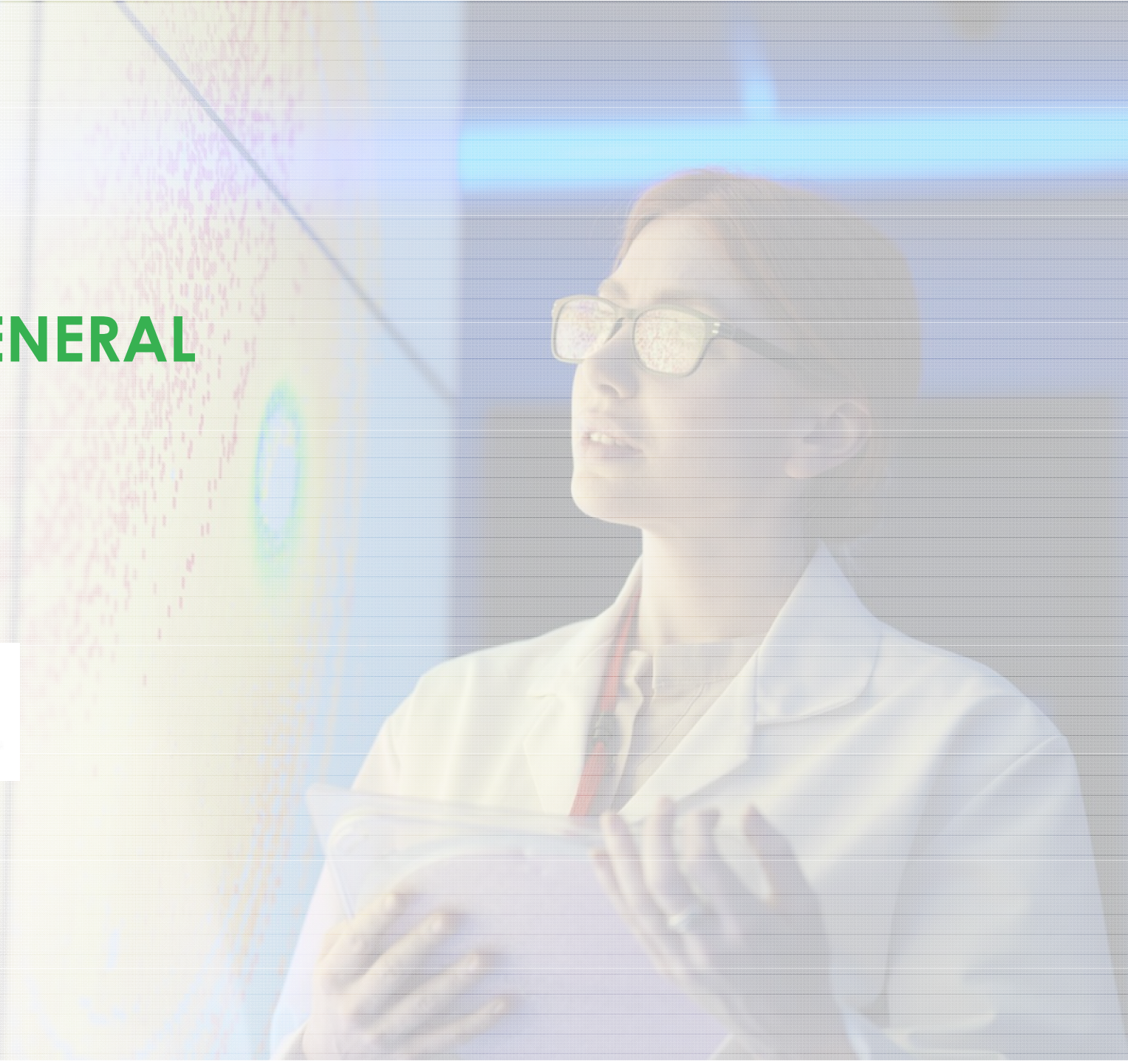


# ANNUAL GENERAL MEETING

November 2022

**INVION**<sup>™</sup>





The background of the slide is a blurred photograph of a laboratory setting. On the left, a glass pipette is shown with a small droplet of liquid hanging from its tip. In the foreground, several clear glass test tubes are arranged in a row. To the right, a portion of a laboratory instrument, possibly a pipette or a small scale, is visible, featuring a circular dial with the number '10' on it. The entire image has a soft, out-of-focus quality with a cool blue color palette.

