Aptamer Group
Corporate presentation

A leading developer of next generation synthetic binders

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Business overview

Who we are

Using multiple affinity binder discovery platforms, we are empowering scientists to unlock new drug targets and advance superior diagnostics and medicines.

Through innovation, a strong intellectual property portfolio, and global partnerships, we drive scientific breakthroughs that improve healthcare outcomes.

Our vision

Better drugs and diagnostics delivered via innovative technology, strategic partnerships, and a commitment to delivering lasting value for patients, partners, and shareholders.

Recognised as a key global player in aptamer development[1] in the $210bn affinity ligand market[2]

Multiple proprietary discovery platforms for custom binders

Relationships with all the Top 10 global pharma companies[3]

28 partners across the globe in FY 2024

- Incorporated in 2008
- Headquartered in York, UK
- AIM IPO in Dec 2021
- State-of-the-art facilities delivered in 2022
- 28 team members

[1] Meditech Insights, Aptamer Market Size & Forecast, 2024; Research & Markets, ID: 5782939, 2024
[2] Azoth Analytics. Global Affinity Ligands Market (2023 Edition). Report ID: 5744598
[3] Top 20 pharma companies 2023 by revenue

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A need for new binder technology

Less than 50% of commercially available antibodies are functional resulting in annual losses >$800 million.[1,2]

Traditional binders, such as antibodies, require animals or cell-based systems to discover, develop, or manufacture, meaning high-cost and inconsistent product.

Stability issues with traditional binders necessitate cold-chain storage and transport, which are expensive and environmentally un-sound.

Optimer® offers a new solution

[1] Acharya et al. F1000 Research. 6:851. 2017
[2] Baker. Nature. 521. 2015

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Unlocking value from scientific innovation with dual Optimer® platforms

Aptamer Group is enabling scientists in drug discovery to diagnostic development to create better assays, pursue new drug targets, and make tomorrow's precision medicines using oligonucleotide-based affinity binders.

Optimer® and Optimer®+ platforms

Tuned discovery and development of affinity binders for customers

Generation of high value licensable assets for customer's commercial application

Significant benefits over protein-based affinity binders with a first to market advantage in oligonucleotide binders

Broad IP portfolio across Optimer® and Optimer®+

Multiple Optimer® assets progressing within multi-billion dollar markets

Deodorant Optimer® under development with Unilever

Enzyme modulating Optimer® under licensing discussion with global life science tool companies

Alzheimer's disease diagnostic reagent under development with Neuro-Bio

Fibrotic liver delivery vehicle being progressed with AstraZeneca

Optimer® for fetal diagnostics under evaluation with global life science company

Near term Milestones

On-person functionality trials of deodorant Optimer® with Unilever expected by summer 2025

Initial licensing of enzyme modulating Optimer® expected summer 2025

Preclinical studies of fibrotic liver delivery vehicle expected in 2025

Commercial penetrance & Management team

AIM-listed company with partnerships with all top 10 pharma companies

IP ownership of developed binders retained where possible to secure downstream ongoing royalties and licence fee income

Experienced management, Board and Scientific Advisory Board

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Why choose Aptamer?

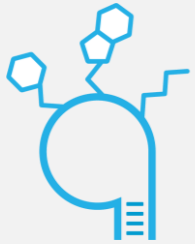
Our two proprietary discovery platforms are engineered to outperform antibodies in cost, speed and stability.

optimer®

Optimer® binders are optimised DNA or RNA aptamers.

Automated, high-throughput discovery and development platform.

optimer®+



Optimer®+ binders are hybrid DNA-protein molecules.

Wholly-owned, proprietary technology protected by 30 patents from processes to products.

Technical advantages

- Broader target applicability
- Tuneable selectivity and tailored to end application
- Speed of discovery
- Scalable, cost-effective production
- Synthetic manufacture allows better quality control
- Animal-free discovery, development & manufacture

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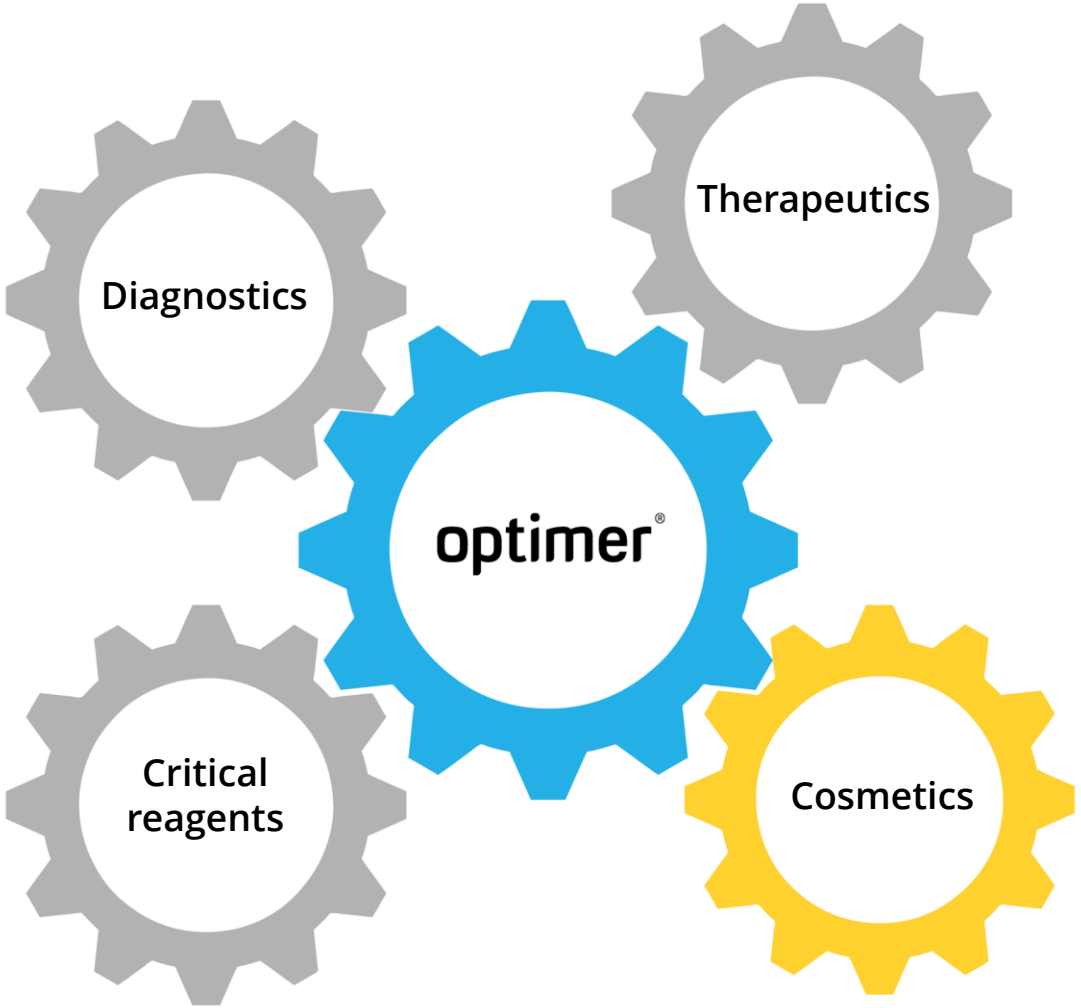
Commercial applications across the life science sector and beyond



The Optimer® platform has diverse applications across the life sciences for:

- detecting and quantifying biological targets
- modulating targets
- targeted delivery of therapeutics for precision medicine

Increased recognition of our technology's advantages has driven expansion of the customer base into the cosmetics/FMCG market.

