Non-Current Assets, Total</b>	<b>943</b>	<b>736</b>	<b>591</b>	<b>437</b>	<b>311</b>	<b>220</b>
Property plant and equipment	479	356	296	227	185	179
Intangible assets	464	379	295	210	126	41
<b>Total Assets</b>	<b>15,893</b>	<b>87,876</b>	<b>62,029</b>	<b>39,740</b>	<b>20,359</b>	<b>14,912</b>
<b>Shareholders' Equity &amp; Debt</b>						
<b>Current Liabilities, Total</b>	<b>2,518</b>	<b>11,565</b>	<b>9,805</b>	<b>7,572</b>	<b>6,800</b>	<b>6,262</b>
Accounts payable	2,466	4,859	9,334	7,100	6,745	6,205
Derivative liabilities	0	6,661	420	420	0	0
Other current liabilities	52	45	50	52	55	57
<b>Longterm Liabilities, Total</b>	<b>105</b>	<b>73</b>	<b>22</b>	<b>18</b>	<b>14</b>	<b>11</b>
Other liabilities	105	73	22	18	14	11
<b>Shareholders Equity</b>	<b>13,270</b>	<b>76,238</b>	<b>52,202</b>	<b>32,150</b>	<b>13,546</b>	<b>8,639</b>
<b>Total Consolidated Equity and Debt</b>	<b>15,893</b>	<b>87,876</b>	<b>62,029</b>	<b>39,740</b>	<b>20,359</b>	<b>14,912</b>
<b>Ratios</b>						
Current ratio (x)	5.94	7.53	6.27	5.19	2.95	2.35
Quick ratio (x)	5.93	7.53	6.27	5.19	2.95	2.35
Net gearing	-105.7%	-110.0%	-113.9%	-118.0%	-138.7%	-157.6%
Book value per share (€)	0.44	1.76	0.84	0.50	0.20	0.12
Net debt	-14,025	-83,899	-59,470	-37,935	-18,782	-13,619
Equity ratio	83.5%	86.8%	84.2%	80.9%	66.5%	57.9%



## CASH FLOW STATEMENT

All figures in CAD '000	2020	2021	2022	2023E	2024E	2025E
<b>Net income</b>	<b>-20,641</b>	<b>-31,638</b>	<b>-30,931</b>	<b>-25,000</b>	<b>-23,550</b>	<b>-18,850</b>
Interest, net	-42	-1,998	-4,000	-2,000	-450	-150
Tax provision	0	0	0	0	0	0
Non-operating items	-7	-5,029	-6,406	0	0	0
<b>EBIT</b>	<b>-20,690</b>	<b>-38,664</b>	<b>-41,336</b>	<b>-27,000</b>	<b>-24,000</b>	<b>-19,000</b>
Depreciation and amortisation	230	220	220	213	207	201
<b>EBITDA</b>	<b>-20,461</b>	<b>-38,444</b>	<b>-41,116</b>	<b>-26,787</b>	<b>-23,793</b>	<b>-18,799</b>
Derivative liability	0	-4,916	-6,241	0	-420	0
Share & warrant based payments	2,910	12,694	6,894	4,000	4,000	3,000
Changes in working capital	8,316	77	5,748	-1,632	-252	-344
Cash interest net	42	1,998	4,000	2,000	450	150
Other adjustments	63	5,052	3,495	1,000	1,000	1,000
<b>Operating cash flow</b>	<b>-9,129</b>	<b>-23,540</b>	<b>-27,220</b>	<b>-21,419</b>	<b>-19,015</b>	<b>-14,993</b>
CapEx	-41	-13	-75	-60	-80	-110
<b>Free cash flow</b>	<b>-9,170</b>	<b>-23,553</b>	<b>-27,295</b>	<b>-21,479</b>	<b>-19,095</b>	<b>-15,103</b>
Other investments	0	0	0	0	0	0
<b>Cash flow from investing</b>	<b>-41</b>	<b>-13</b>	<b>-75</b>	<b>-60</b>	<b>-80</b>	<b>-110</b>
Debt Financing, net	0	0	0	0	0	0
Equity Financing, net	16,345	93,489	0	0	0	10,000
Other financing activities	-50	2,785	-54	-56	-58	-60
<b>Cash flow from financing</b>	<b>16,295</b>	<b>93,438</b>	<b>-54</b>	<b>-56</b>	<b>-58</b>	<b>9,940</b>
<b>Net cash flows</b>	<b>7,125</b>	<b>69,885</b>	<b>-27,349</b>	<b>-21,535</b>	<b>-19,153</b>	<b>-5,163</b>
Cash, start of the year	6,956	14,025	83,899	59,470	37,935	18,782
Impact of exchange rates on cash	-56	-11	2,920	0	0	0
<b>Cash, end of the year</b>	<b>14,025</b>	<b>83,899</b>	<b>59,470</b>	<b>37,935</b>	<b>18,782</b>	<b>13,619</b>

