ASX Announcement

28 August 2023

Antisense Therapeutics Releases Corporate Presentation

Antisense Therapeutics Limited [ASX:ANP | US OTC:ATHJY | FSE:AWY], a biotechnology company focused on the development of novel therapies for rare diseases, is pleased to provide, for the information of shareholders and investors, an updated corporate presentation covering the Company's pipeline and key activities.

The presentation is intended to be used in various upcoming investor roadshows and shareholder meetings.

~ ENDS ~

This announcement has been authorised for release by the Board.

About Antisense Therapeutics Limited [ASX: ANP | US OTC: ATHJY | FSE: AWY] is a publicly listed biotechnology company developing and commercializing antisense pharmaceuticals for rare diseases with significant unmet medical need. The company's lead program is ATL1102, an antisense inhibitor of the CD49d receptor, which is currently the subject of an ongoing international Phase IIb trial for non-ambulant subjects with Duchenne Muscular Dystrophy. The drug previously reported highly promising results from an exploratory Phase II trial in non-ambulant subjects with DMD.

For more information, please contact info@antisense.com.au

antisense THERAPEUTICS

Developing High Impact Therapies for Orphan Diseases

Corporate Overview

August 2023

Forward-Looking Statements

This presentation contains **forward-looking statements** within the meaning of the safe-harbor provisions of the Private Securities Litigation Reform Act of 1995. These statements do not relate strictly to historical or current facts and may be accompanied by words such as ‘could,’ ‘would,’ ‘may,’ ‘potentially,’ ‘suggest,’ ‘believes,’ ‘expects,’ ‘should,’ ‘intends,’ ‘plans,’ ‘forecasts,’ and similar words or expressions.

Such statements involve substantial risks and uncertainties, not all of which may be known at the time. All statements contained in this presentation, other than statements of historical fact, including without limitation statements regarding our strategy, research and development plans, collaborations, future operations, future financial position, future revenues, projected costs, pricing, prospects, plans, and objectives of management, are forward-looking statements. Not all forward-looking statements in this presentation are explicitly identified as such.

The Company does not warrant any of the forward-looking statements in this presentation, and investors are advised to interpret such statements in the context of other available sources of information and with the assistance of expert advisors as appropriate.

Many factors could cause the actual results of the Company to differ materially from the results expressed or implied herein, and you should not place undue reliance on the forward-looking statements. Drug development is inherently risky, and only a small proportion of research and development programs lead to a marketed product. Factors which could change the Company’s expected outcomes include, without limitation, our ability to: advance the development of our programs, and to do so within any timelines that may be indicated herein; the safety and efficacy of our drug development candidates; our ability to replicate experimental data; the ongoing validity of patents covering our drug development candidates, and our freedom to operate under third party intellectual property; our ability to obtain necessary regulatory approvals; our ability to enter into and maintain partnerships, collaborations, and other business relationships necessary to the progression of our drug development candidates; changes in the competitive landscape pertaining to our drug development candidates; the timely availability of necessary capital to pursue our business objectives; changes in the public policy environment in one or more countries in which we operate or may seek to operate which disfavour our business; our ability to attract and retain qualified personnel; changes from anticipated levels of customer acceptance of existing and new products and services; and other factors, including the COVID-19 pandemic and the conflict in Ukraine.

Although the Company believes that the expectations reflected in such forward-looking statements are reasonable, and although they reflect our current views as at the date of this presentation, there can therefore be no assurance that such expectations will prove to be correct. The Company has no obligation as a result of this presentation to pursue any specific strategy or plan outlined herein, or to deliver any specific outcome that may be implied or inferred.

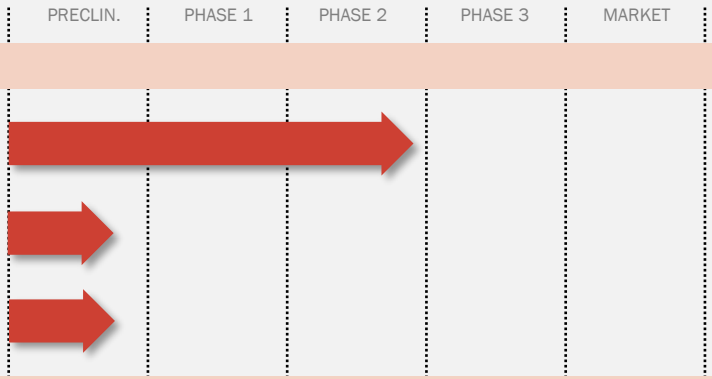
Any forward-looking statements contained in this presentation speak only as of the date this presentation is made, and we expressly disclaim any obligation to update any forward-looking statements, whether because of new information, future events or otherwise, except as may be required by law.

