



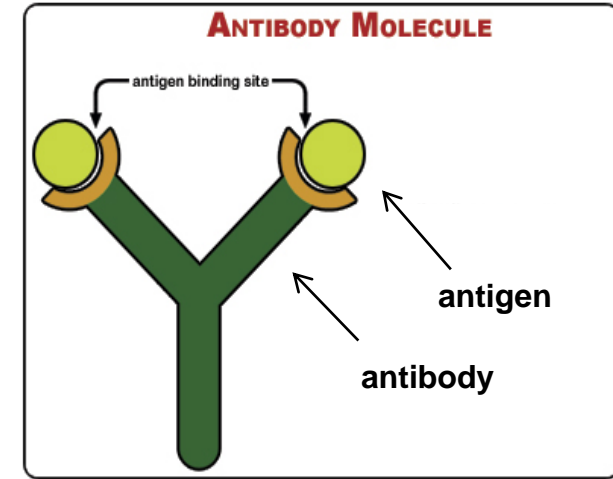
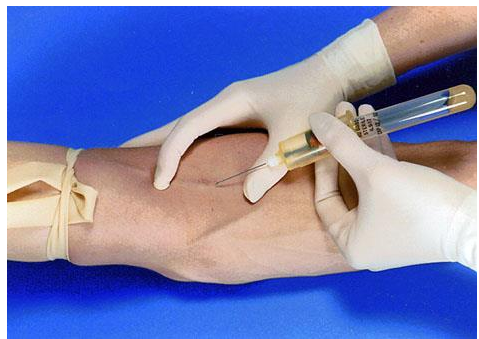
Bioventix plc

30 Oct 2023

Antibodies and Blood Testing

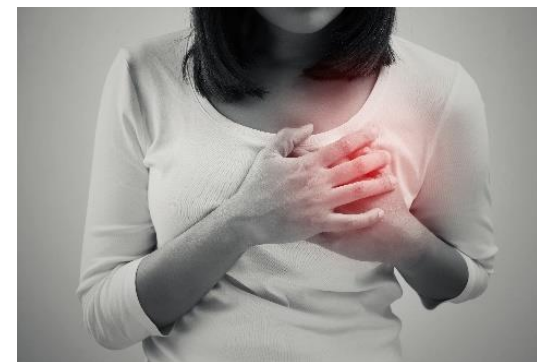


- Bioventix creates and manufactures sheep monoclonal antibodies (SMAs). Customers incorporate these antibodies in reagent packs for use on automated blood-testing machines



- Superior antibodies can facilitate improved tests
- Bioventix sells liquid “physical” SMAs and derives royalties from their downstream use

Diagnostic Applications for SMAs



Vitamin D
(25-OH vitamin D)

Thyroid function
(thyroxine, T3)

Fertility
(testo, estrogens)

Chest pain; heart attack
(troponin)

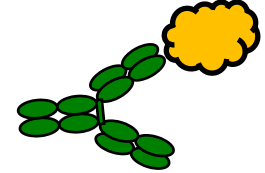
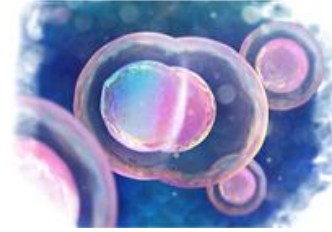
Drug testing
(THC)

- Bioventix has a portfolio of ~20 antibodies that are sold globally to in vitro diagnostics (IVD) companies
- Most have been created through the use of internal resources and reagents. Some other antibodies (eg **troponin**) have been created through **contract R&D** and are exclusive to the partner companies

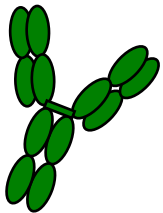
Antibodies and Business Dynamics



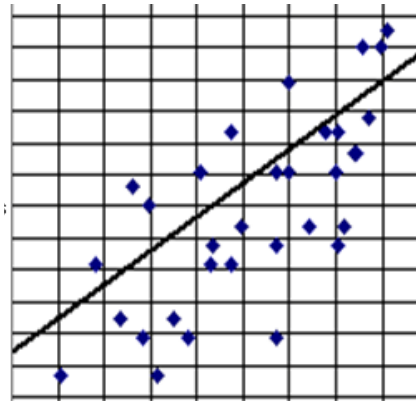
- Projects can be internally driven or **sponsored** by customers
- Bioventix takes about 1 year to create new antibodies