Diverse partnerships for Optimer® development have delivered multiple high value Optimer® assets that could potentially be leveraged for increased investor value.

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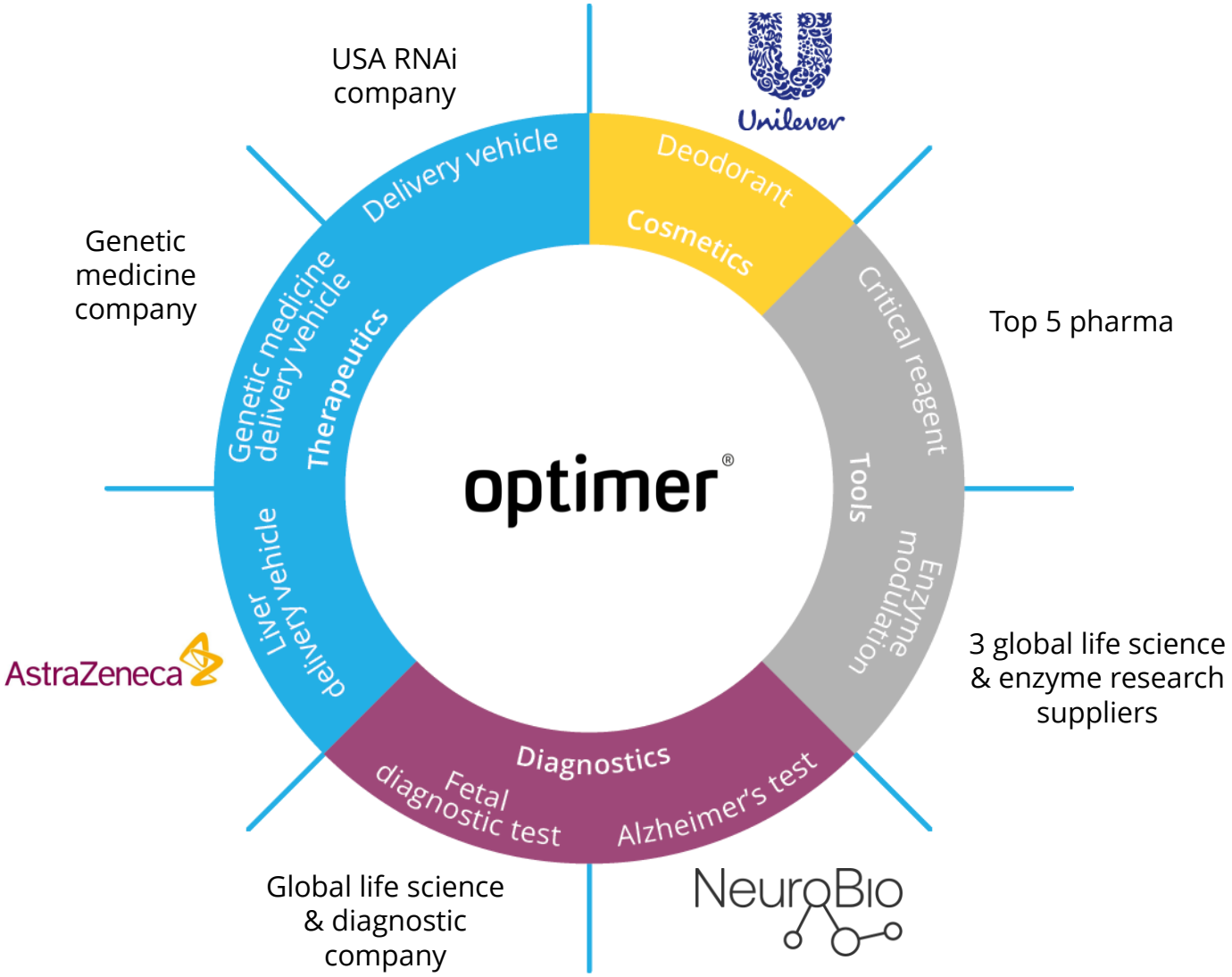
A diverse and partnered asset portfolio



Assay portfolio split across different life science segments consisting of short-, medium- and long-term development programmes with increasing licensing potential.

Each asset programme is partnered with global leaders supporting:

- expert insight in specific fields
- market penetrance of final product
- potential high-value licensing & royalty revenue

Development of assets from fee-for-service development pipeline enables horizon scanning for best-fit technologies.

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Optimer® asset for the treatment of malodour

Partnered with largest antiperspirant and deodorant manufacturer in the world

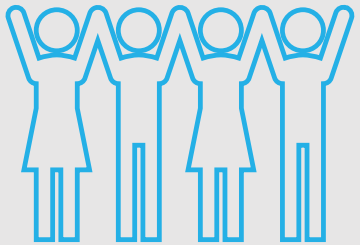
$26.96BN

Global deodorant market value in 2024*

Developed Optimer® prevents malodour formation.

Successful completion of lab-based analysis at Unilever and Aptamer.

Skin-based studies started in 2024 showing stability profile required for deodorant product.