Antisense Therapeutics (ASX: ANP) is a late-clinical stage biotech company, focused on development of novel high-value therapies for orphan diseases

- Lead program is **ATL1102**, an antisense oligonucleotide treatment for **Duchenne muscular dystrophy (DMD)** and other diseases
  - International double-blind, placebo-controlled phase IIb trial ongoing
  - Positive clinical data from prior single-arm phase IIa study
  - Well-validated technology with multiple FDA approved therapies in various conditions
- **ATL1102 is a late-stage asset with substantial commercial opportunity**
  - Approximately 300,000 DMD patients worldwide
  - Existing therapies priced up to US$ 300K per treatment year; total market estimated at ~US$ 4B per annum; ~US$ 10B by 2030
  - ATL1102 potentially applicable to almost all DMD patients, not just those with specific genetic mutations ('mutation agnostic')
  - Potential applications for ATL1102 in other disease areas
- **Antisense enjoys strong corporate fundamentals**
  - Highly-experienced Board and management team
  - Recent oversubscribed institutional financing of $8.35M, plus Share Purchase Plan proceeds of $3.26M, leaves the company well funded for ongoing operations
  - Lean, virtual operating model

Antisense's pipeline comprises potential first-in-class assets for genetic diseases with high unmet clinical need

ATL1102
Antisense oligonucleotide targeting CD49d



Muscular Dystrophies

Duchenne Muscular Dystrophy (monotherapy) *Initial focus on non-ambulant boys*	*lead investigator:* Professor Thomas Voit, UCL Biomedical Research Centre, UK	*Initial Data* 2H CY2024
Duchenne Muscular Dystrophy (combination) *Potential use in ambulant boys*		*Initial Data* 2H CY2023
Limb Girdle Muscular Dystrophy R2 *Rare form of muscular dystrophy affecting adults*	*collaboration with:* murdoch children's research institute; JAIN FOUNDATION	*Initial Data* 2H CY2023

Other Indications

Multiple Sclerosis *Degenerative neurological disorder*		*Under Strategic Review* CY2024
Undisclosed Indications *Opportunities in other inflammatory diseases*		*Under Strategic Review* CY2024

Atesidorsen (ATL1103)
Antisense oligonucleotide targeting growth hormone receptor (GHr)

Acromegaly *Growth disorder originating in pituitary gland*		*Under Strategic Review* CY2024

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Duchenne muscular dystrophy (DMD) is an incurable genetic condition that affects approximately 300,000 children and young adults worldwide

1. Inherited genetic abnormality renders patient unable to produce normal **dystrophin** protein in muscle

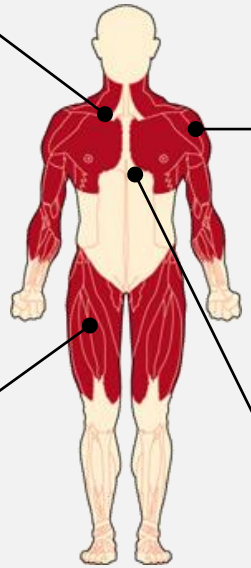
Gene is usually linked to X-chromosome, so MD is vastly more common in boys

2. Ineffective dystrophin protein causes chronic inflammation and damage to muscle tissue

The pathology of MD is as much about inflammation as about dysfunctional dystrophin

3. Muscles in shoulders and legs are initially most affected, leaving patient eventually wheelchair-bound

Many tools to assess MD rely on strength and function in upper and lower limbs



4. More long-term, respiratory muscles and heart are affected, usually leading to death in third decade

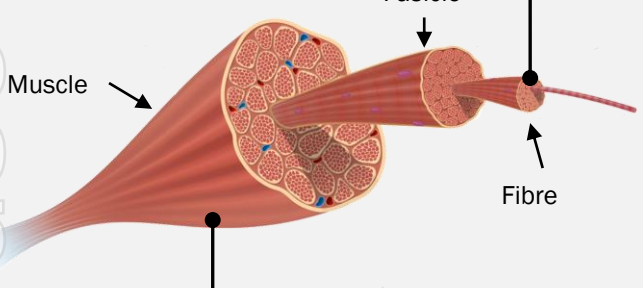
Treatment of MD must ultimately serve to mitigate the long-term damage to muscle tissue

Duchenne muscular dystrophy (DMD) represents **~50%** of MD cases	Incidence is approximately **6 in 100,000 births**	DMD also associated with cognitive dysfunction, brittle bones, and other degenerative effects
Usually diagnosed by **Age 5**	Typically wheelchair-bound by **Age 12**	Life expectancy **20s**

There are two fundamental approaches to the pharmacological treatment of DMD: (1) target the underlying genetic abnormality, and (2) target its effects

1

Target the underlying genetic abnormality to restore normal dystrophin production



2

Target the inflammation to reduce muscle damage from abnormal dystrophin

- Most therapies are only applicable to a small proportion of patients
- Some uncertainty around degree of clinical benefit

EXONDYS 51 (eteplirsen) Injection

AMONDYS 45 (casimersen) Injection

Viltepso (viltolarsen) injection

VYONDYS 53 (golodirsen) Injection

translarna (ataluren)

Standard of care is primarily corticosteroids, but is evolving to include combination treatment with both dystrophin-restoration therapies and anti-inflammatory therapies, including novel, non-steroid anti-inflammatory therapies

- Some side effects with older therapies such as prednisone
- Steroids are less effective in patients with high CD49d expression
- Applicable to most or all patients

PREDNISONE

Emflaza (deflazacort) 6 mg | 18 mg | 30 mg | 36 mg tablets 22.75 mg/mL oral suspension