+1 year



Prototype test



Old test



2-4 years
= 3-5 years total

- Even for established diagnostics, customers take 2-4 years to prototype tests, conduct field trials, submit regulatory data and obtain marketing approval

- Despite ever-increasing competition through continued antibody technology development, changing an antibody in an approved test introduces a barrier (depending on the clinical criticality of the test) that helps deliver revenue continuity

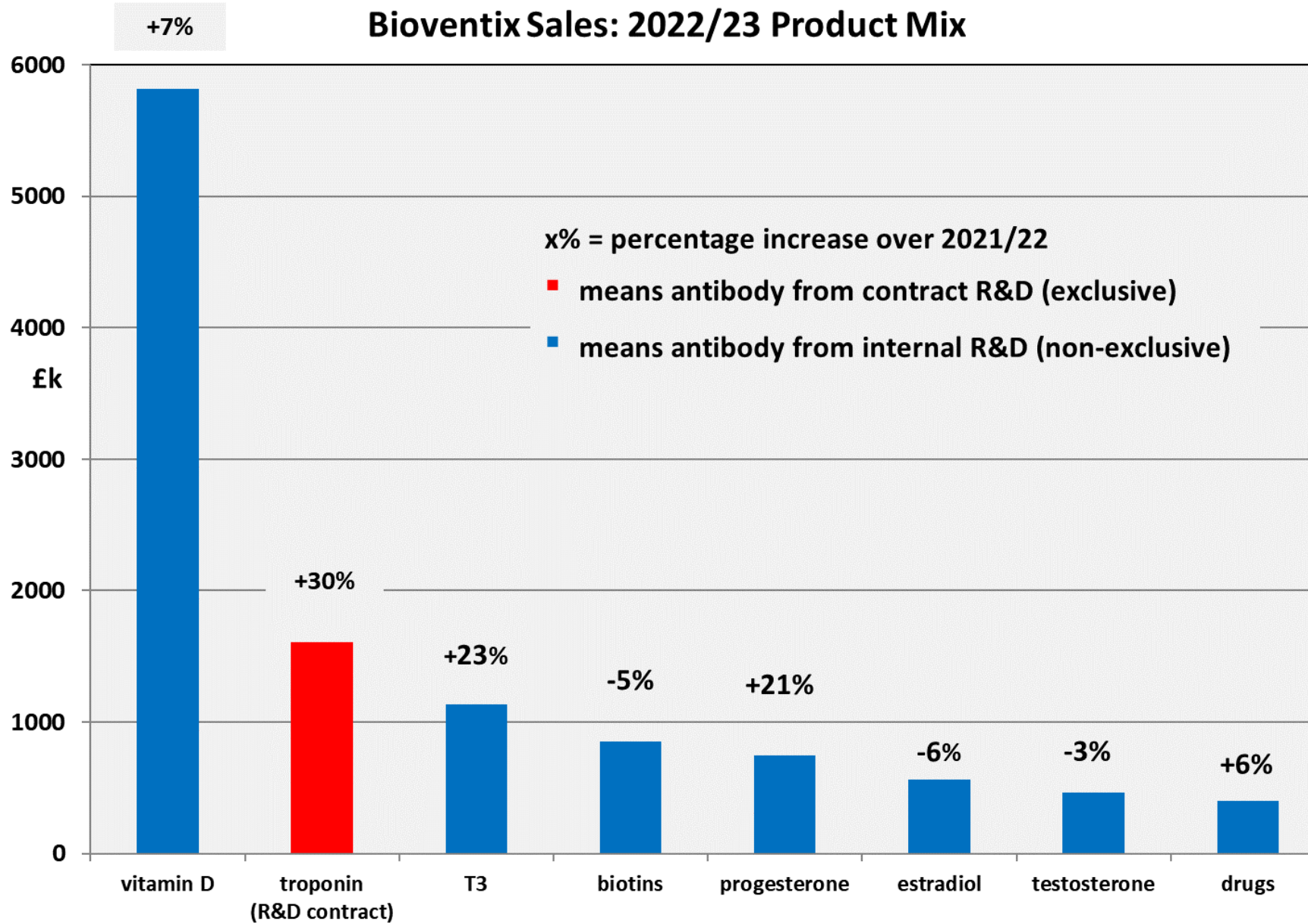
Key Year End Financials



£ ('000)	year to 30.6.22	year to 30.6.23	finnCap forecast 2022/23
Sales	11,720	12,820 (+9%)	12,800
P/(L) before tax	9,280	10,130 (9%)	10,200 (adjusted)
P/(L) after tax	7,670	8,370 (9%)	8,000 (adjusted)
Period-end cash	6,130	5,720	5,400
Total regular dividend per share (p)	126	152	
Split between Spring/Autumn	52/74	62/90	
Special dividend	26		
Year dividend total	152	152	150

- Cash flows will be affected by changes to corporation tax which increased from 19% to 25% on 1st April 2023
- A second interim dividend of 90p/share will be paid on 24 November 2023