On-person trials expected to begin in 2025

* Fortune Business Insights. 2025. ID: FBI102687

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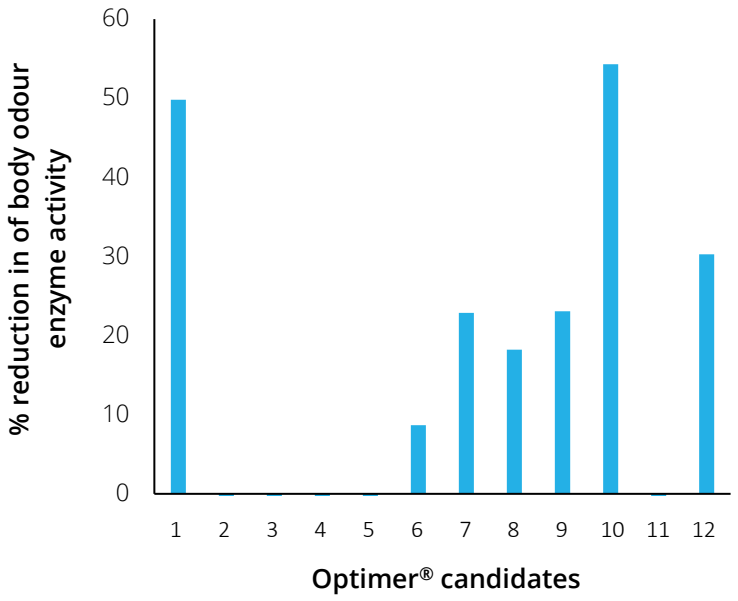
Developing Optimer® for use in deodorants

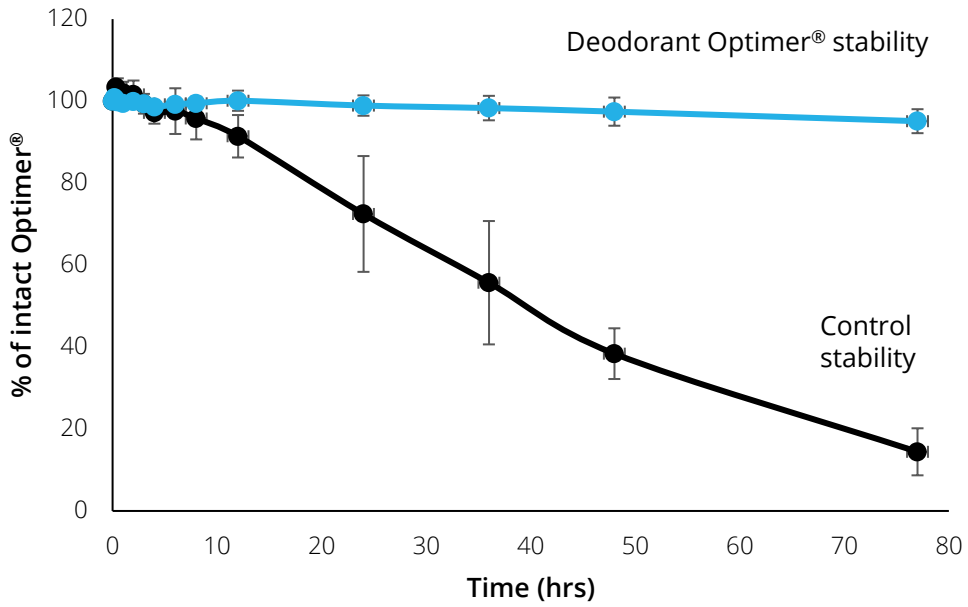
Multiple Optimer® candidates show potential to stop body odour generation.

Optimer® candidates have been further streamlined for improved activity and show positive results in tests at Unilever.

In-house studies on skin samples show the Optimer® is stable on skin suggesting good potential for development.



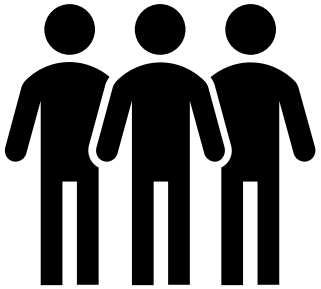
7 of 12 Optimer® candidates show inhibition of body odour enzyme.



Stability studies show the deodorant Optimer® is stable in mixed skin samples over the 77 hour time period.

What's next?

Continuation of skin testing studies, including on-person functionality tests, to determine efficacy as deodorant.



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Optimer® reagent for enzyme modulation

Reagent for use in life science research assays and diagnostic tests.

Enzyme modulators with applicability in market valued at

$9.9 billion

in 2024*

Panel of Optimer® reagents modulates essential enzyme activity for inclusion in research and diagnostic kits.

Optimer® reagents successfully validated in-house at Aptamer Group and within 2 external labs.

Ongoing licensing discussions with three global life science and enzyme research suppliers.

First licensing agreement expected in FY25

*Fortune Business Insights. 2025. ID: FBI102528

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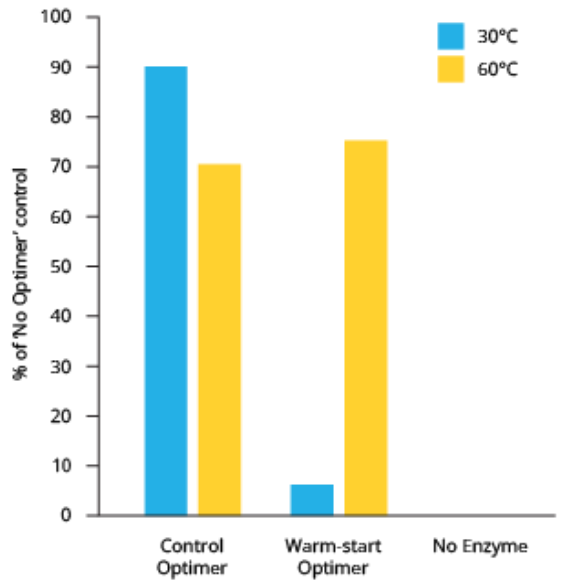
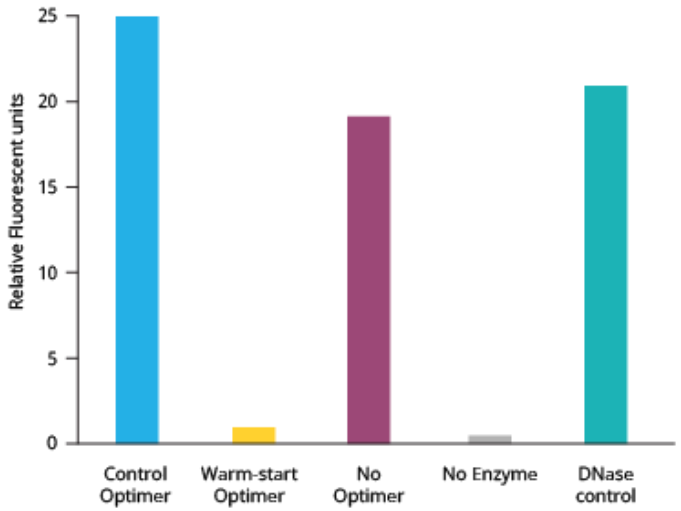
Optimer® as warm-start inhibitors for PCR accuracy and convenience

Panel of Optimer® binders developed that inhibit enzyme activity in a temperature sensitive manner for use in PCR research and diagnostic assays.

Optimer® binders have been successfully validated by two external labs, showing effective temperature-sensitive inhibition for assay convenience and accuracy.