ATL1102

Corticosteroid therapies

Novel non-steroid therapy

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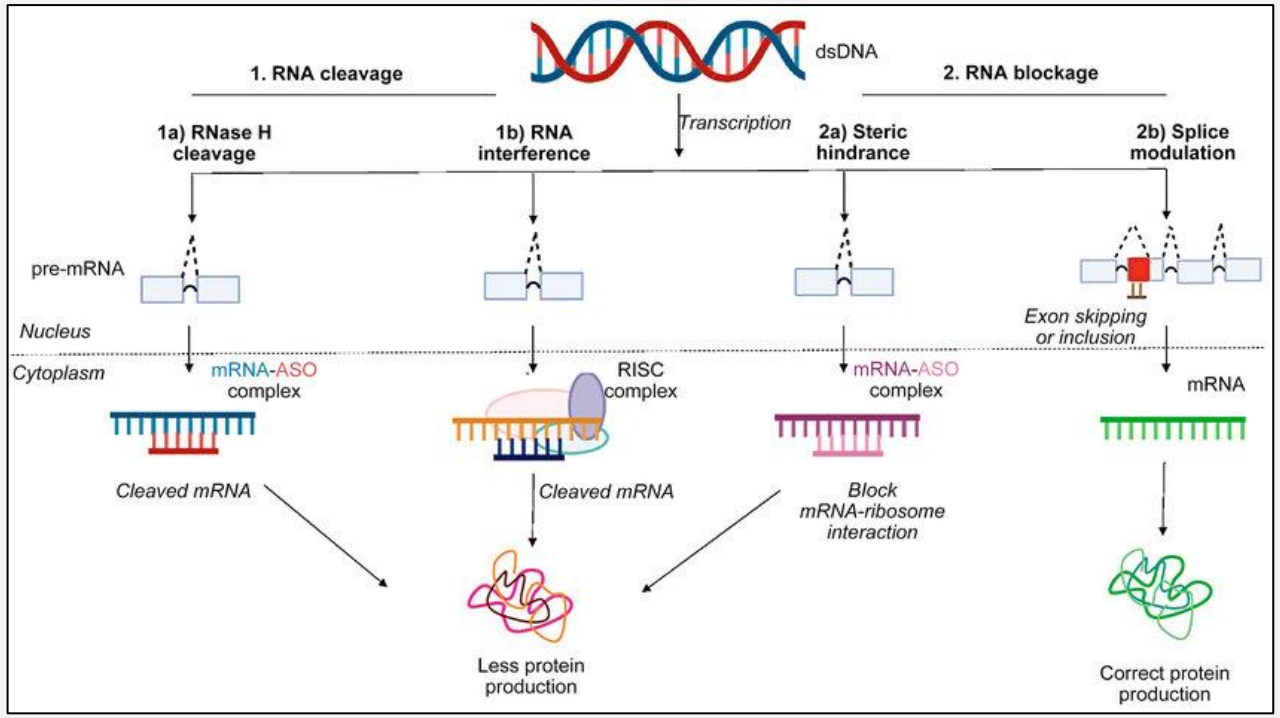
ATL1102's mechanism of action is well validated and clearly understood, with nine FDA-approved antisense oligonucleotide therapies already available to patients

1. Ordinarily, the genetic code in a patient's DNA is transcribed to RNA, which is used to direct synthesis of proteins. Aberrant proteins (e.g. dystrophin in DMD) cause disease.

2. Antisense oligonucleotides (ASOs) are short strands of genetic material (DNA or RNA) which interfere with transcription, or with the translation of RNA to protein, or work to correct protein production, via various mechanisms (shown right).

3. ATL1102 is an ASO which targets the production of CD49d, a protein involved in inflammation. By blocking synthesis of CD49d, ATL1102 has an anti-inflammatory action, which reduces chronic muscle tissue damage associated with DMD.



FDA-Approved Antisense Therapies

EXONDYS 51 (eteplirsen) Injection
VYONDYS 53 (golodirsen) Injection
AMONDYS 45 (casimersen) Injection
Viltepso (viltolarsen) injection
Tegsedi (inotersen)
QALSODY (tofersen)
SPINRAZA (nusinersen)
KYNAMRO (mipomersen sodium) injection
waylivra (volanesorsen)

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ATL1102 has shown compelling evidence of clinical efficacy across multiple validated endpoints in a phase IIa pilot study of 9 non-ambulant boys

Key Study Parameters
Population
Non-ambulant boys with confirmed Duchenne muscular dystrophy, aged 10-18
Sample Size
n = 9
Intervention
ATL1102, 25mg weekly via sc injection for 24 weeks
Primary Endpoint
Safety and tolerability
Secondary Endpoints
Lymphocyte count Upper limb function Upper limb strength Forearm muscle MRI
Location and Timing
Melbourne, Australia 2018 - 2020

Study Results (Efficacy) [at 6 months]

