



# Investor Presentation

November 2010

Dr Jenny Harry  
CEO and Managing Director

# Forward Looking Statement

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# Investment Highlights

|                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A Proprietary Technology<br/>with a Competitive<br/>Advantage</b>                           | <ul style="list-style-type: none"> <li>▪ Proprietary Point-of-Care DiagnostIQ platform offers opportunities for out-licensing and partnering to develop new products and generate revenues</li> <li>▪ Test format offers advantage over other similar formats for on-line processing of complex samples and ability to provide a semi-quantitative visual result</li> <li>▪ Long term patent protection on DiagnostIQ product platform (2022)</li> </ul> |
| <b>Successful Validation of<br/>Marker for Active TB</b>                                       | <ul style="list-style-type: none"> <li>▪ Intellectual property on biomarkers for Tuberculosis to exploit for licensing revenues</li> <li>▪ Validation of Tyrian's patented RNA marker as a sensitive diagnostic candidate for the direct detection of active TB from sputum samples by the Public Health Research Institute ("PHRI") TB Centre in New Jersey, US.</li> </ul>                                                                             |
| <b>Development and<br/>Commercialisation of Point<br/>Of Care Agricultural<br/>Diagnostics</b> | <ul style="list-style-type: none"> <li>▪ Existing partnership with Bayer CropScience for crop quality diagnostics – validates Tyrian's business model to drive near term revenue growth from Ag products</li> <li>▪ Signed Manufacturing &amp; Supply agreement with Bayer CropScience</li> <li>▪ First commercial batch of ReadRite tests successfully manufactured at OEM in Thailand</li> </ul>                                                       |
| <b>Higher Value Point of Care<br/>Tests for Chronic Respiratory<br/>Disease</b>                | <ul style="list-style-type: none"> <li>▪ Identified large market opportunity for simple, rapid diagnostic tools to accurately triage, treat and monitor chronic lung disease</li> <li>▪ Tyrian has extensive experience in development of sputum-based diagnostics</li> <li>▪ Collaboration with Aradigm Corporation, US, to provide samples for development of sputum-based assays for lung inflammation</li> </ul>                                     |

# Company Overview: Emerging Diagnostics Company

**Tyrian is a diagnostics company developing a pipeline of next generation  
'Point-of-Care' diagnostic tests**

## **Robust Platform for Rapid Development of PoC Diagnostics**

Portfolio of patents and patent applications protecting biomarkers, sample processing, PoC DiagnostIQ™ platform and commercial assay development

### **Agriculture Diagnostics**

- ✓ Global agreement with Bayer CropScience for crop quality diagnostics
- ✓ First product in market
- ✓ Second product in final development stage
- ✓ Test advantages are ease of use, speed of analysis and reliable result



**Seeking strategic partners to develop  
agriculture diagnostics business**

### **Medical Diagnostics**

- ✓ Developing lung diagnostic franchise
- ✓ Specialists in sputum-based diagnostics
- ✓ Development of proprietary products underway, leveraging IP in lung disease
- ✓ Engaged with key opinion leaders and clinicians in Australia, US and UK



**Commercial partner for TB MDx and  
define products & partners for COPD**

# Key Achievements in 2010

## **DiagnostIQ™: Robust Platform for Rapid Development of PoC Diagnostics**

- ✓ Protected by 10 granted and 5 pending patents
- ✓ Commissioned Pacific Biotech Co. Ltd as OEM manufacturer of Tyrian's DiagnostIQ™ products
- ✓ Initiated developments to enhance the DiagnostIQ™ device for clinical applications

### **Agriculture Diagnostics**

- ✓ Signed Manufacturing and Supply Agreement with Bayer for ongoing commercial supply of ReadRite products
- ✓ Supplied Bayer with first commercial batch of ReadRite Alpha Amylase tests to support marketing and sales in North America
- ✓ Multi-site field trials for second Bayer product completed, showing test performance correlates highly with lab-based gold standard – initiated final product development phase

**Working with industry advisors in US to identify strategic partners for expansion of agricultural diagnostics business**

### **Medical Diagnostics**

- ✓ Validated proprietary molecular marker for active TB test in collaboration with PHRI, US
- ✓ Engaged with key opinion leaders and clinicians in Australia, US and UK for COPD Dx
- ✓ Initiated clinical collaboration with Aradigm Corporation, US
- ✓ Developed sputum-based rapid immunoassays for respiratory disease, including proprietary methods to process sputum for PoC diagnostic applications