A fluorometric polymerase activity assay shows the warm-start Optimer® inhibits polymerase activity at 30°C but allows activity at 60°C.



A fluorometric exonuclease activity assay shows the warm-start Optimer® inhibits exonuclease activity, with no effect on DNA amplification in PCR reactions.

What's next?

Active licensing discussions ongoing with multiple potential partners including global enzyme suppliers and life science research suppliers.

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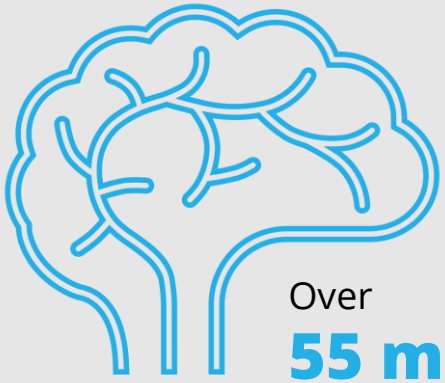
Optimer® for Alzheimer's disease test



Over
55 million
people have dementia worldwide

Alzheimer's disease diagnostic market value
$8.3 billion
in 2024*

Optimer® to power non-invasive Alzheimer's disease diagnostic with saliva sample through collaboration between Aptamer Group & Neuro-Bio

Optimers integrated into biosensor assay and positively validated with clinical saliva and cerebrospinal fluid samples

Optimers identified statistically significant difference in biomarker levels between Alzheimer's, at risk, and healthy patients

NeuroBio

Blended royalty rate of 11% achieved on clinical diagnostic

*Grand View Research. 2025. ID: GVR-4-68040-323-7

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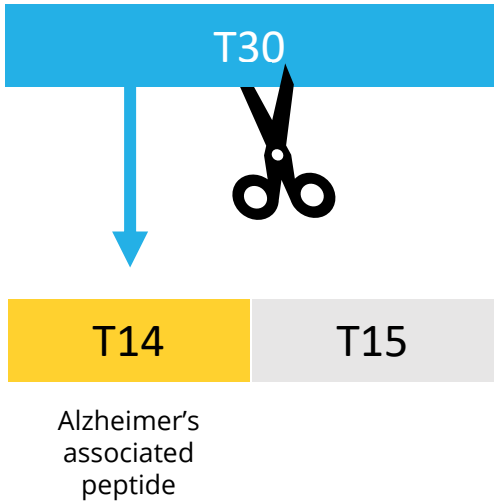
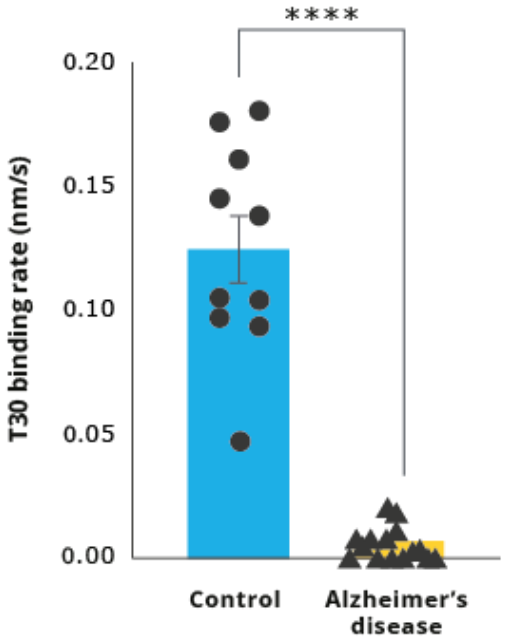
Optimer® for Alzheimer's disease diagnostics

Results show statistically significant difference between T30 levels in saliva of Alzheimer's disease patients from healthy controls.

T30 levels in patient saliva samples can be used to predict Alzheimer's disease.

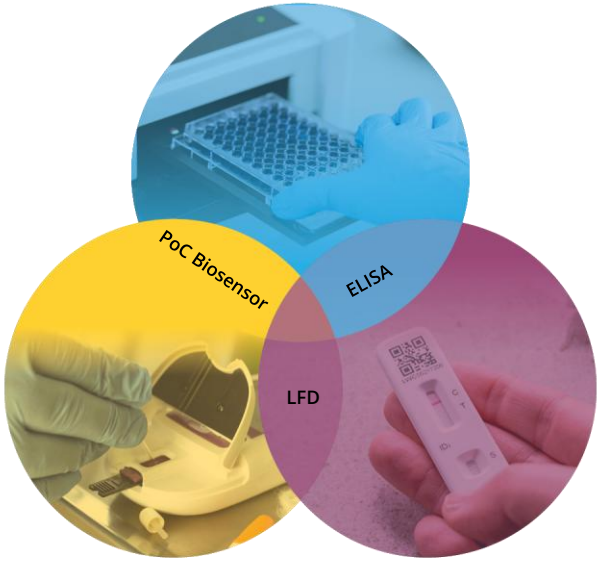


T14 is being produced at the expense of its parent molecule, T30, in AD saliva samples.



Optimer®-based analytical validation of saliva samples shows significantly lower T30 levels in Alzheimer's disease patients compared to non-diseased controls, (**** = $p < 0.0001$).

What's next?



Staged diagnostic strategy being implemented to maximise market access using multiple test formats:

- Clinical ELISA test
- Point-of-care biosensor test
- At-home lateral flow test

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Optimer® for use in fetal diagnostics

Risk of miscarriage from aminocentesis practices and increasing maternal age is driving increase in non-invasive testing

Non-invasive prenatal testing market value is estimated at

$6.4 billion

in 2024*

Eurostars project with Bioliquid Innovative Genetics supported development of Optimer for isolation of placental cells.

Optimer® enables non-invasive prenatal testing through liquid biopsy for safer diagnosis of fetal conditions.

Optimer for placental cells enables genetic testing of fetal diseases from maternal blood samples.