Endpoint	Description	ATL1102 Result	Historical Comparator
PUL2.0	*Performance of Upper Limb (PUL2.0) assesses the function of upper body muscles in 3 dimensions*	↑ 0.9 (-1.33 – 3.11)	↓ 2.0 (-2.95 – -1.05)
MyoGrip (dominant hand)	*MyoGrip assesses the clamping force of the fingers*	↑ 0.2 kg (-0.25 – 0.67)	↓ 0.5 kg (-1.01 – 0.00)
MyoPinch (dominant hand)	*MyoPinch assesses the pinch strength between thumb and forefinger*	→ 0.0 kg (-0.18 – 0.19)	↓ 0.4 (-0.53 – -0.22)
MoviPlate (dominant hand)	*MoviPlate assesses the fatigability of forearm muscles but is of uncertain significance in DMD*	↑ 1.9 (-6.08 – 9.85)	↑ 4.7 (2.01 – 7.40)
MRI - total lean muscle area	*Magnetic Resonance Imaging (MRI) is used to assess the amount of fat and lean muscle mass in the forearm*	↑ 13.9 mm^2 (-72.6 – 100.4)	↓ 32.1 mm^2 (-102.6 – 38.1)
Lymphocyte Counts	*Lymphocyte counts measure the ability of ATL1102 to modulate the immune system and reduce inflammation*	↓ 0.28 x 10^9 / L (-1.10 – 0.55)	↑ 0.47 x10^9 / L

Study Results (Safety)

Side effects of ATL1102 limited to non-serious injection site reactions, with no patients requiring withdrawal from treatment

Source: IR Woodcock et al. (2022) *medRxiv* 2022.01.16.22269029; V Ricotti et al. (2016) *PLoS ONE* 11(9): e0162542; G Tachas et al. (2020) *Neuromuscul. Disord.* 30(S1):S129-130
Note: Comparison between studies is never perfectly like-for-like and functional endpoints would typically require further confirmation in a randomised, placebo-controlled trial