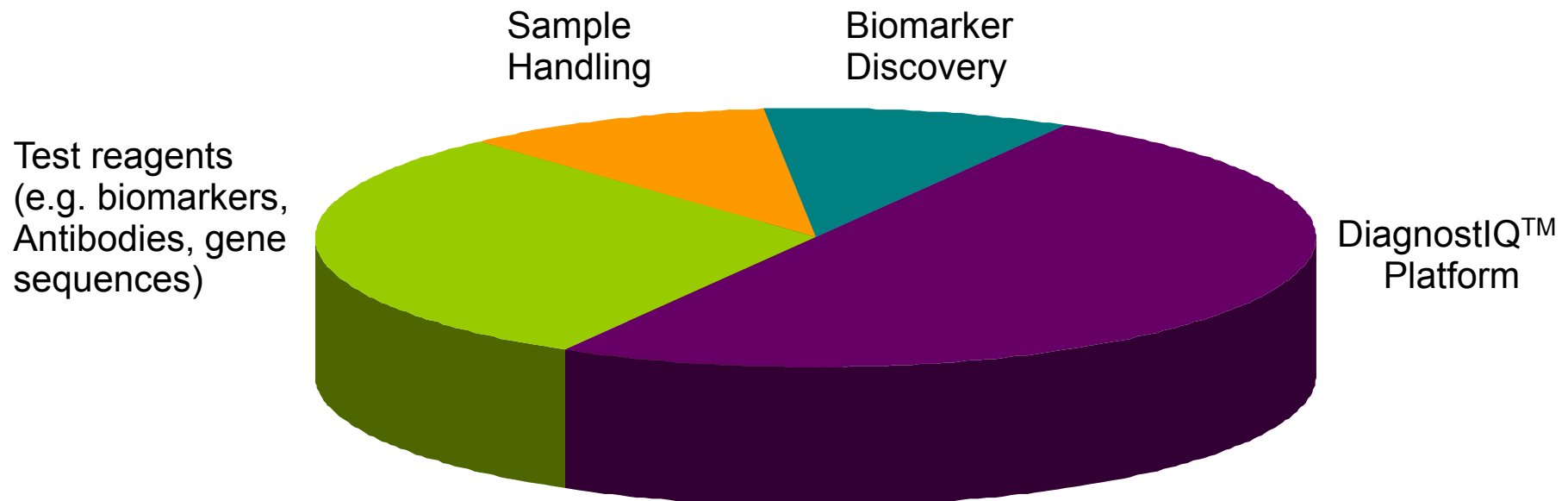
**In discussions with potential partners for development of TB Molecular Diagnostic and engaged US advisor to secure partners for COPD diagnostics**

# Tyrian Product Pipeline

|                                                      | Product                     | Partner              | Discovery and/or Validation | Proof-of Concept | Product Development | Market Launch |
|------------------------------------------------------|-----------------------------|----------------------|-----------------------------|------------------|---------------------|---------------|
| Partner's targets on DiagnostIQ™                     | ReadRite alpha – amylase    | Bayer CropScience    |                             |                  |                     |               |
|                                                      | Crop quality test           | Bayer CropScience    |                             |                  |                     |               |
|                                                      | New products                | Open                 |                             |                  |                     |               |
|                                                      | DiagnostIQ™ Reader          | Proprietary          |                             |                  |                     |               |
| Proprietary targets on DiagnostIQ™ & other platforms | TB PoC test                 | Open                 |                             |                  |                     |               |
|                                                      | TB molecular test           | Open                 |                             |                  |                     |               |
|                                                      | Chronic respiratory disease | Internal development |                             |                  |                     |               |

# Intellectual Property Portfolio

- ✓ Four patent families support the development of Point-of-Care diagnostics for medical and agricultural applications:
- ✓ DiagnostIQ™ platform IP supports agricultural and medical diagnostics products
- ✓ Test reagents, sample handling and biomarker discovery support development of diagnostics for respiratory disease



# DiagnostIQ™ – simple, fast and reliable

- ✓ The DiagnostIQ™ product is a simple to use, rapid and cost effective proprietary product for convenient and time-critical, point-of-need diagnostic testing.