Optimer under evaluation with a global life science and diagnostic company along with Eurostars partners.

eurostars™

BIOLIQUID INNOVATIVE GENETICS

*Precedence Research. 2024. ID: 3362

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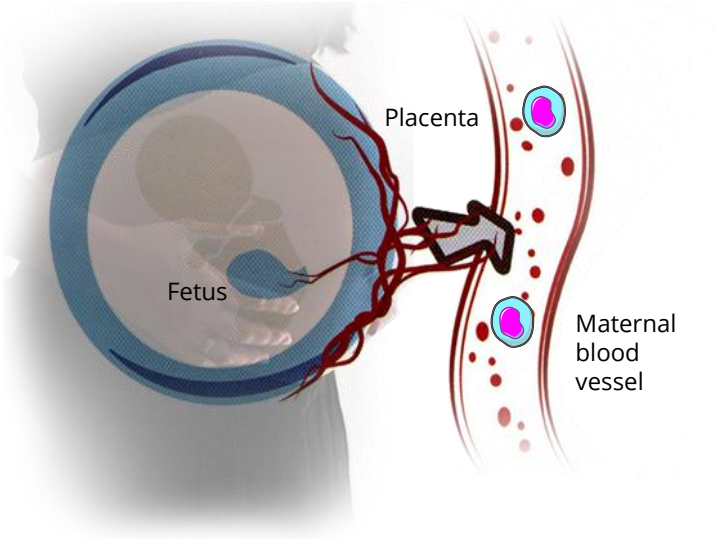
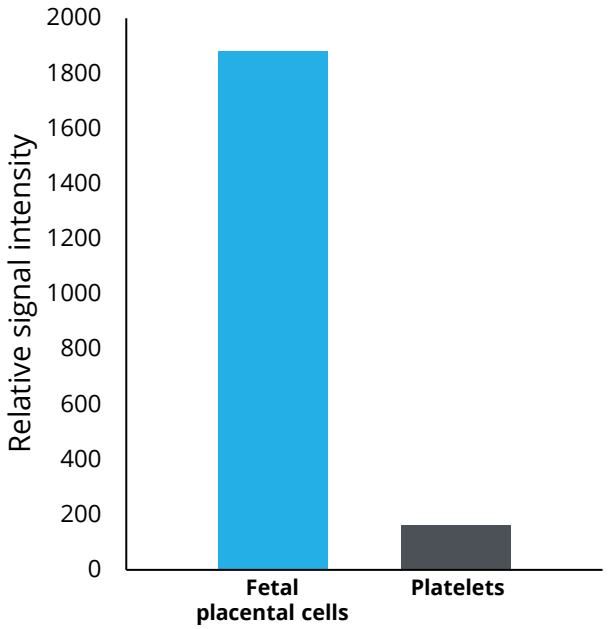
Optimer® for use in fetal diagnostics

Current invasive amniocentesis practices carry risk for miscarriage, infection, amniotic fluid leakage and fetal injury.

Optimer® developed against fetal cells for analysis of prenatal disease from maternal blood samples, providing safer, simpler testing systems.



Fetal placental cells enter the maternal bloodstream. Enrichment of these cells with the specific Optimer® allows prenatal disease diagnosis through blood samples avoiding problematic amniocentesis.



Analysis of Optimer® binding shows preferential binding to fetal placental cells compared to platelets within the blood, showing potential for isolation of cells for use in fetal diagnostics.

What's next?

Optimer® is under evaluation for integration into non-invasive fetal diagnostic platforms with:

- Bioliquid Innovative Genetics
- global clinical diagnostic company

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Optimer® for precision treatment of fibrotic liver disease

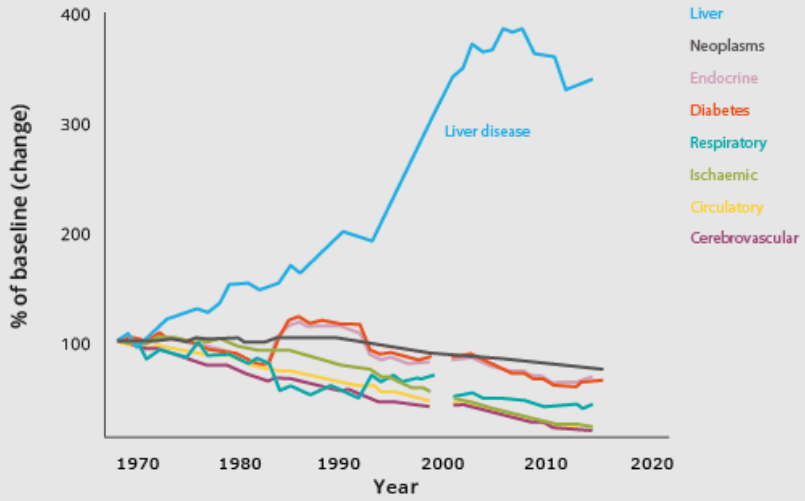
2 million deaths p.a. from liver disease*

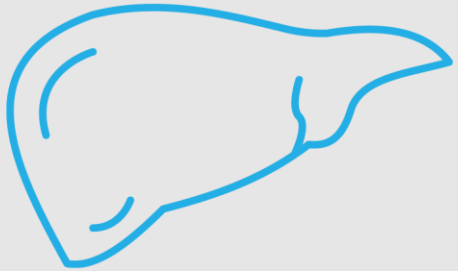
Liver disease is the only major disease where death rates are rising

One licensed treatment for fibrosis so high unmet need remains

Current annual cost of liver fibrosis medication = $47,000† per patient showing **market tolerance for high value solutions**

UK under 65 standard death rate from various diseases





Optimer® delivery vehicle specific for fibrotic liver cells proven with multiple RNAi payloads.

Active collaboration with AstraZeneca for siRNA delivery to preclinical stage.

In-house data shows delivery of siRNA with reduction in associated fibrosis biomarker.

Additional **interest from multiple top 10 pharma** and biotechnology partners

*Asrani et al. (2019) *J.Hepatol.*
†Biopharma Dive. 2024. Source: https://www.biopharmadive.com/news/madrigal-rezdiffra-mash-drug-price-launch-plans/710404

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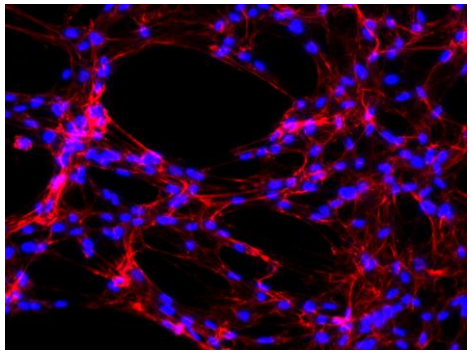
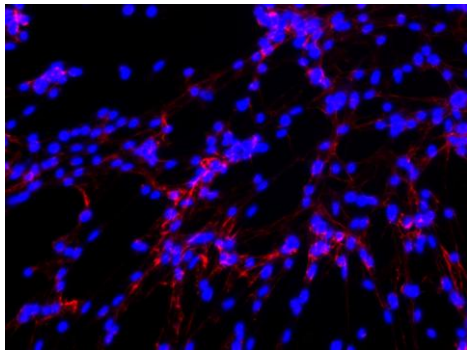
Optimer® is highly selective for fibrotic liver cells

Testing of diverse cell types via fluorescence microscopy demonstrates the selectivity of the Optimer® delivery vehicle for fibrotic liver.