■ Note: Siemens troponin revenues will terminate in June 2032

Sales Commentary for the Period



- Physical product sales performed well
 - Some physical product revenue streams are naturally spasmodic
 - Sales to China remain strong accounting for ~50% of total physical sales. Chinese downstream assay price pressure has increased through aggressive central health authority procurement mechanisms
- Vitamin D and core antibody sales were in line with an expectation of 5-10% annual growth
- Troponin sales have continued to increase significantly. Whilst the percentage growth is less than last year, we have no reason to doubt that prospective troponin sales will be in line with analysts' forecast

Longer Term Pipeline Development

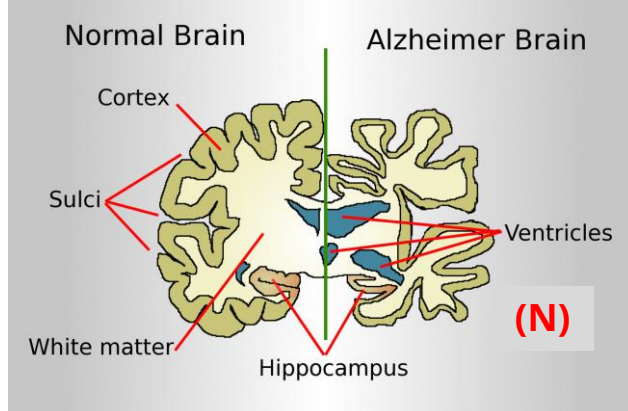
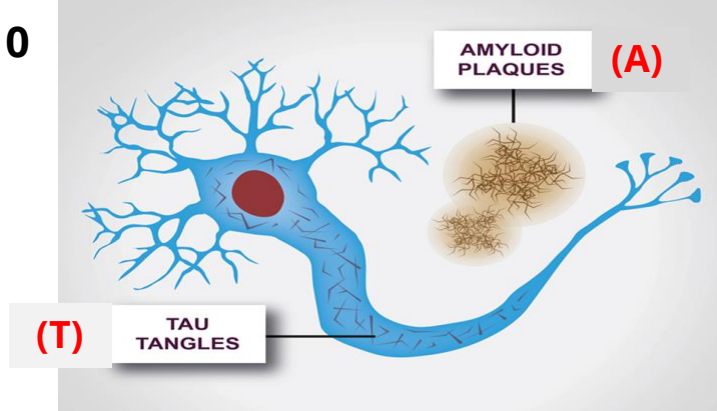


↑ Increasing potential value	high	Amyloid (Pre-Diagnostics) Secretoneurin (CardiNor)	Tau (Alzheimer's, own-risk)	
	medium			
	Low		Industrial biomonitoring (benzene, isocyanates)	Pyrene biomonitoring
		Low	Medium	high
Increasing probability of success →				