Rapid Point-of-Need Diagnostic platform



Cost-effective, convenient and simple to use

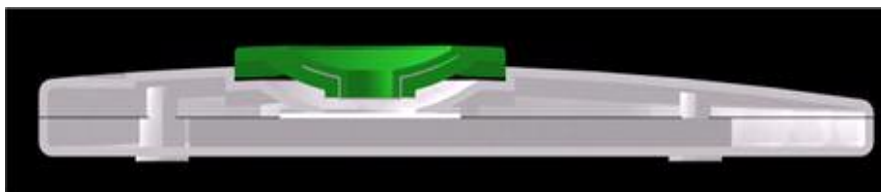


Accurate, reproducible and highly flexible

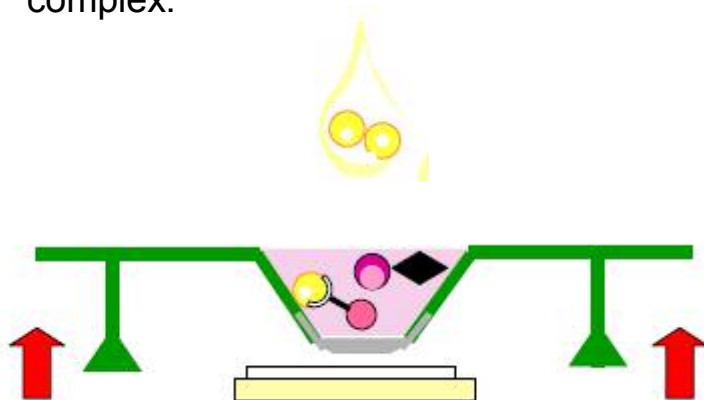
# DiagnostIQ™ - Patented Technology



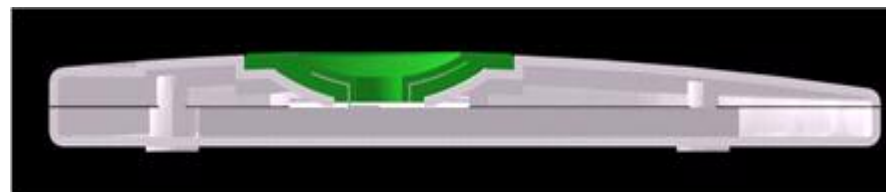
PRE-INCUBATION: Controlled reaction dynamics, broad sample capacity.



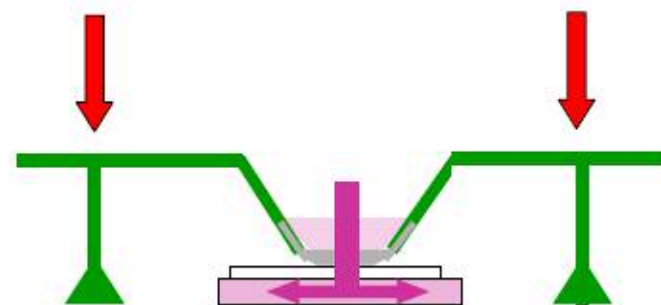
- ✓ Addition of sample + detector antibody to raised chamber.
- ✓ Formation of target/detector antibody complex.



REACTION: Controlled flow + sample filtration results in clean test line.



- ✓ Depress chamber to allow contact with capture antibody.



# Sensitivity of DiagnostIQ™



- Highly sensitive for a range of targets
- $\leq$  low ng/mL for proteins
- $\leq$  200 ppb for small molecules
- Increased sensitivity over comparable lateral flow devices

# Competitive Advantages of DiagnostIQ™



| Test Feature                    | DiagnostIQ™                                                                          | Lateral flow | Standard flow through | Microfluidics |
|---------------------------------|--------------------------------------------------------------------------------------|--------------|-----------------------|---------------|
| Rapid time to result            | ✓ ≤ 5 min                                                                            | ✗ 10-30 min  | ✓ ~ 5 min             | ✗ ~ 15min     |
| Broad Sample Capacity           | ✓ Up to 800 uL<br>Result is increased sensitivity of low abundant targets            | ✗ < 100 uL   | ✓ < 500 uL            | ✗ < 50 uL     |
| Compatible with complex samples | ✓ Sputum, faeces, whole blood<br>Patented design provides built-in sample cleanup    | ✗            | ✗                     | ✗             |
| Robust                          | ✓ Patented design provides control over assay reaction ensuring reproducible results | ✗            | ✗                     | ✓             |