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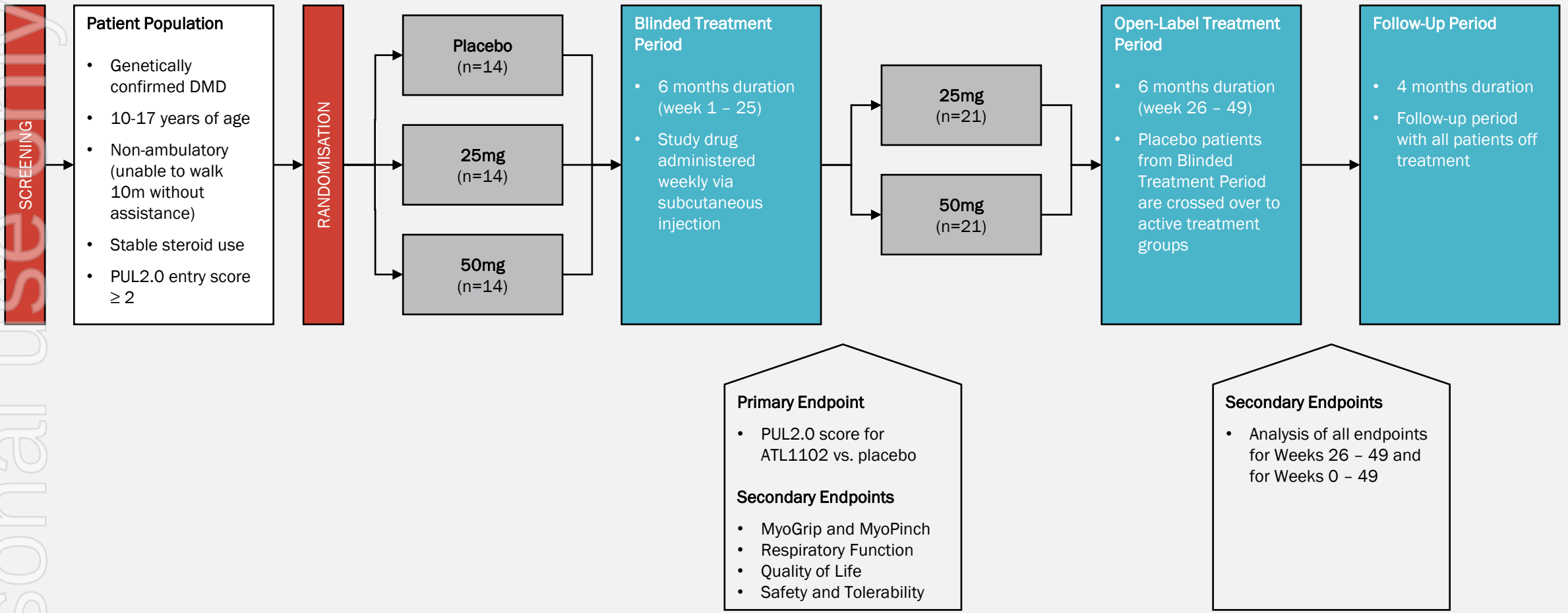
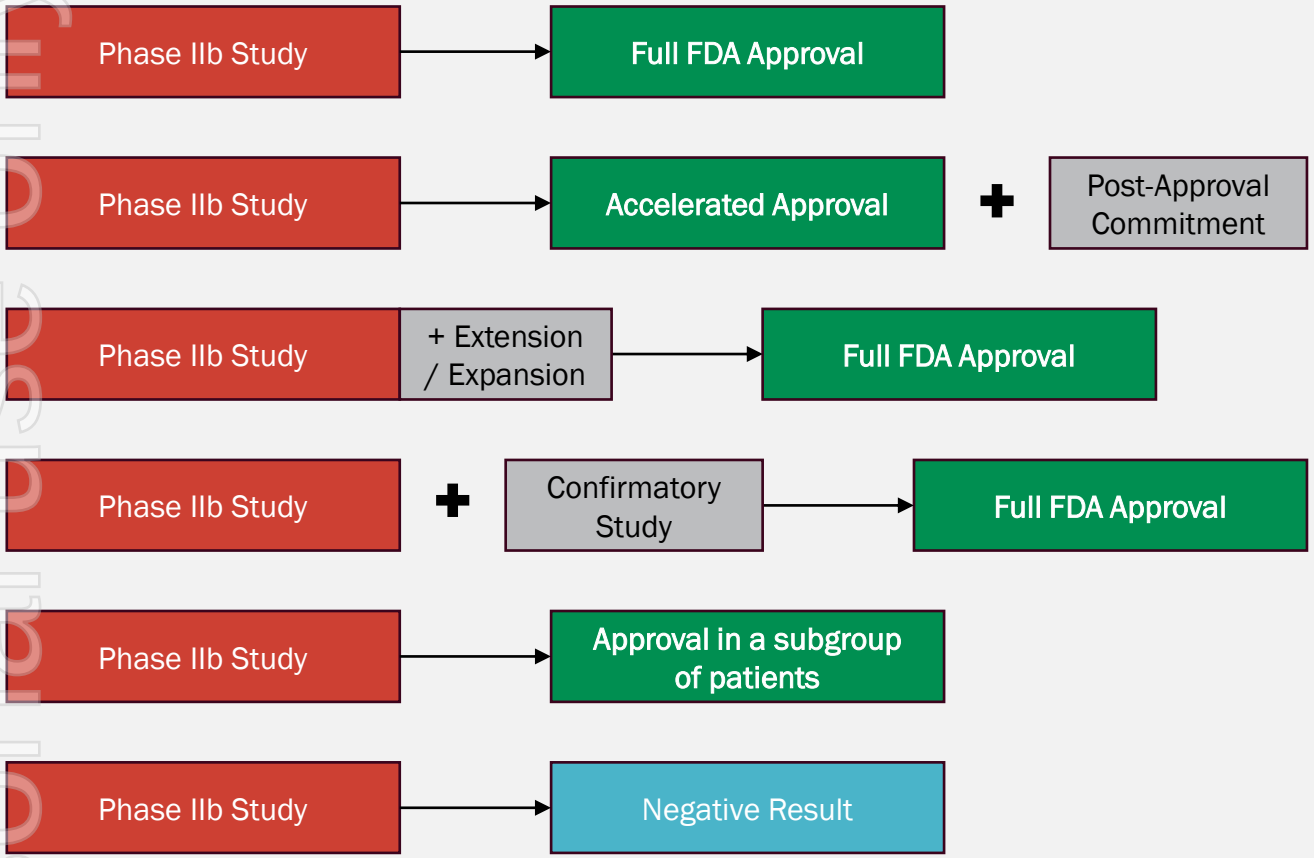
An ongoing, double-blind phase IIb clinical study has been designed to provide definitive evidence of efficacy for ATL1102 in non-ambulant boys with DMD



antisense THERAPEUTICS

Ongoing phase IIb study defines multiple potential paths to market for ATL1102, with possibility of earning a pediatric priority review voucher on approval



Pediatric Priority Review Voucher (pPRV)

- PRV system designed to incentivise private sector to develop new medicines for rare and underserved diseases
- pPRVs may be awarded by FDA on approval of a new medicine for a rare pediatric disease, providing it is the first approval for that medicine
- To be eligible for a pPRV, the drug must have been granted Rare Pediatric Disease Designation (RPDD) prior to filing for approval – **ATL1102 has been granted RPDD**
- A PRV allows the holder to accelerate FDA review of any new drug application from ~12 months to ~6 months. For a high-value product, this acceleration is very valuable. The holder does not have to use the voucher on the drug for which it was originally granted
- PRVs can be freely traded between companies. The current market price is in excess of **US$ 100M**

The commercial opportunity in DMD is substantial, with a potential market size of ~US$ 4 billion, reflecting favourable pricing dynamics

Comparator Revenues (2021-22)

Company	Product	2022 (US$)	2021 (US$)
Sarepta Therapeutics	EXONDYS 51 (eteplirsen) Injection	512M	454M
Sarepta Therapeutics	AMONDYS 45 (casimersen) Injection	215M	69M
Sarepta Therapeutics	VYONDYS 53 (golodirsen) Injection	117M	90M
PTC Therapeutics	Emflaza (deflazacort)	218M	187M
PTC Therapeutics	translarna ataluren	289M	236M
NS Pharma	Viltepso (viltolarsen) injection	109M	56M