- There has been a significant focus of R&D resource on the Tau project

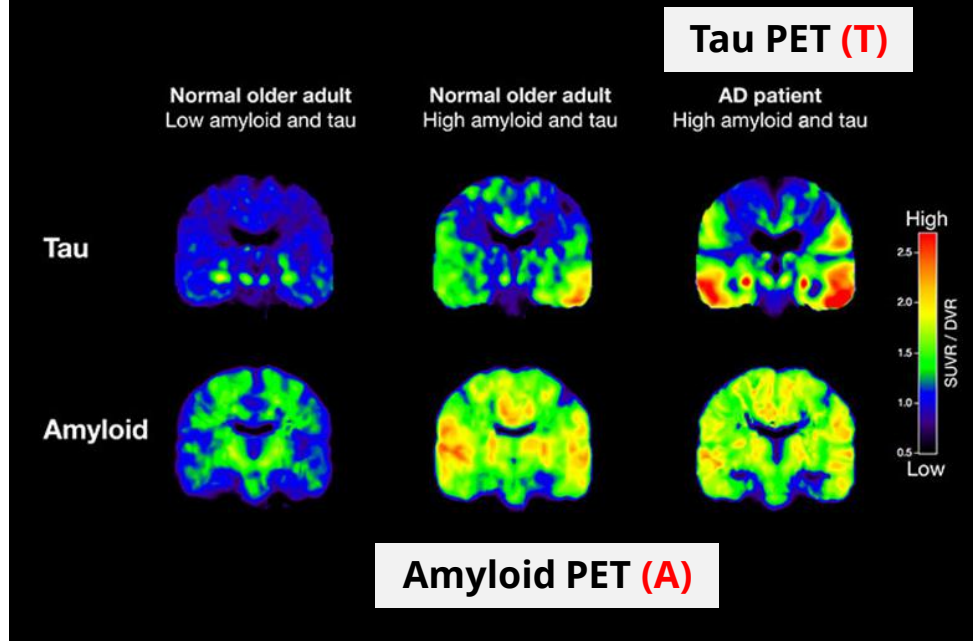
Pipeline Development Commentary

- **Secretoneurin** (CardiNor/cardiac): CardiNor continue in their efforts to define the potential utility of secretoneurin diagnostics in cardiac health. A leading line of research is the potential to help clinicians identify heart failure patients that would be suitable candidates for implantable cardiac devices
- **Amyloid** (Pre-Diagnostics/Alzheimer's): ARIA is an important side-effect of new anti-amyloid drugs for Alzheimer's. Pre-Diagnostics assays relate to amyloid metabolism and could help screen for ARIA vulnerable patients, before or during treatment
- **Tau** (Alzheimer's/own-risk): **update on following slides**
- **Pyrene** (industrial biomonitoring): a second field trial at a UK industrial site was completed successfully during Q2.2023. More field trials are planned for 2024. Work continues on the additional industrial pollutants, **benzene** and **isocyanates** (benzene is relevant to the petrochemical industry and isocyanates are used in polyurethane plastics and paints)