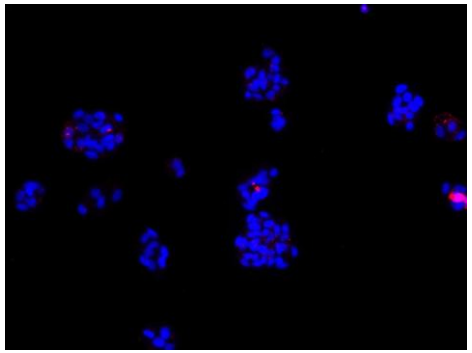
Hepatic myofibroblasts



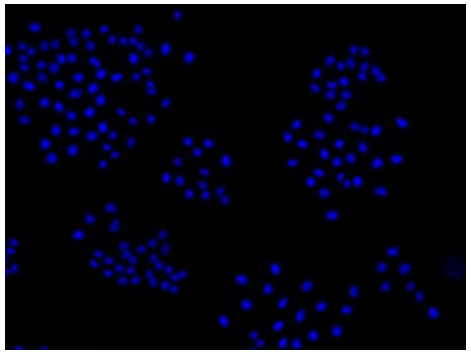
Quiescent hepatic stellate cells



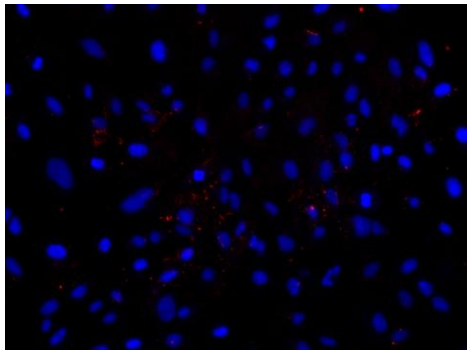
Hepatocytes (HEPG2)



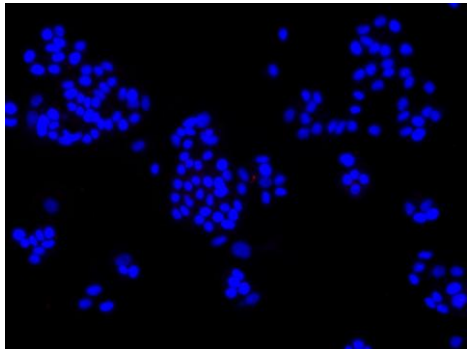
Kupffer cells



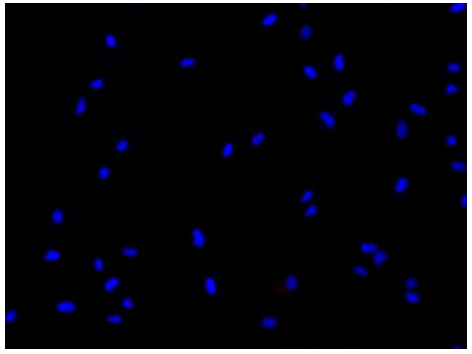
Renal proximal tubule epithelial cells (HRPTEC)



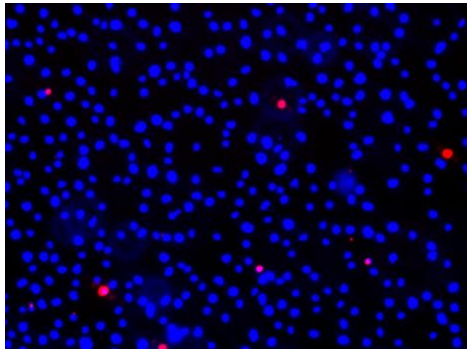
Breast cancer epithelial cells (MCF7)



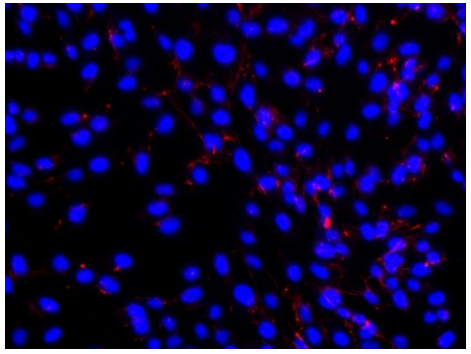
Alveolar basal epithelial cells (A549)



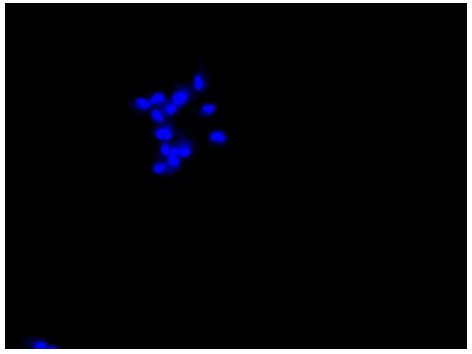
T lymphocyte (Jurkat)



Osteoblast (MG63)



Prostate adenocarcinoma cells (LNCAP)



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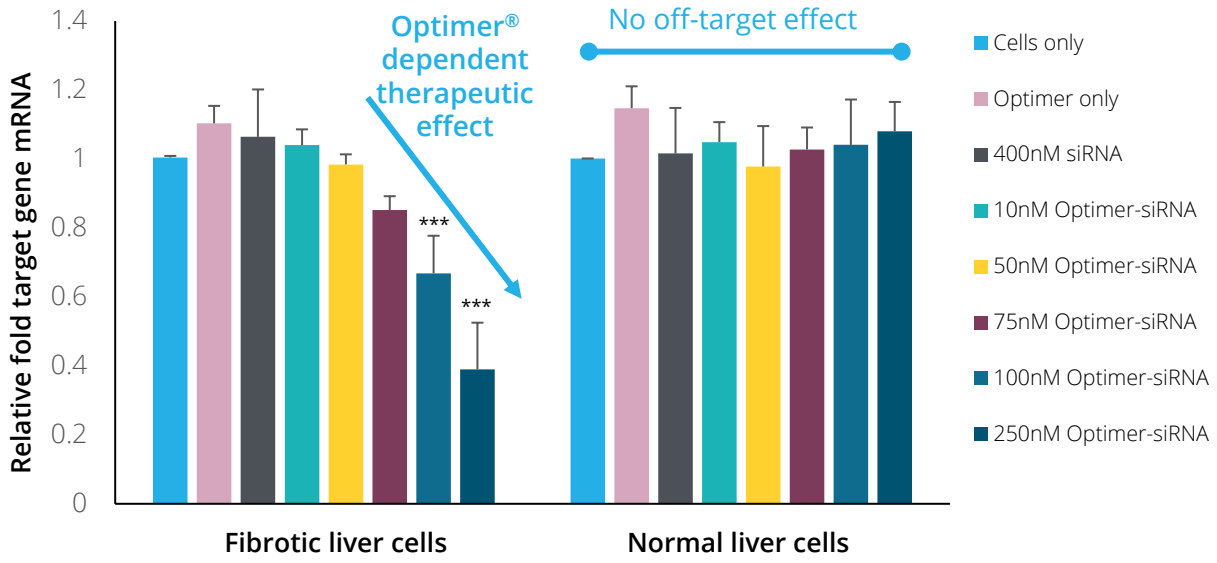
Fibrotic liver delivery vehicle shows effective gene knockdown