# **CEO AGM PRESENTATION**

Laying the groundwork for an exciting 2023



# DISCLAIMER

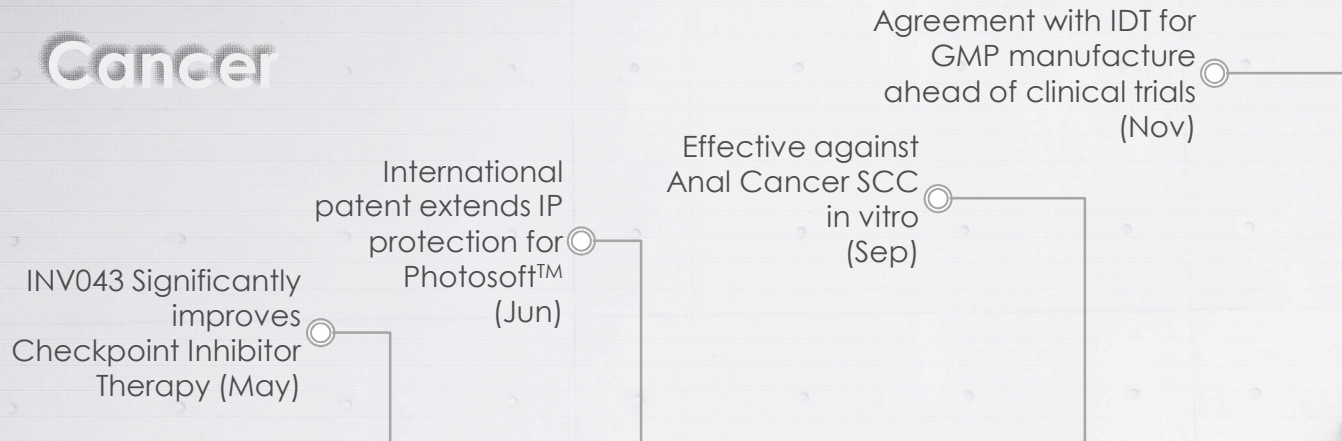
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# KEY ACHIEVEMENTS

## HIGHLIGHTS OVER THE PAST YEAR

### Cancer

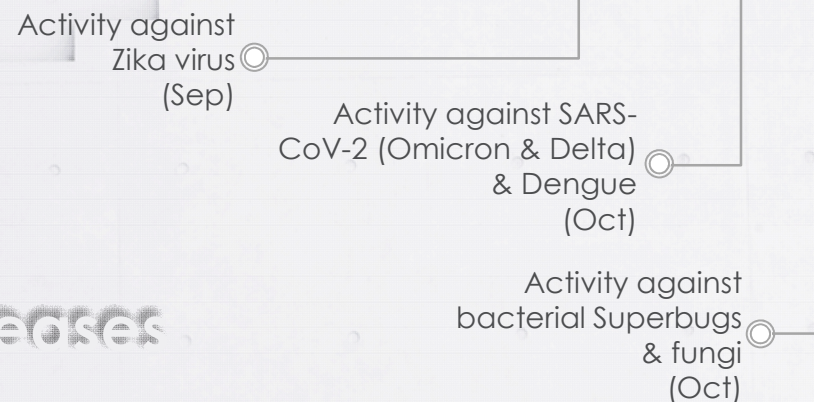


Cancer Research Partners:



2022

### Infectious Diseases



Infectious Diseases Research Partners:



Australian Centre for Antimicrobial Resistance Ecology (ACARE)





# LEAD CANCER DRUG CANDIDATE INV043

## PATHWAY TO PARTICIPATE IN A US\$271B MARKET OPPORTUNITY<sup>1</sup>

Cancer is the primary focus of Invion as we prepare to commence Phase I clinical trials in 2023

Proof-of-Concept studies of lead candidate INV043 has been shown to:



Selectively absorbed by cancer cells and not healthy tissue



Effective in regressing multiple types of cancer *in vivo*



Stimulate the body's natural immune response



Work additively with blockbuster ICI<sup>2</sup> drugs



Be non-toxic, safe and have limited side effects



Support the translation into successful clinical trials<sup>3</sup>

<sup>1</sup> Oncology market exceeded US\$270.5 billion in 2021 and is forecast to grow at 10.2% CAGR between 2022 and 2028, according to GMI