~$1.5B in annual sales at 34% growth YoY

Comparator Pricing

Company	Product	Annual Cost (US$)
Sarepta Therapeutics	EXONDYS 51 (eteplirsen) Injection	~$750K
Sarepta Therapeutics	AMONDYS 45 (casimersen) Injection	~$750K
Sarepta Therapeutics	VYONDYS 53 (golodirsen) Injection	~$750K
PTC Therapeutics	Emflaza (deflazacort)	~$100K
PTC Therapeutics	translarna ataluren	~$300K

Conservatively anticipate ATL1102 pricing at ~$200K per patient per year

ATL1102 Commercial Opportunity

Total Prevalent Population

Approximately 40,000 DMD patients in US / EU

50% of patients are non-ambulant

Addressable Market

Approximately 20,000 non-ambulant DMD patients in US / EU

Annual treatment cost of $200K pa

Market Opportunity

>US$ 1 billion potential annual sales

US$1B potential, with additional upside in other territories and patient segments

Source: company SEC filings; news reports; Antisense Therapeutics analysis

The competitive landscape in DMD is not crowded, and most companies have focused on dystrophin-restoration therapies rather than anti-inflammatory approaches

	Early Development	Late Development	Approved
Exon-Skipping Therapies *ESTs use antisense oligonucleotides (ASOs) to help cells skip dysfunctional genetic code during transcription, yielding dystrophin which more closely resembles normal*	DYne Therapeutics WAVE Life Sciences Avidity Biosciences PepGen entrada Therapeutics	Sarepta Therapeutics — SRP-5051	Sarepta Therapeutics — Exondys 51 (eteplirsen) Injection Sarepta Therapeutics — Amondys 45 (casimersen) Injection Sarepta Therapeutics — Vyondys 53 (golodirsen) Injection NS Pharma — Viltepso (viltolarsen) injection
Other Genetic Approaches *Gene therapies and other ASO approaches attempt to restore production of (approximately) normal dystrophin*	REGENXBIO	PTC Therapeutics — translarna (ataluren) Pfizer — PF-06939926	Sarepta Therapeutics — ELEVIDYS
Anti-Inflammatory and anti-Fibrotic Therapies *Anti-inflammatory therapies seek to reduce the damage caused to muscle tissue by dysfunctional dystrophin*		antisense Therapeutics — ATL1102 FibroGen — pamrevlumab santhera — vamorolone Capricor Therapeutics — CAP-1002	PTC Therapeutics — Emflaza (deflazacort)

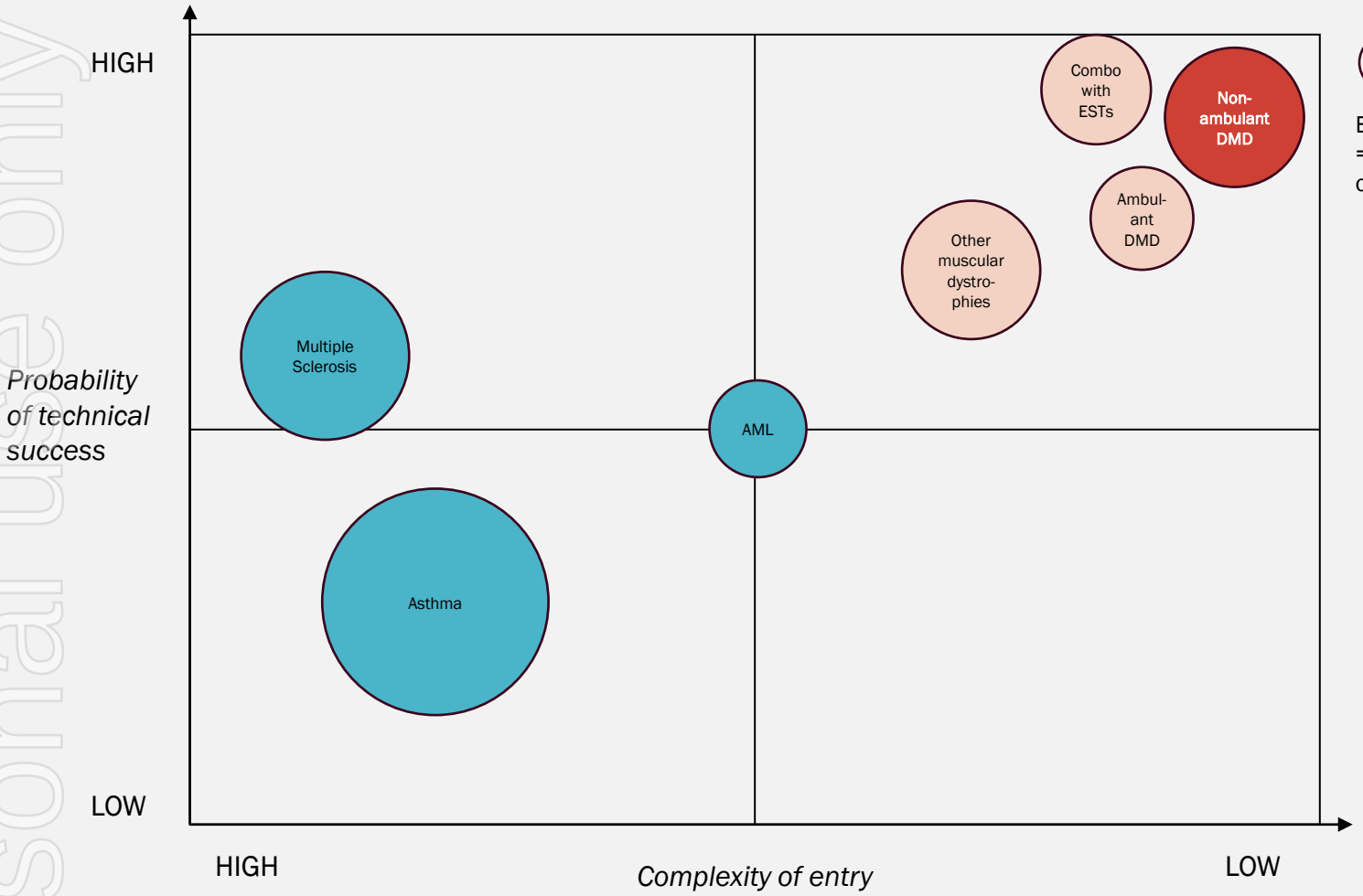
ESTs are only suitable for patients with specific genetic mutations, accounting for a small proportion of total:-