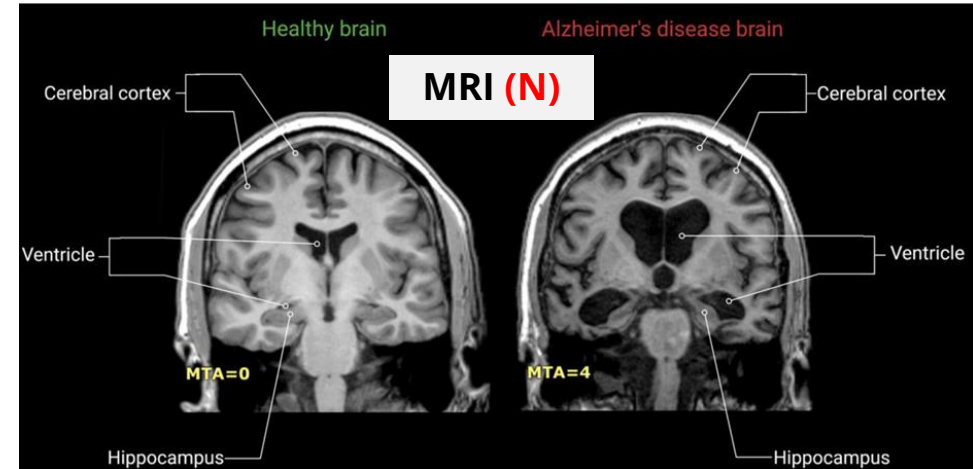
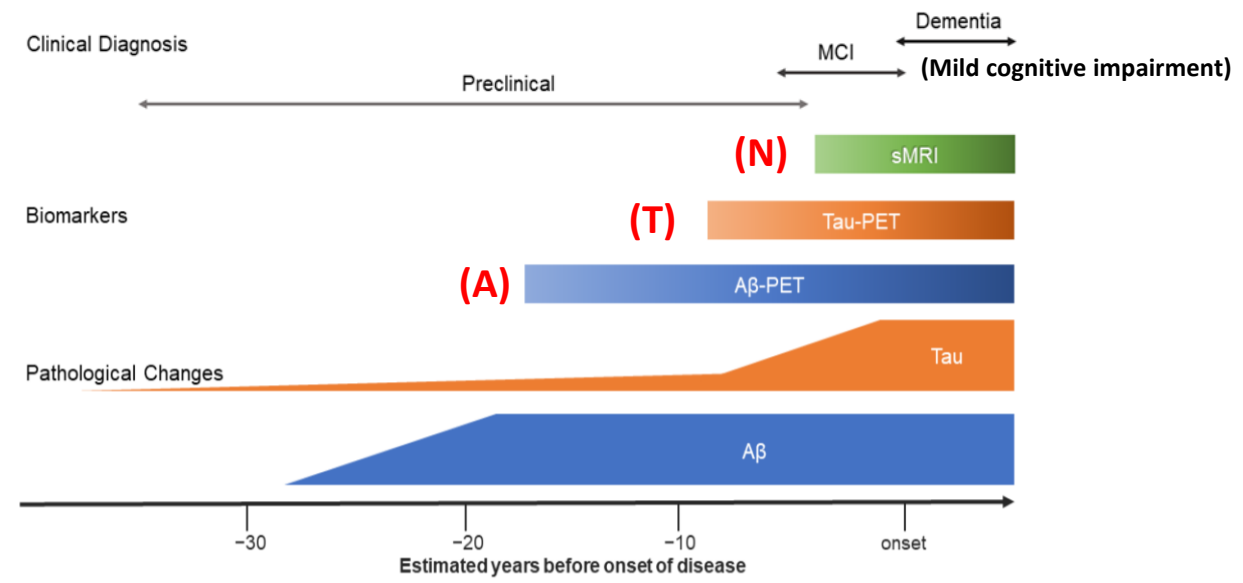
- Alzheimer's is complex and is different amongst individuals
- Changes at a cell level include amyloid plaques outside neurons and tau tangles inside neurons

- The disease progresses many years before symptoms appear
- Neurodegeneration in the brain is clear in later disease and post-mortem



- Amyloid PET scans detect early disease (A)
- Tau PET scans show more advanced disease (T)

