ASX Announcement

28 April 2022

Quarterly Activities Report & Appendix 4C

- **Dosing commenced in MCRI collaboration animal study**
- **Long COVID-19 strategic collaboration with US Experts**
- **Plasma protein data supports bone density improvement in DMD**

Antisense Therapeutics Limited (Antisense or Company) is pleased to provide its Appendix 4C and quarterly update for the period ended 31 March 2022.

Dosing commenced in a first animal model of an inflammatory muscle disease

During the quarter dosing has commenced in an inflammatory muscle disease animal model under the previously advised collaborative research agreement with the Murdoch Children's Research Institute's (MCRI) to investigate the therapeutic potential of ATL1102 in a new muscle disease, where today there are no effective treatments. The new inflammatory muscle disease indication being studied is a rare muscle disease that effects both children and adults with no effective marketed therapy, no disease modifying agents in advanced development and where ATL1102's observed immunomodulatory activity would be suggestive of potential treatment benefits.

Dosing has now commenced in the first phase (acute setting) of this development program where the antisense inhibition of CD49d target effects will be assessed. All animals successfully received their first dose of the antisense CD49d drug or control (oligonucleotide mismatch or saline) treatment. **Results from this first phase of the program are anticipated in 2Q'CY22.** The second phase (chronic setting) of the program will look to study the drug effects over a longer dosing period in the animals where the antisense inhibition of CD49d target effects in reducing muscle damage, as determined by fat content in the muscle, will be assessed. Preventing increase in fat levels in the muscle is a key clinical goal for patients with this inflammatory muscle disease. Notably ANP has previously reported ATL1102's positive effect in stabilizing fat levels in the muscle of DMD patients. **Data from the second chronic dosing phase is expected 2H'CY22**. Expanding ATL1102's application into this new indication would allow ANP to leverage established core competencies (for example rare disease experience, scientific partnerships and scientific collaborations e.g. MCRI, KOL's etc.) and the extensive non-clinical and clinical data generated on ATL1102 to deepen the Company's product pipeline with the potential for ANP to move rapidly into the clinic based on positive animal data or out-license.

The collaboration with the MCRI will also assess the potential of antisense inhibition of CD49d effects in the DMD mdx model in combination with a dystrophin restoration drug to improve therapeutic outcomes beyond that achieved by the single agent alone. **This study is on track to commence 2Q'CY22 with results due Q3'CY22**. Sales of the dystrophin restoration drugs in the US in 2021 were in excess of US$700m.[1]

Long COVID-19 strategic collaboration with US Experts

In January 2022 Antisense Therapeutics commenced a collaboration to study the neurological aspects of Long COVID-19 (Long Neuro COVID-19) with US based researchers led by Dr Igor Koralnik at the Northwestern Medicine Neuro-COVID clinic in Chicago, USA. Dr Koralnik is a global leader in the field, having treated over 1,000 patients with Long COVID-19 and having published on the subject matter in peer review journals. Under the collaboration, Dr Koralnik will provide existing blood samples, collected from previously studied Long COVID-19 patients including those with neurological symptoms where

blood immune cell changes were observed, to generate new data on up to 7,000 protein changes in these blood samples utilising a large-scale protein analysis known as proteomics.

Of the first 80 million people in the US diagnosed as infected and surviving COVID-19, approximately 30% of hospitalized patients and 45% of non-hospitalized patients[2] have developed some manifestation of Long COVID-19 syndrome which suggests more than 24 million people, to some extent, afflicted by the condition. According to the US Centre for Disease Control and Prevention "Post-COVID conditions are associated with a spectrum of physical, social, and psychological consequences, as well as functional limitations that can present substantial challenges to patient wellness and quality of life".[3]

During the quarter the retained blood samples had been shipped to an industry leading proteomics group Somalogic in Boulder Colorado USA and tested using their SomaScan® assay. The data is being analyzed to identify any proteins significantly affected in the blood of Long Neuro COVID-19 patients compared to convalescent Long COVID-19 patients with no persistent symptoms and compared to healthy subjects in order to identify the proteins that are modulated in Long Neuro COVID-19 disease pathology and to assess if it is potentially amenable to treatment, including with ATL1102. Being able to access these existing clinical samples and test using the SomaScan® assay avoids the time and costs of undertaking a prospective experimental study to collect such samples and enables ANP to be the first to generate the broadest search of plasma proteins conducted in this disease and do so in a most cost-effective manner.

The Company is looking to capitalise on its deep understanding and experience in inflammatory and immune disease and the power of Somalogic's large scale proteomics platform testing to help shed light on Long Neuro COVID- 19. This is the first study of its kind in the world in characterizing 7,000 blood plasma changes in Long Neuro COVID-19 patients. **The first results from the testing of Long Neuro COVID-19 patient samples are anticipated in mid-2022**.