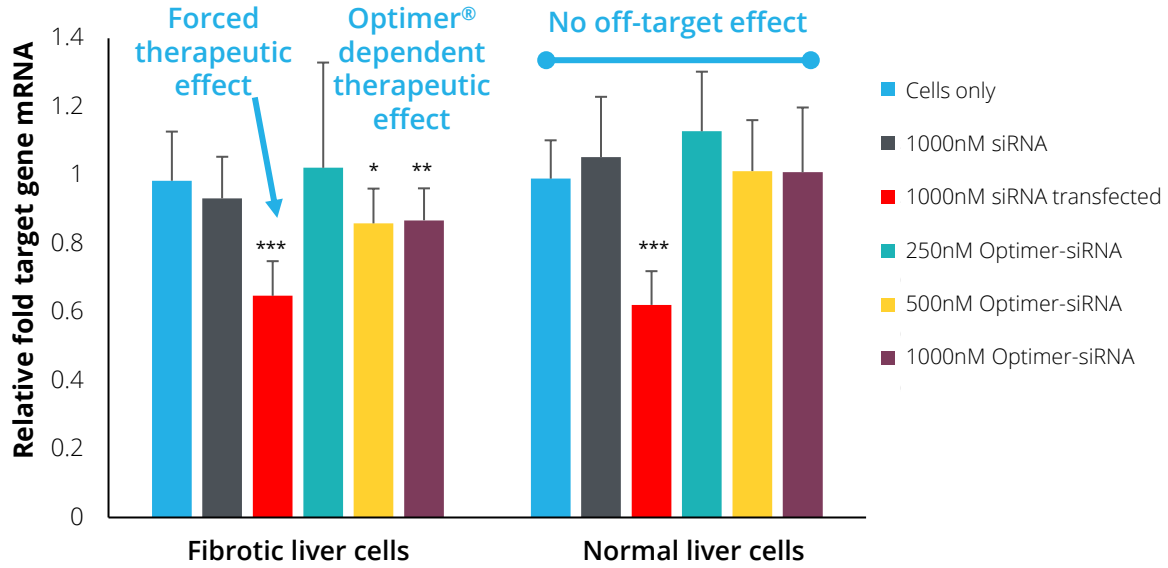
Optimer® delivery vehicle selectively delivers two different siRNA molecules with effective gene silencing, showing versatility of Optimer® delivery vehicle with different siRNA payloads for generation of precision therapies.

Top 15 pharma company



Optimer® delivery vehicle selectively delivers first tool siRNA to fibrotic liver cells with significant gene silencing. No off-target effects are seen in the normal liver cell population. (Significance vs cells only. *** = $p < 0.001$)

AstraZeneca



Optimer® delivery vehicle selectively delivers AstraZeneca's siRNA to fibrotic liver cells with gene silencing. No off-target effects are seen in the normal liver cell population. (Significance vs cells only. * = $p < 0.1$, ** = $p < 0.05$, *** = $p < 0.01$)

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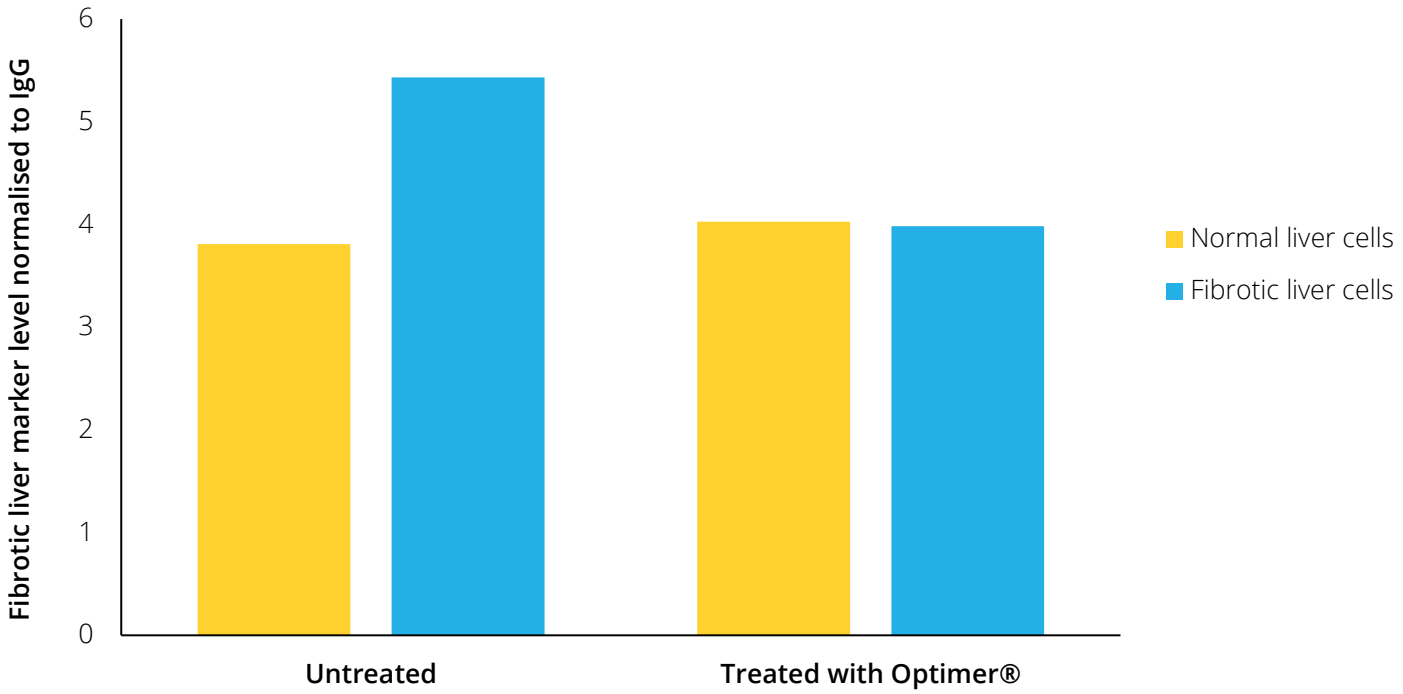
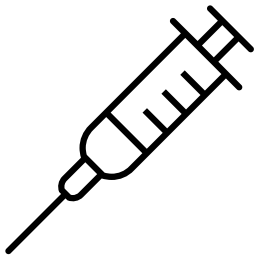
Precision medicine for fibrotic liver

In-house assays show use of the delivery vehicle with a therapeutic siRNA produces a reduction in fibrosis with markers showing equivalent levels to healthy cells by QPCR.