# DiagnostIQ™: ReadRite® Alpha Amylase Test

## Commercialisation with Bayer CropScience

- International Industry Body evaluations and certifications pending in US and Canada
- Marketing specifically to farmers and grain traders in Canada, with market seeding in Europe and LATAM
- Technology transfer of the ReadRite Alpha-Amylase test commenced at the outsourced manufacturer in Thailand, successfully completing initial validation batch
- 10,000 commercial Alpha-Amylase tests successfully manufactured at the outsourced manufacturer; and delivered to Bayer CropScience for the completion of intensive ring-trial testing and further market seeding activities
- User trials conducted in EU, with post market feedback design improvements underway



## DiagnostIQ™: ReadRite® 2<sup>nd</sup> Crop Quality Test

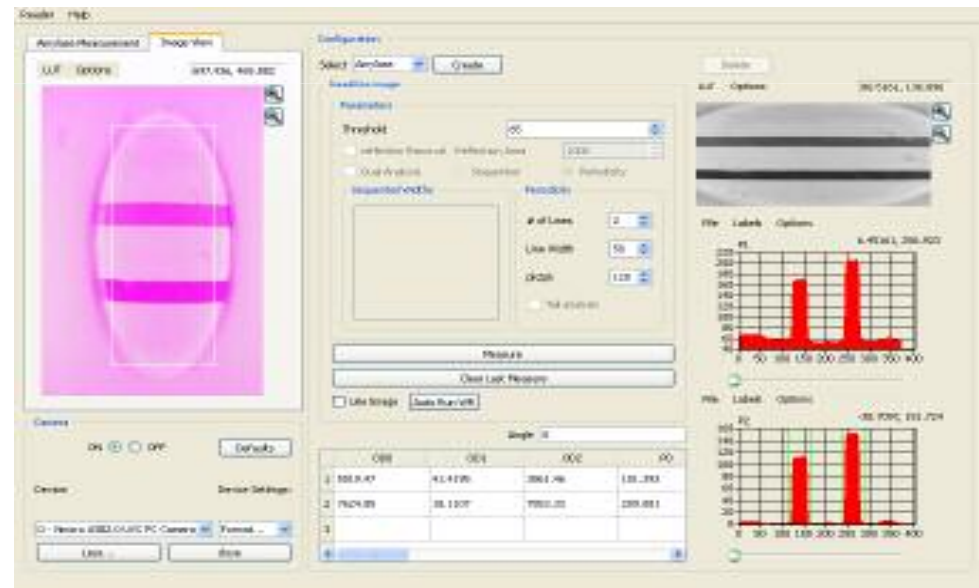
- Level of contaminant determines grain price and classification for use in consumption
- Adapted for use with multiple grains - wheat, barley and maize
- Successful evaluation of first prototypes during extensive multi-site field trials in EU
- >95% correlation with the laboratory gold standard test (HPLC)



- Commenced detailed development, with field trial results translated to a Requirements Specification to drive the detailed development
- Identical manufacturing processes to the ReadRite Alpha-Amylase test at the outsourced manufacturer, simplifying the technology transfer process after development
- 2<sup>nd</sup> delivery of final prototypes scheduled for Q2 2011

# ReadRite® ImmunoScanner

- ReadRite® ImmunoScanner is central to Bayer's portfolio of agricultural ReadRite diagnostic tests, with a single platform for multiple tests
- Provides instantaneous numerical result for the amount of alpha-amylase in a wheat sample and an equivalent Falling Number unit (laboratory standard method for wheat quality testing)
- Portable system to allow for Point-of-Need flexibility
- Currently calibrated for Canadian and US wheat varieties (ReadRite Alpha-Amylase), with additional regions expected to follow
- Capability for the software application to be expanded with option for multi-lingual use, facilitating market seeding activities



# Expanding the Agricultural Diagnostics Portfolio

- ✓ Platform potentially suited to a range of Agricultural applications where rapid, accurate detection of the test targets required at the Point-of- Need, including:
  - Crop management
  - Animal health
  - Food safety
  - Environmental testing
- ✓ US diagnostics market for animal health was \$474M in 2007 and projected to grow by 4.6%% to \$624M by 2013; the US food safety market in 2007 was \$622M and projected to grow by 6.5%/annum to \$1.2B by 2017.
- ✓ Developing industry relationships both domestically and internationally, through Key Opinion Leaders in agriculture and related fields
- ✓ Tyrian looking to expand product portfolio with existing Ag partner and other strategic partnerships to grow recurring revenue stream
- ✓ It is Tyrian's intention to implement tailored strategies to grow the Company's **agricultural** and **medical** diagnostics assets, understanding that each area will require different commercial and investment partners in order to maximise growth and shareholder return.