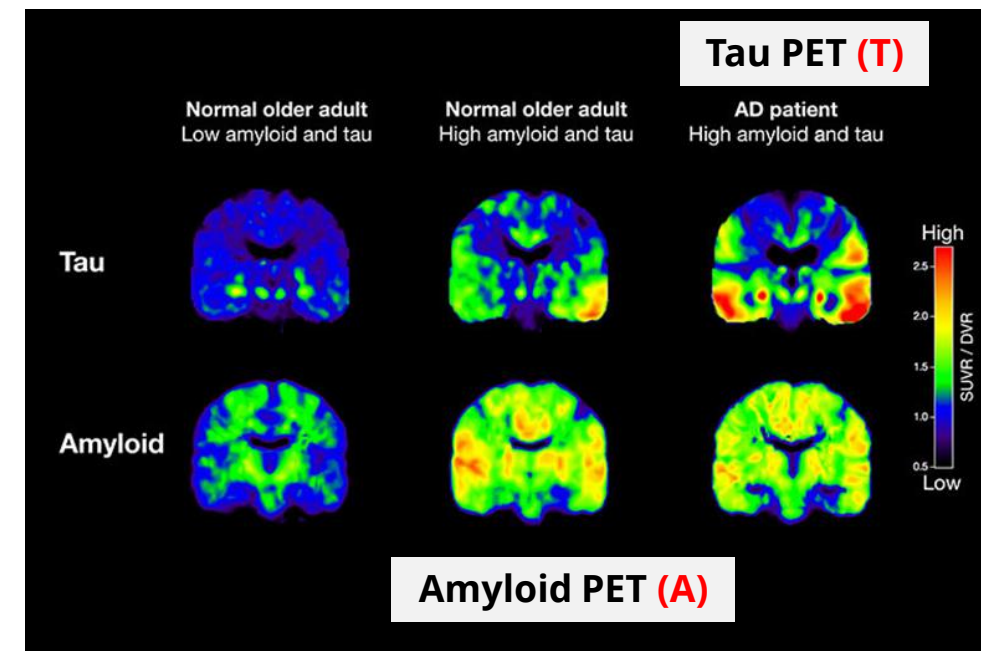
Alzheimer's Disease



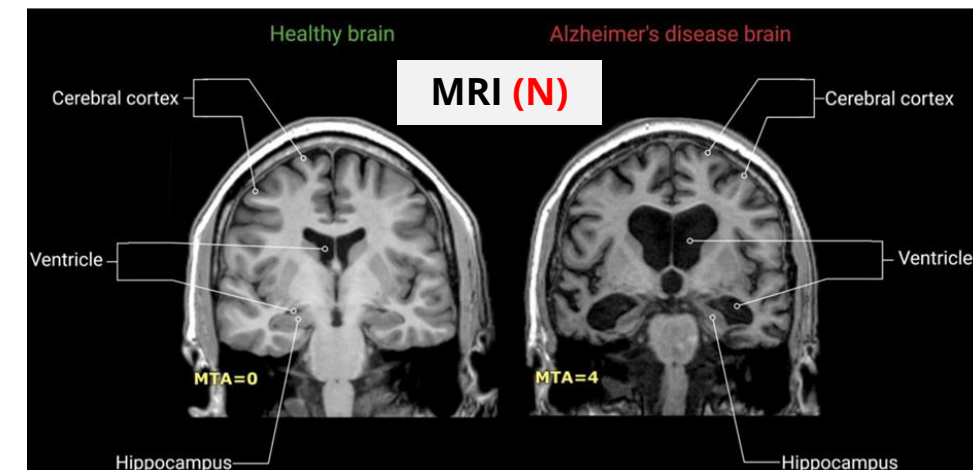
- MRI scans detect later neurodegeneration when symptoms are more evident (N)

Diagnostic Potential

- With the advent of therapies for Alzheimer's disease, blood tests identifying blood-based biomarkers are likely to be useful tools. To be useful in the future, blood tests should correlate with or otherwise be additive to more expensive brain scans
- Tests that identify the early stages of disease (A) could be valuable in identifying patients suitable for therapeutic intervention
- Tests that identify tau tangle formation (T) and the rate of neurodegeneration (N) could help monitor patients receiving therapy
- Bioventix is supplying SMAs to the University of Gothenburg where prototype tests for A and N are being developed



- Amyloid PET scans detect early disease (A)
- Tau PET scans show more advanced disease (T)



- MRI scans detect later neurodegeneration when symptoms are more evident (N)