<sup>2</sup> Immune Checkpoint Inhibitor (ICI) therapies are part of the Immunotherapy market

<sup>3</sup> Scheduled for 2H CY2022 or 1H CY2023



# IMPROVED API: INV043

## KEY CHARACTERISTICS\*

### Active against multiple cancers

- INV043 successfully regressed established T-cell lymphoma, triple negative breast and pancreatic cancers *in vivo* (n=4-8/group).
- Formulations enable multiple routes of administration.
- Treatment activates an immune response.

### Highly potent and selective

- ~600x greater phototoxicity than Talaporfin sodium (a widely used photosensitiser).
- No observed off target toxicity.
- No “dark” toxicity” until 20 to 300 times the therapeutic dose.

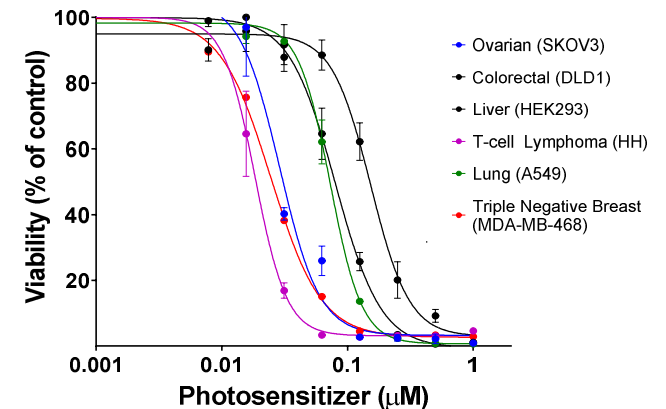
### Strong therapeutic profile

- No toxicity identified up to 100x the therapeutic dose
- Selectively retained into tumours *in vivo*:
  - Within hours accumulates in tumour mass
  - Within a day INV043 is not detectable in healthy tissue
  - Remains concentrated within tumour mass for >3 days

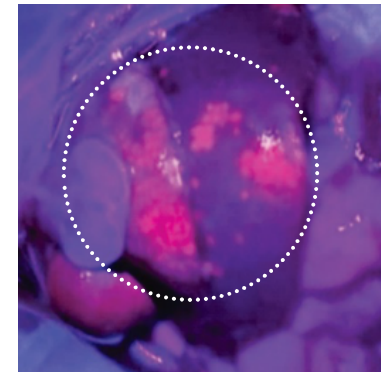
### Theranostic potential

- Two distinct light activations wavelengths
- **Diagnostic:** Fluorescence providing highly visible definition of tumour mass and margins.
  - **Therapeutic:** Activation of INV043 causes rapid cancer cell death and tumour regression.