# Building a Respiratory Diagnostics Franchise

- ✓ Focus on lung disease
  - Identified markers of lung inflammation and exacerbation in sputum for Cystic Fibrosis
  - Discovered & validated bacterial markers in sputum for Tuberculosis and Pseudomonas
- ✓ Patents covering sputum sample processing, biomarkers and antibodies
- ✓ Proprietary Point-of-Care platform suitable for sputum-based diagnostics
  - Identified markers useful for diagnosing and monitoring progressive lung disease and exacerbation in Cystic Fibrosis
  - Developed sputum-based immunoassays on DiagnostIQ platform
- ✓ Relationships with KOLs and clinical partners for accessing samples, defining products, road testing prototype tests and conducting clinical trials

# TB: an under-diagnosed global disease

Tyrian is addressing this unmet need through identification & development of novel, TB-specific markers for diagnostic tests.

- The World Health Organisation reports TB as the world's second deadliest infectious disease — following HIV/AIDS.



WHO Global TB Report 2008

- WHO has declared that there is an **urgent need for improved diagnostics for the rapid, accurate, simple and cost effective detection of active TB infection** in order to prevent the continuing spread of the disease\*

\*Kehinde et al (2005) Journal of the National Medical Association 97(3), 394-396

# Validation of Key Marker for Active TB Diagnostic

- Outcomes of collaboration with Public Health Research Institute TB Centre, New Jersey, US to develop molecular assay using Tyrian's RNA target.
- ✓ Development of a sensitive RT-PCR assay for detection of Tyrian's RNA (TDXR1) in sputum
- ✓ Clinical sample analysis showed superior performance of Tyrian's RNA relative to gold standard 16SrRNA
- ✓ TDXR1 showed improved specificity to *M.tb* over other Mycobacteria compared to 16S
- ✓ International search report found claims in patent application for Tyrian's RNA marker novel and inventive
- ✓ Identified two product opportunities for different testing markets:

## First generation: Molecular TB test

- For use in district and peripheral lab settings
- Assay could be implemented onto existing commercial molecular platforms
- Tyrian seeking partner with molecular diagnostic technology for test development

## Second generation: PoC TB test

- Tyrian seeking partner with appropriate technology for development of TB PoC test
- PoC tech development needed to achieve sensitivity required
- Use in resource poor and emergency settings

## COPD: significant unmet diagnostic need

- COPD is the most steeply rising cause of death in US for people >65 yrs, the most rapidly growing age segment in the US<sup>1</sup>.
- Economic burden of COPD in the US in 2007 was \$42.6 billion in health care costs and lost productivity
- Acute exacerbation is the most common cause of COPD medical visits, hospital admissions & death
- Improved management of inflammation and exacerbations - 2 key unmet needs in COPD management<sup>2</sup>
- Current diagnostic tool (FEV<sub>1</sub>) is non-specific, i.e. does not measure inflammation or infection, is cumbersome and difficult to interpret

**Healthcare professionals require simple, rapid diagnostic tools to accurately triage, treat and monitor lung exacerbation**

<sup>1</sup> Weiss et al (2003) Eur. Respir. J 21: Suppl 41, 4S-12S

<sup>2</sup> Pipeline Insight: Asthma/COPD: Simplified treatments to split the market. Datamonitor (2009)

# Clinical Test Development



- Collaboration with Aradigm Corporation has enabled Tyrian to access clinical sputum samples from patients taking part in the trial of a new drug treatment for a chronic respiratory disease.
- Outcomes:
  - ✓ Transfer of established markers, likely to be important in monitoring patient progress in respiratory diseases, onto DiagnostIQ platform.
  - ✓ Successful, reproducible and sensitive DiagnostIQ testing of the clinical samples.
  - ✓ Protocols for collecting and processing clinical sputum samples have been refined, resulting in filing for patent application for these novel protocols.
  - ✓ Design of first DiagnostIQ prototypes for clinical application
- These are vital steps to be completed by Tyrian and will enable final formatting and focused clinical testing of the first of its selected diagnostic tests in the respiratory disease sector.