### Y-Y Growth

Operating Cashflow	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Free cashflow	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

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**ASSET VALUATION SYSTEM**

First Berlin's system for asset valuation is divided into an asset recommendation and a risk assessment.

**ASSET RECOMMENDATION**

The recommendations determined in accordance with the share price trend anticipated by First Berlin in the respectively indicated investment period are as follows:

Category		1	2
Current market capitalisation (in €)		0 - 2 billion	> 2 billion
Strong Buy <sup>1</sup>	An expected favourable price trend of:	> 50%	> 30%
Buy	An expected favourable price trend of:	> 25%	> 15%
Add	An expected favourable price trend of:	0% to 25%	0% to 15%
Reduce	An expected negative price trend of:	0% to -15%	0% to -10%
Sell	An expected negative price trend of:	< -15%	< -10%

<sup>1</sup> The expected price trend is in combination with sizable confidence in the quality and forecast security of management.

Our recommendation system places each company into one of two market capitalisation categories. Category 1 companies have a market capitalisation of €0 – €2 billion, and Category 2 companies have a market capitalisation of > €2 billion. The expected return thresholds underlying our recommendation system are lower for Category 2 companies than for Category 1 companies. This reflects the generally lower level of risk associated with higher market capitalisation companies.

**RISK ASSESSMENT**

The First Berlin categories for risk assessment are low, average, high and speculative. They are determined by ten factors: Corporate governance, quality of earnings, management strength, balance sheet and financial risk, competitive position, standard of financial disclosure, regulatory and political uncertainty, strength of brandname, market capitalisation and free float. These risk factors are incorporated into the First Berlin valuation models and are thus included in the target prices. First Berlin customers may request the models.

**RECOMMENDATION & PRICE TARGET HISTORY**

Report No.:	Date of publication	Previous day closing price	Recommendation	Price target
Initial Report	11 April 2023	USD0.51	Buy	USD3.60
2	24 May 2023	USD0.68	Buy	USD3.60
3	30 August 2023	USD0.98	Buy	USD3.60
4	19 January 2024	USD1.06	Buy	USD3.60
5	Today	USD1.76	Buy	USD3.60

**INVESTMENT HORIZON**

Unless otherwise stated in the financial analysis, the ratings refer to an investment period of twelve months.

**UPDATES**

At the time of publication of this financial analysis it is not certain whether, when and on what occasion an update will be provided. In general First Berlin strives to review the financial analysis for its topicality and, if required, to update it in a very timely manner in connection with the reporting obligations of the analysed company or on the occasion of ad hoc notifications.

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**Legally required information regarding**

- key sources of information in the preparation of this research report
- valuation methods and principles
- sensitivity of valuation parameters

can be accessed through the following internet link: <https://firstberlin.com/disclaimer-english-link/>

**SUPERVISORY AUTHORITY: Bundesanstalt für Finanzdienstleistungsaufsicht (German Federal Financial Supervisory Authority) [BaFin], Graurheindorferstraße 108, 53117 Bonn and Marie-Curie-Straße 24-28, 60439 Frankfurt am Main**

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