Exondys 51	14%
Amondys 45	8%
Vyondys 53	8%
Viltepso	8%

Elevidys, the first gene therapy approved in DMD, is only indicated for boys 4-5 years of age, and costs US$ 3.5 million

Following failure of Fibrogen's pamrevlumab in June 2023, **ATL1102** is one of the only anti-inflammatory therapies in late-stage development for non-ambulant patients (pavrevlumab remains in development for ambulant)

Although focus is on non-ambulant DMD patients for now, there is rich opportunity to expand the use of ATL1102 beyond this patient population



Bubble size = market opportunity

Close adjacencies in muscular dystrophy may allow for expansion at relatively more modest risk and cost

'Blue sky' adjacencies may provide very substantial market expansion but at higher risk and cost

Partnering opportunity for ATL1102 is substantial, with benchmark transactions suggesting opportunity for significant value realisation

Licensing Transactions						
Licensee	**Licensor**	**Asset**	**Indication**	**Stage**	**Date**	**Deal Value (US$)**
NS Pharma	Capricor Therapeutics	CAP-1002 (United States)	Duchenne muscular dystrophy	Phase II	Jan 2022	$735M
VERTEX	entrada THERAPEUTICS	ENTR-701	Myotonic dystrophy type I	Preclinical	Dec 2022	$709M
uniQure	ApicBio	APB-102	Amyotrophic lateral sclerosis	Preclinical	Jan 2023	$55M
NOVARTIS	AVROBIO	AVR-RD-04	Cystinosis	Phase I	May 2023	$88M
sanofi	MAZE THERAPEUTICS	MZE-001	Pompe disease	Phase I	May 2023	$750M
Catalyst pharmaceuticals	santhera	Vamorolone (North America)	Duchenne muscular dystrophy	Pre-Approval	Jun 2023	$231M+
M&A Transactions						
Acquirer	**Target**	**Key Asset(s)**	**Key Indication(s)**	**Stage**	**Date**	**Deal Value (US$)**
Pfizer	globalblood THERAPEUTICS	Voxelotor	Sickle cell anaemia	Approved	Aug 2022	$5.4B
novo nordisk	forma THERAPEUTICS	Etavopiat	Sickle cell anaemia	Phase III	Sep 2022	$1.1B
MERCK	IMAGO BioSciences	Bomedemstat	Myeloproliferative disorders	Phase II	Nov 2022	$1.4B
NOVARTIS	GYROSCOPE VISION FOR LIFE	GT005	Geographic atrophy	Phase II	Dec 2022	$1.5B

Source: Company press releases and SEC filings Note: list is non-exhaustive

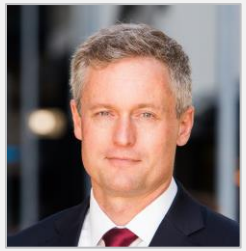
New Antisense team brings extensive international experience in drug development, partnering, and commercialisation

Dr Charmaine Gittelson
Board Chair

25 years of experience, including 15-year tenure with CSL in international roles

Dr Gil Price
Non-Executive Director

Experienced biotech executive and entrepreneur with extensive experience in drug development



Dr James Garner
CEO & Managing Director

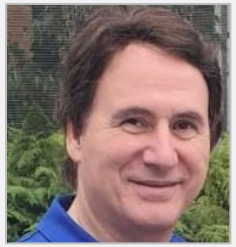
20-year track record of international drug development in multinational companies

Dr Anthony Filippis
Chief Operating Officer

25 years of life sciences leadership experience, with a focus on BD, corporate strategy, and operations

Phillip Hains
Chief Financial Officer

25 years of strategic financial experience with a diverse range of ASX-listed companies