## Future Milestones

|                                                                                              |         |
|----------------------------------------------------------------------------------------------|---------|
| Definition of first COPD products for diagnostic development                                 | Q2 2011 |
| Establish partner for development and commercialisation of TB molecular diagnostic IP        | Q3 2011 |
| Deliver to Bayer final prototypes for second test with application across 3 grain types      | Q2 2011 |
| Complete ReadRite software validation for Bayer's second crop quality test for 3 grain types | Q4 2011 |
| Secure strategic partner for Ag diagnostic portfolio                                         | Q4 2011 |

# Experienced Management

|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Dr Jenny Harry</b><br>CEO & Managing Director    | <ul style="list-style-type: none"><li>▪ Experience in developing corporate strategy, negotiating and closing agreements, managing global partners and off-shore company subsidiary, commercialising products, raising capital and integrating company acquisitions.</li><li>▪ Completed The General Manager Program at Harvard Business School in 2006.</li></ul>                                                    |
| <b>Dr Robyn Lindner</b><br>Chief Scientific Officer | <ul style="list-style-type: none"><li>▪ 14 yrs in biotech with expertise in protein chemistry and experience in identifying &amp; validating new targets for diagnostic tests, strategic management of IP portfolio, managing commercial projects and relationships with off-shore clinical and corporate partners.</li><li>▪ Robyn is currently completing an MBA at AGSM.</li></ul>                                |
| <b>Ms Michelle Gow</b><br>Chief Operations Officer  | <ul style="list-style-type: none"><li>▪ 28 yrs experience in the medical device industry, implementing and managing quality, operations, product design, technology transfer in regulated high volume manufacturing environments for subsequent regulatory product approvals.</li><li>▪ Previously senior executive with Unilife Medical Solutions. Completed MBA at University of Western Sydney in 2002.</li></ul> |

# Capital Raising and Use of Proceeds

## Offer Details

- **1-for-1 Non-Renounceable Rights Issue to raise ~\$4.0m**
  - Lead Manager & Underwriter: Patersons Securities
- **Issue price - \$0.008**
- **For every 5 shares subscribed, 1 option will be granted**
  - \$0.012 exercisable on or before 20 Dec 2013
  - Total of 99.7m Rights Options to be issued
- **Fully Underwritten Non-Renounceable Rights Issue**
  - For every 5 shares underwritten, a Commitment Option will be granted to sub-underwriters
  - Total of 99.7m Commitment Options to be issued in the same terms as the Rights Options
- **Funds raised through the capital raising will enable:**
  - Establishing partners to expand the scope of the DiagnostIQ agricultural product portfolio, while continuing to develop new products under the relationship with Bayer CropScience AG;
  - Business development activities to identify a commercialisation partner/s for the Company's TB molecular diagnostic;
  - Advancing development of sputum-based point-of-care tests for chronic respiratory disease, including further refinement of the DiagnostIQ device for clinical applications; and
  - Working capital.

## Capital Structure

|                    | Shares (m)   | Options (m)  |
|--------------------|--------------|--------------|
| Existing on Issue  | 498.5        | 62.2*        |
| Rights Issue       | 498.5        | 99.7**       |
| Commitment Options |              | 99.7**       |
| <b>Total</b>       | <b>997.0</b> | <b>261.6</b> |

\*Unlisted options, exercisable at \$0.03 on or before 31 December 2010

\*\*Tyrian will apply to have these options listed on the ASX

## Attractive Pricing (as at 12 November 2010)

| Period                  | Discount |
|-------------------------|----------|
| Last Close              | 33.3%    |
| Discount to 7-day VWAP  | 35.5%    |
| Discount to 30-day VWAP | 31.0%    |

## Indicative Timetable\*

|                                                    |                  |
|----------------------------------------------------|------------------|
| Announce Offer to ASX & Lodge Prospectus           | 18 November 2010 |
| Record Date                                        | 26 November 2010 |
| Offer Opens                                        | 29 November 2010 |
| Offer Despatch of Prospectus and Application Forms | 29 November 2010 |
| Offer Closes                                       | 13 December 2010 |
| Issue and Allotment Date                           | 21 December 2010 |
| Commence trading of New Shares on the ASX          | 22 December 2010 |

*\*Timetable is indicative only and subject to change without notice*