New plasma protein data supports bone density improvement in DMD

In March 2022 the Company presented new plasma protein data from the Phase II trial of ATL1102 in Duchenne Muscular Dystrophy (DMD) at the Muscular Dystrophy Association Clinical & Scientific Conference showing statistically significant mean increases in plasma basic metabolic panel (BMP) BMP-5 and BMP-6 (with a role in cartilage and bone formation) to external healthy adult control levels that are supportive of ATL1102's potential to promote bone regeneration and improve bone density in DMD. This new proteomics data compliments previously presented data on ATL1102's unique and highly relevant mechanism as a potential DMD treatment.

Statistically significant mean increases in BMP-5 (46.2%) and BMP-6 (34.4%) were observed at 24 weeks compared to baseline levels (FDR p-value <0.0005). When compared to an external healthy adult proteomics dataset used as a control, the baseline BMP-5 and BMP-6 levels of patients in the Phase II study were below average with the levels of each protein increasing to near the external healthy adult control mean by the end of the 24 week ATL1102 dosing period. BMP-5 and BMP-6, are both members of the TGF-beta superfamily of proteins and both play a role in cartilage and bone formation. ATL1102's effect in increasing blood levels of BMP-5 and BMP-6 to healthy controls suggests the potential for ATL1102 to improve bone density in DMD. Notably it has been reported that higher serum BMP-6 levels are associated with improved elbow flexion in patients with DMD, which appears to correlate with the positive effects seen on elbow function as assessed in the ATL1102 Phase II trial. BMP-5 and BMP-6 levels are reduced with use of corticosteroid (CS), and the prior administration of CS appears to have reduced baseline levels to below normal in the non-ambulant DMD boys in the Phase II trial. Patients with DMD have an increased risk of bone fractures due to bone fragility through progressive muscle weakness affecting bone strength. Prolonged corticosteroid use also reduces bone density and significantly increases risk of bone fractures (Ward et al 2018).

In addition to previously reported reduction of Thrombospondin-1 (TSP-1) and increases in Latent TGF beta-binding protein 4 (LTBP4) levels, two proteins that modify the rate of loss of ambulation in DMD

related to blocking TGF-beta mediated fibrosis, and increase CXCL16 which can promote muscle regeneration, this new plasma BMP-5 and BMP-6 data adds further compelling evidence of ATL1102's unique and highly relevant mechanism of action in its application as a potential DMD treatment.

Ongoing engagement with DMD community, investors and pharmaceutical companies

The Company continued its communication and active engagement with key opinion leaders, potential collaborators, investors and commercial partners as a key operational priority. During the quarter the Company presented and participated at the following events:

- Duchenne Parent Project Online XIX International Conference – Italy, 17-20 February 2022
- Muscular Dystrophy Association (MDA) Clinical & Scientific Conference – US, 13-15 March 2022
- Edison Group appointed for US & UK Investor Relations and Media
- US Virtual Investor Roadshows – March 2022

Material Events after the reporting date

On 12 April 2002 the Company lodged a prospectus in relation to a 1 for 20 Bonus Option offer to eligible shareholders for nil consideration. The announcement of the Bonus Offer also included an update on the US FDA's feedback on design of ATL1102 toxicology study and progress on the ATL1102 in DMD Phase IIb/III trial in Europe. https://www.antisense.com.au/wp-content/uploads/2022/04/ASX-22_12-April_Bonus-Option_Final-V2.1.pdf

The Bonus Options will be allotted to all eligible shareholders on 28th April and holding statements mailed out on 29th April.

Cash Flow

As at 31 March 2022 the Company reported cash of $21.7 million.

The Company continues to efficiently manage expenditure planned for continuation of the regulatory interactions with EMA and US FDA, preparations for the conduct of Phase IIb clinical trial of ATL1102 in DMD in Europe as well as advancement of potential new indications for ATL1102. During the quarter the net expenditure incurred on those activities amounted to $1.08 million.

During the quarter the Company made payments to related parties of the entity and their associates as disclosed in Item 6 of the Appendix 4C amounting to $159,410. The payments related to salaries, directors' fees and consulting fees on normal commercial terms.

This announcement has been authorised for release by the Board.

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1. Sarepta Therapeutics Fourth Quarter & Full Year 2021 Financial Results & Recent Corporate Development https://investorrelations.sarepta.com/news-releases/news-release-details/sarepta-therapeutics-announces-fourth-quarter-and-full-year-2021
2. Estiri H et al "Evolving phenotypes of non-hospitalized patients that indicated long COVID". BMC Medicine (2021) 19: 249 https://doi.org/10.1186/s12916-021-02115-0
3. https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-care/post-covid-clinical-eval.html

Appendix 4C

Quarterly cash flow report for entities subject to Listing Rule 4.7B

Name of entity	
Antisense Therapeutics Limited	
ABN	**Quarter ended ("current quarter")**
41 095 060 745	31 March 2022