Use of therapeutic siRNA with our Optimer® delivery vehicle reduces levels of a fibrotic liver marker to that of non-fibrotic cells.

What's next?



Progression to *in vivo* studies as a precision medicine to address fibrotic liver market

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Investment case

Fee-for-service arm targeting the **$210bn affinity ligand market**[1] to meet demand for antibody alternatives, and continuing **relationships with all top 10 pharmaceutical companies**.[2]

Providing valuable solutions in high growth markets
11% CAGR in affinity ligand market[1]
25% CAGR in aptamer market[3]

01

Optimer® for deodorant with Unilever

Alzheimer's diagnostic with NeuroBio

Drug delivery vehicles with AstraZeneca

Reagent for enzyme modulation

Optimer® for fetal liquid biopsy diagnostics

Developing **high-value assets** with strategic partners to target future licensing revenue

02

IP retained for developed binders providing a growing portfolio of potentially lucrative **downstream licensing and royalty** opportunities.

03

LSE:APTA c.£5m market capitalisation.

Well positioned in a **high growth sector** to advance **asset development** and deliver **future licensing opportunities**.

04

[1] Azoth Analytics. Global Affinity Ligands Market (2023 Edition). Report ID: 5744598
[2] Top 20 pharma companies 2023 by revenue
[3] Precedence Research – Aptamers Market Size, Share and Trends 2024 to 2034. Report ID: 5045

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Aptamer by numbers as at 31 December 2024

60%-70% scientific success rate

£3.4m advanced stage sales pipeline

10 licensable assets

£3.0m cost base

$210bn Market size

£Nil Net debt

Revenue H1FY25: £0.7m (H1FY24:£0.3m)

£5.3m total sales pipeline

54 patents

Relationships with **all top 10** global pharma partners

28 employees

c.£5m Market Capitalisation

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Interim results FY25 - Income statement and cashflow statement

Revenue of £0.7m (H1 2024: £0.3m)

Admin expenses £1.5m (H1 2024: £1.7m)

- Fixed cost base reduced to c.£3.0m
- Leaner Senior Leadership Team
- Head count reduced to 28 (30 June 2024: 34)

Other operating income includes grant and rental income.

Adjusted EBITDA loss of £1.1m (H1 2024: £1.8m)

Net cash outflow from operations improved to £1.3m (H1FY24: £1.8m) due to reduction in fixed cost base and improvement in gross profit.

Net £2.6m raised in August 2024

Improved closing cash balance of £2m, which following the collection of debtors, including R&D tax credits, was still £2m at the end of February 2025.

Income Statement	Period ended 31 Dec '24 £'000	Period ended 31 Dec '23 £'000
Revenue	**653**	**298**
Cost of Sales	(286)	(324)
Gross profit	**367**	**(26)**
GP margin	56%	(9%)
Administrative expenses	(1,519)	(1,735)
Other operating income	79	2
Adjusted EBITDA*	**(1,073)**	**(1,759)**
PAT	(1,112)	(1,807)

Cashflow Statement	Period ended 31 Dec '24 £'000	Period ended 31 Dec '23 £'000
Cash used in operations	(949)	(1,748)
Changes in working capital	(339)	(9)
Net cash used in operations	**(1,288)**	**(1,757)**
Purchase of assets	(34)	(40)
Issue of share capital net of costs	2,623	3,492
Service of borrowings	(204)	(173)
Net increase in cash	**1,097**	**1,522**
Opening cash balance	870	234
Closing cash balance	1,967	1,756

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Balance sheet

Net assets of £2.6m (June 2024: £0.9m)

- Equity raise in the period of £2.6m with the issuance of 1.45bn shares at 0.2p

Cash of £2.0m (June 2024: £0.9m). Following receipt of the R&D tax credit (£0.2m) post period end the cash balance at the end February 2025 was £2.0m.

Notable balance sheet items:

- Debtors – increased at the period end to £0.9m due to an increase in commercial work going through the lab in November and December on 75-day payment terms.
- Tax receivable - £0.2m relating to FY24 which was paid February 2025 and £0.1m accrued for the current financial year.

	31 Dec 24 £'000	30 Jun 24 £'000
Other intangible assets	183	165
Property, plant & equipment	358	424
Right-of-use assets	154	187
Other receivables	373	373
Inventories	107	119
Trade & other receivables	924	439
Tax receivable	280	192
Cash & cash equivalents	1,967	870
Total assets	**4,346**	**2,769**
Trade & other payables	(519)	(587)
Accruals	(312)	(304)
Deferred income	(275)	(139)
Interest bearing loans & borrowings	(643)	(817)
Provisions	(35)	(35)
Total liabilities	**(1,784)**	**(1,882)**
Net assets	**2,562**	**887**

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Experienced financial, commercial and technical leadership

Dr Arron Tolley
Chief Executive Officer / Founder

- Co-founder & established leader in aptamers
- Returning as CEO following stabilisation of business after leading 2023 refinancing and focussing on the pre-IPO strategy to crystalise licensing opportunities

Andrew Rapson
Chief Financial Officer

- Over 20 years finance experience, including AIM listed companies
- Chartered Accountant

Dr David Bunka
Chief Scientific Officer / Founder

- Co-founder & globally recognised aptamer expert
- Delivered several patent & patent-pending processes and products
- Pioneered automated, in-house, discovery platform

Dr Adam Hargreaves
Non-Exec Chair

- Founder & Director of drug dev CRO Pathcelerate Ltd
- Large pharma experience with AstraZeneca and Syngenta
- FRCPath & DipAVCP

Tim Sykes
Non-Exec director

- Experienced executive and non-executive director, including AIM listed companies
- Previous experience in technology and life science with Avacta, Proactis, Eleco and Altitude Group
- Chartered Accountant

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Guidance from global scientific and legal experts

Scientific Advisory Board with world-leading experts in siRNA delivery and radioligands for targeted diagnostics and therapeutics

Dr Paloma Giangrande

World-leading expert in siRNA delivery

Dr Louis Allot

Radiopharmaceutical targeting expert

Dr Adam Hargreaves

Pathologist and leader in drug development

Prof Paul Townsend

World-leading expert in drug discovery biomarkers

Dr Shozo Fujita

Inventor of novel aptamer chemistries

Global legal excellence

GOODWIN

Strategic guidance on licensing, M&A, and financing from platform development to commercial exit.

SQUIRE PATTON BOGGS

Integrated legal expertise in international regulatory compliance and corporate growth strategies

SECERNA IP SPECIALISTS

Specialist IP protection and international patent portfolio strategy.

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