Tau-Based Blood Tests: Status



- Early detection (A):
 - pTau217 is considered by many experts in the field to be a leading candidate biomarker for early detection, crucial for identifying potential therapy patients
 - The University of Gothenburg pTau217 prototype assay using an SMA performs in a similar way to other leading pTau217 assays. There is a useful effect size (patient signals are x2-4 controls depending on the cohort) and a relatively low percentage of false positives and false negatives
 - *For more scientific detail, see: "A novel ultrasensitive assay for plasma p-tau217: performance in individuals with subjective cognitive decline and early Alzheimer's disease", Fernando Gonzalez-Ortiz, Journal of the Alzheimer's Association, accepted for publication October 2023*
- Tau tangle formation (T):
 - This is an area for future research
- Neurodegeneration (N):
 - A novel Gothenburg assay using an SMA detects only "brain-derived" tau in blood which avoids the "fog" of tau derived from peripheral nerves
 - Brain-derived tau measured in blood is a candidate biomarker for neurodegeneration and will be explored further
 - *For more detailed scientific information, see: (1) "Brain-derived tau: a novel blood-based biomarker for Alzheimer's disease-type neurodegeneration", Fernando Gonzalez-Ortiz, BRAIN 2022: 00, and (2): "Levels of plasma brain-derived tau and p-tau181 in Alzheimer's disease and rapidly progressive dementias", Fernando Gonzalez-Ortiz, Journal of the Alzheimer's Association, accepted for publication October 2023".*

Tau-Based Blood Tests: Commercialisation



- Market development:
 - The emergence and adoption of Alzheimer's therapies during the later 2020 and 2030s will require associated screening and monitoring diagnostic tools
 - Blood-based biomarkers, once fully validated are likely to play an important role
 - Precisely how these events will unfold will become clearer in the next few years
- Research Use:
 - Whilst the route towards the roll-out of validated commercial blood tests remains uncertain, it is likely that expert neurology centres will wish to run prototype tests
 - The Gothenburg prototype tests run on Quanterix (Billerica, MA) machines. A partnership with Quanterix to support such R&D use would be desirable
- IVD Companies:
 - Most multinational IVD companies see the potential market development described above
 - Bioventix has supplied some IVD companies with tau SMAs. However, other tau antibodies and assays already exist

Bioventix Strategy



- Seek novel clinical diagnostic biomarkers that suit our antibody technology and identify partner collaborator labs (eg Tau & University of Gothenburg)
- Continue to focus on antibody technology development
 - Identify antibody technologies that are compatible with existing core SMA technology (eg antibody “sandwiches” for small molecules)
 - Identify applications that utilise the technologies developed (eg the THC sandwich and the pyrene project which also uses sandwich technology)
- Nurture and build the capability, knowledge and skills of the Bioventix team to deliver the strategy

Bioventix Lab, Farnham



▪ Purification and assay



▪ Technology development



▪ Cell culture



▪ Bioreactor production

- Inflationary pressures have led to price increases of some raw materials
- Staff continuity has remained high with no recent departures or retirements

Bioventix Directors



- **Peter Harrison, CEO**
- >30 years experience of antibody technology at Celltech, KS Biomedix & Bioventix
- Peter remains healthy and committed to Bioventix



- **Ian Nicholson, Chairman**
- >30 years experience of commercial development within biotechnology including Amersham, Celltech, Chroma, Clinigen, Consort Medical & F2G

- **Bruce Hiscock, Executive Finance Director**
- Chartered Accountant with >30 years experience in growing listed, privately owned and VC backed SMEs.



- **Nick McCooke, Non-executive Director**
- >30 years experience of biotech industry (including diagnostics R&D) at Celltech, Solexa & Pronota

▪ **Appointed May 2023**

- **Jo Pisani, Non-executive Director**
- Chartered Engineer with a distinguished background in the Pharmaceutical, Life Sciences and Biotech sectors (GSK, UK Dementia Research Institute)

Significant Shareholders



Institution	Shares (1000s)	%
Sanford DeLand	755	14.5
Liontrust	571	11.0
Gresham House	465	8.9
Peter Harrison	359	6.9
Hargreaves Lansdown Stockbrokers	343	6.6
Rathbones Investment Mgmt (inc Investec)	324	6.2
Danske Bank	155	2.9
Hargreave Lansdown Fund Managers	122	2.3
Edentree Investment Management	110	2.1
Charles Stanley	100	1.9
Schroder Investment Management	70	1.3

Total shares = 5,219,656 (Mar 2023)

▪ **From permissions, other available data and TR-1 forms received as at Sept 2023**

Conclusions and Outlook



- Sales of our vitamin D antibody and other core SMAs have been in line with expectations
- Troponin revenues have increased significantly
- Research work on Tau for Alzheimer's disease diagnostics continues and we remain excited by the data emerging from our collaboration with the University of Gothenburg