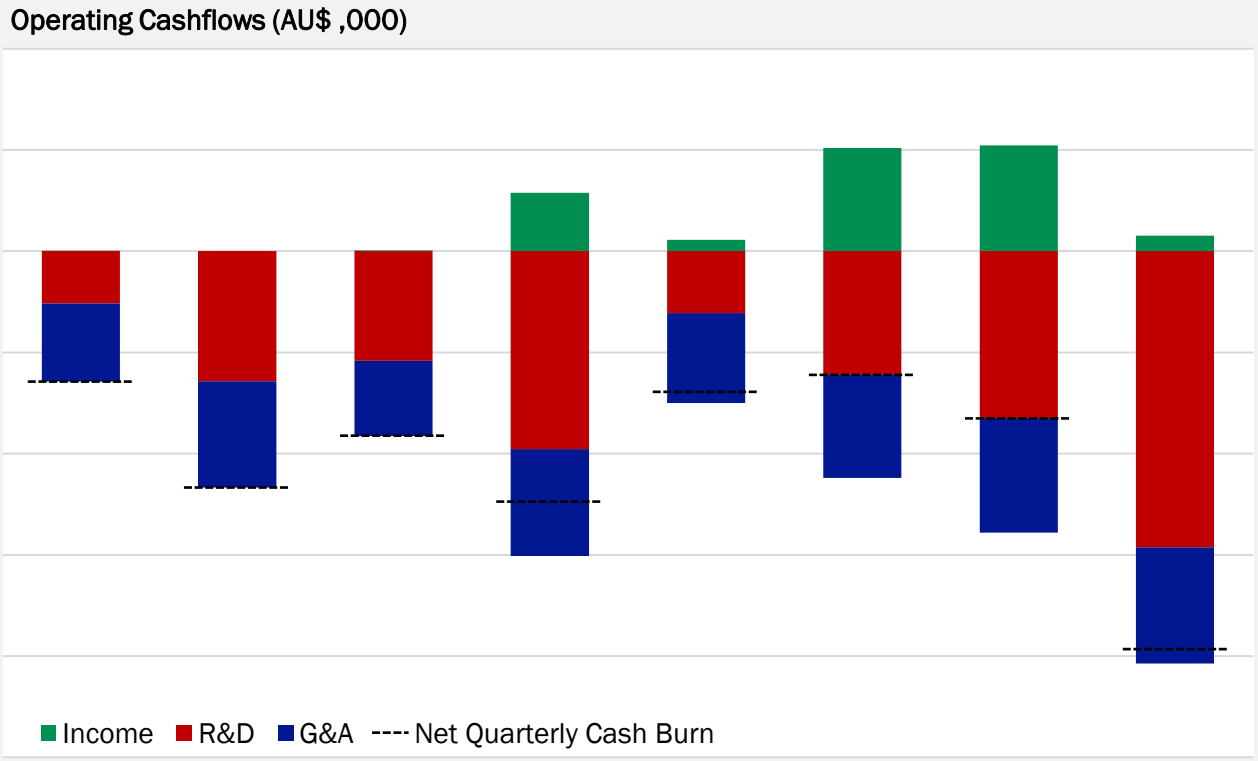
Dr George Tachas
Principal Scientist

Immunologist and molecular biologist with substantial IP experience; inventor of ATL1102 in DMD

Dr Andrew McKenzie
Director, Clinical Development

23 years of international drug development experience

Antisense enjoys a strong financial position, with the ongoing phase IIb study of ATL1102 well funded



Cash at end of period:	4,734	23,483*	21,665	19,233	17,846	16,623	14,887	10,967

*Note: Financing in Q2 FY2022 provided ~$21M in net proceeds

Corporate Fundamentals	
Market Capitalisation:	~AU$ 46M
Primary Listing:	ASX: ANP
Secondary Listings:	FSE: AWY; OTC: ATHJY
Shares on Issue:	~669 Million
Average Daily Trading (FY23):	~AU$ 40K

Financial Position	
Cash Balance (30 Jun 23):	AU$ 11 million
Runway:	Q2 CY2024

Substantial Shareholders	
Platinum Asset Management	13.3%

as at 31 July 2023

Analyst Coverage

morgans | TAYLOR COLLISON | WILSONS

antisense THERAPEUTICS

Antisense is rich in near-term news flow, with the potential for multiple value-driving catalysts over the next 18 months

CY2023		
Commence recruitment to international phase IIb study of ATL1102 in Duchenne muscular dystrophy	1H CY2023	✓
Initial data from preclinical study in Duchenne muscular dystrophy in combination with ESTs (muscle function)	1H CY2023	✓
Further data from preclinical study in Duchenne muscular dystrophy in combination with ESTs (dystrophin & transcriptomic data)	2H CY2023	✓
Data from preclinical study in limb girdle muscular dystrophy R2 at Murdoch Children's Research Institute	2H CY2023	
Full recruitment to international phase IIb study of ATL1102 in Duchenne muscular dystrophy	2H CY2023	
CY2024		
Operational completion of 9-month non-human primate toxicology study	1H CY2024	
Publication in peer-reviewed journal of full data from phase IIa study of ATL1102 in Duchenne muscular dystrophy	1H CY2024	
Initial data from international phase IIb study of ATL1102 in Duchenne muscular dystrophy	*2H CY2024*	

italics = updated guidance

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