Consolidated statement of cash flows		**Current quarter $A'000**	**Year to date (09 months) $A'000**
1.	**Cash flows from operating activities**		
1.1	Receipts from customers	-	-
1.2	Payments for		
	(a) research and development **	(1,082)	(2,884)
	(b) product manufacturing and operating costs	-	-
	(c) advertising and marketing	(60)	(185)
	(d) leased assets	-	-
	(e) staff costs	(368)	(1,227)
	(f) administration and corporate costs	(316)	(1,153)
1.3	Dividends received (see note 3)	-	-
1.4	Interest received	8	9
1.5	Interest and other costs of finance paid	-	-
1.6	Income taxes paid	-	-
1.7	Government grants and tax incentives	-	-
1.8	Other (provide details if material)	-	-
1.9	**Net cash from / (used in) operating activities**	**(1,818)**	**(5,440)**

** Includes ATL1102 drug compound manufacturing costs

2.	**Cash flows from investing activities**		
2.1	Payments to acquire or for:		
	(a) entities	-	-
	(b) businesses	-	-
	(c) property, plant and equipment	-	-
	(d) investments	-	-
	(e) intellectual property	-	-
	(f) other non-current assets	-	-

Consolidated statement of cash flows		Current quarter $A'000	Year to date (09 months) $A'000
2.2	Proceeds from disposal of:		
	(a) entities	-	-
	(b) businesses	-	-
	(c) property, plant and equipment	-	-
	(d) investments	-	-
	(e) intellectual property	-	-
	(f) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other (provide details if material)	-	-
2.6	**Net cash from / (used in) investing activities**	**-**	**-**

3.	**Cash flows from financing activities**		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	-	22,587
3.2	Proceeds from issue of convertible debt securities	-	-
3.3	Proceeds from exercise of options	-	-
3.4	Transaction costs related to issues of equity securities or convertible debt securities	-	(1,502)
3.5	Proceeds from borrowings	-	-
3.6	Repayment of borrowings	-	-
3.7	Transaction costs related to loans and borrowings	-	-
3.8	Dividends paid	-	-
3.9	Other (provide details if material)	-	-
3.10	**Net cash from / (used in) financing activities**	-	21,085

4.	**Net increase / (decrease) in cash and cash equivalents for the period**		
4.1	Cash and cash equivalents at beginning of period	23,483	6,020
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(1,818)	(5,440)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	-	-

Consolidated statement of cash flows		Current quarter $A'000	Year to date (09 months) $A'000
4.4	Net cash from / (used in) financing activities (item 3.10 above)	-	21,085
4.5	Effect of movement in exchange rates on cash held	-	-
4.6	**Cash and cash equivalents at end of period**	**21,665**	**21,665**

5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter $A'000	Previous quarter $A'000
5.1	Bank balances	3,256	5,082
5.2	Call deposits	18,409	18,401
5.3	Bank overdrafts		-
5.4	Other (provide details)		-
5.5	**Cash and cash equivalents at end of quarter (should equal item 4.6 above)**	**21,665**	**23,483**

6.	Payments to related parties of the entity and their associates	Current quarter $A'000
6.1	Aggregate amount of payments to related parties and their associates included in item 1	159
6.2	Aggregate amount of payments to related parties and their associates included in item 2	-

Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments.

7.	**Financing facilities** *Note: the term "facility' includes all forms of financing arrangements available to the entity.* *Add notes as necessary for an understanding of the sources of finance available to the entity.*	**Total facility amount at quarter end $A'000**	**Amount drawn at quarter end $A'000**
7.1	Loan facilities	-	-
7.2	Credit standby arrangements	-	-
7.3	Other (please specify)	-	-
7.4	**Total financing facilities**	-	-

7.5	**Unused financing facilities available at quarter end**	-

7.6 Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well.

8.	**Estimated cash available for future operating activities**	**$A'000**
8.1	Net cash from / (used in) operating activities (item 1.9)	(1,818)
8.2	Cash and cash equivalents at quarter end (item 4.6)	21,665
8.3	Unused finance facilities available at quarter end (item 7.5)	-
8.4	Total available funding (item 8.2 + item 8.3)	21,665
8.5	**Estimated quarters of funding available (item 8.4 divided by item 8.1)**	12

Note: if the entity has reported positive net operating cash flows in item 1.9, answer item 8.5 as "N/A". Otherwise, a figure for the estimated quarters of funding available must be included in item 8.5.

8.6 If item 8.5 is less than 2 quarters, please provide answers to the following questions:

8.6.1 Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?

Answer:

8.6.2 Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?

Answer:

8.6.3 Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?

Answer:

Note: where item 8.5 is less than 2 quarters, all of questions 8.6.1, 8.6.2 and 8.6.3 above must be answered.

Compliance statement

1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.

2 This statement gives a true and fair view of the matters disclosed.

Date: 28 April 2022.....

Authorised by: By the Board .....
(Name of body or officer authorising release – see note 4)

Notes

1. This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.

2. If this quarterly cash flow report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, *AASB 107: Statement of Cash Flows* apply to this report. If this quarterly cash flow report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standard applies to this report.

3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.

4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [*name of board committee – eg Audit and Risk Committee*]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".

5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's *Corporate Governance Principles and Recommendations*, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.