### INV043 activity against multiple cancer cell types



### INV043 fluorescing in a tumour under light



\*Studies carried out by Hudson Institute



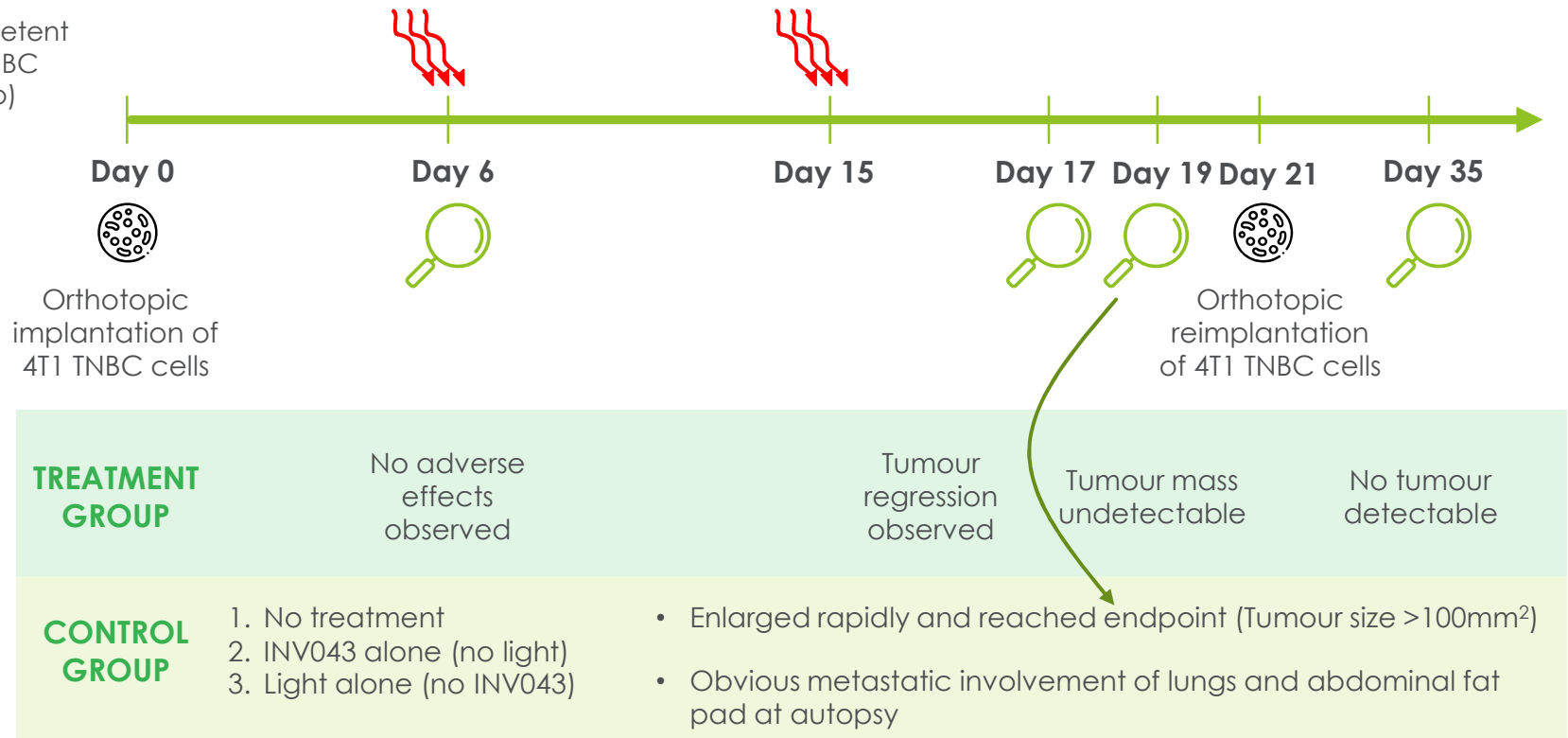
# PROOF OF CONCEPT: PRIMARY TUMOUR PILOT STUDY

## REGRESSION AND PROTECTIVE IMMUNITY

### Treatment with established tumours (INV043 with light)

- INV043 was injected intratumorally (0.1 mg/kg)
- 16 hours later, illuminated with red light
- No anaesthesia required, no adverse effects observed

Immune competent mice with TNBC (n=3/group)

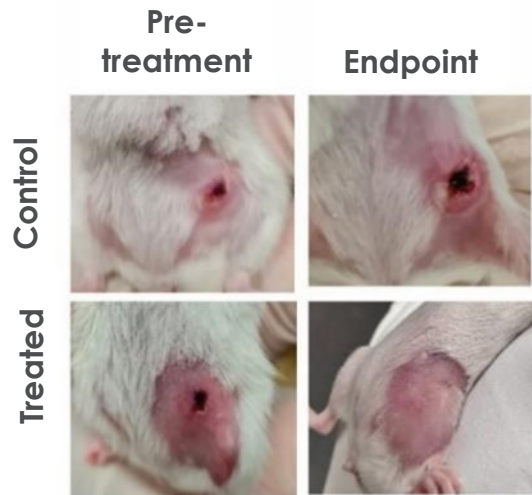




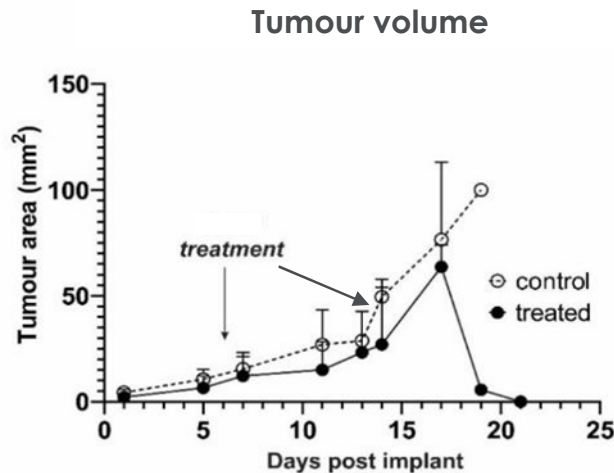
# PROOF OF CONCEPT: PRIMARY TUMOUR PILOT STUDY

## REGRESSION AND PROTECTIVE IMMUNITY

- Triple Negative Breast Cancer (TNBC) is a hard-to-treat cancer resistant to most chemotherapies
- Proof of Concept (PoC) pilot showed complete regression of TNBC in vivo following INV043 treatment
- Tumour mass undetectable two weeks after initial treatment and no scarring evident
- No recurrence of disease, re-challenge with TNBC implant could not re-establish new tumours, suggesting development of protective immunity
- Additional PoC tests being carried out by Hudson Institute



<https://inviongroup.com/videos-reports/>



**Figure 4. PDT using INV043 results in complete regression of established tumours.**

Mice with established 4T1 breast tumours treated with INV043 PDT at days 6 and 13 post-implant. Tumour size monitored until endpoint ( $\geq 100\text{mm}^2$ ). Treatment regressed established tumours to an undetectable level within 14 days of treatment. No tumour regrowth observed.  $n=3/\text{group}$ ; mean  $\pm$  SD



# ANAL CANCER SCC

## PROMISING RESULTS AGAINST NEW CANCER CLASS\*

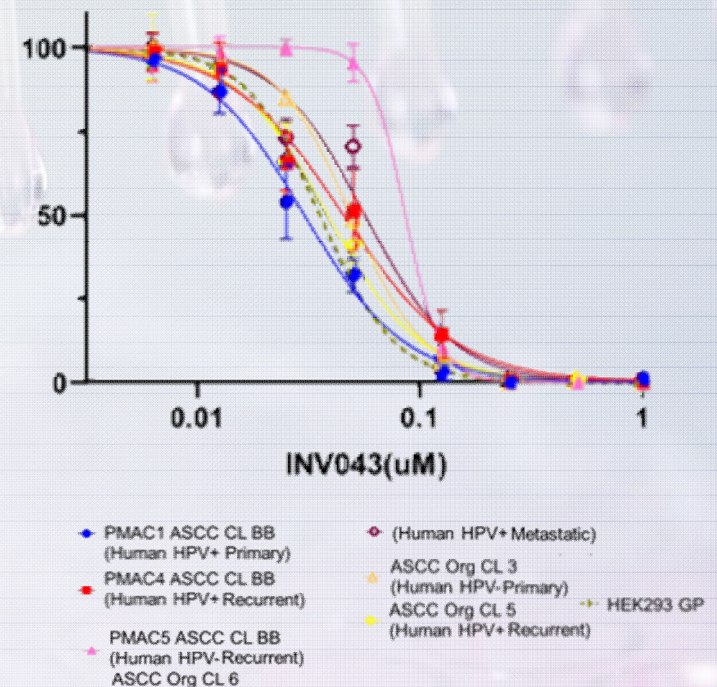
*In vitro* study showed INV043's effectiveness against six squamous cell carcinoma (SCC) cell lines that represent the full range of anal cancers

Most anal cancers are SCCs and are difficult to treat with the global market estimated to be worth US\$1.3bn by 2028 (6.3% CAGR)<sup>1</sup>

Findings were consistent with the results of work done at the Hudson Institute on other cancer types

Preclinical testing using topical delivery of INV043 started as a prelude to moving to clinical human testing of anal SCC

Cytotoxicity data of human anal SCC cells lines



<sup>1</sup>Source: <https://www.coherentmarketinsights.com/market-insight/anal-cancer-market-4701>

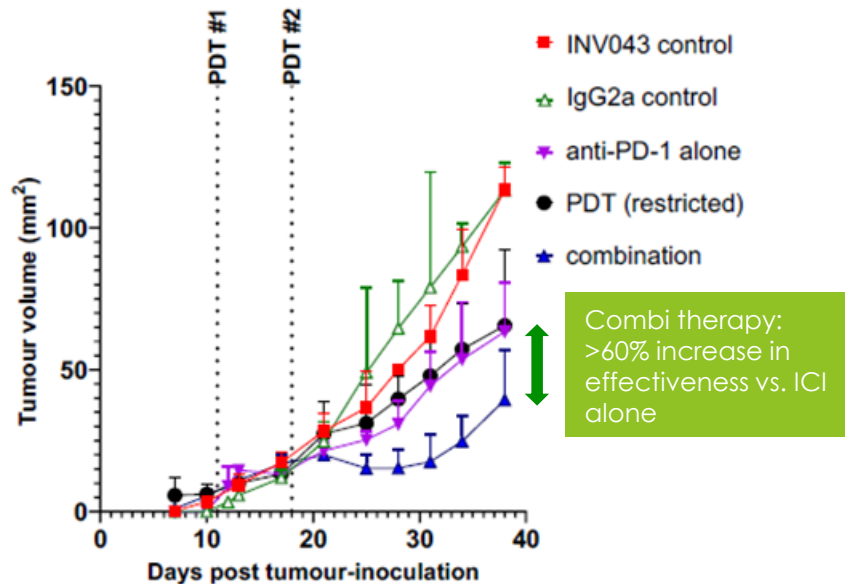
\*Studies carried out by Peter Mac



# PROOF OF CONCEPT: IMMUNE CHECKPOINT INHIBITORS (ICI)

## COMBINATION THERAPY FOR PARTICIPATION IN THIS US\$140B MARKET<sup>1</sup> (BY 2030)

- Immune checkpoint inhibitors are widely used for the treatment of lung cancer and melanoma. However, ICI treatments are typically only effective on a small proportion of patients
- Proof of Concept (PoC) pilot by Hudson Institute showed both INV043 (under restricted administration) and anti-PD-1 therapies achieved a very similar level of tumour growth restriction following therapy, with tumour growth reduced by ~40% compared to controls
- A combination of INV043 with anti PD-1 provided substantially enhanced restriction (~65%) of tumour growth, with clear tumour regression despite the sub-optimal INV043 treatment protocol used



**Figure 5. INV043-PDT combines with immune checkpoint inhibition to regress tumour mass.**

Mice with established 4T1 breast tumours were treated using a restricted INV043 PDT protocol and / or anti PD-1 antibody over a period of 14 days. Tumour size was monitored until endpoint (tumour size  $\geq 100\text{mm}^2$ ).

Monotherapies restricted tumour growth compared to untreated controls; combination therapy regressed and stabilized tumours and achieved a ~65% reduction in tumour size at endpoint. INV043 control, no light activation; IgG2a control, isotype antibody control; combination, PDT+ anti PD-1. Additional control groups have been omitted for clarity. mean  $\pm$  SD,  $n=4/\text{group}$ .

The research activities involving the use of animals were carried out in accordance with relevant guidelines and regulations as well as with appropriate Animal Ethics Committee approval.

<sup>1</sup> <https://www.alliedmarketresearch.com/immune-check-point-inhibitors-market>

**INVION**

The research activities involving the use of animals were carried out in accordance with relevant guidelines and regulations as well as with appropriate Animal Ethics Committee approval.





# Infectious Diseases

*Exploring the potential applications of  
Photosoft™*

**INVION**™



# BROAD-SPECTRUM ANTI-MICROBIAL POTENTIAL

INFECTIOUS DISEASES: EFFECTIVE AGAINST VIRUSES, BACTERIA AND FUNGI *IN VITRO*

“Antimicrobial resistance (AMR) is one of the top 10 threats facing humanity”

*World Health Organisation<sup>1</sup>*

**Leading Institutions:** Viroclinics conducted virus tests & ACARE (University of Adelaide) conducted bacteria and fungi tests

**Broad Spectrum Potential:** *In vitro* tests showed Photosoft™ to be effective against several types of pathogens, including antibiotic-resistant superbugs

**Need for New Treatment Options:** Potential for Photosoft™ as a new treatment class for polymicrobial infections and/or where pathogens cannot develop drug resistance

“Given the general mode of action of PDT, we surmise that it is unlikely for superbugs to develop resistance to the compounds.”

*Prof Darren J. Trott, Director, Australian Centre for Antimicrobial Resistance Ecology (ACARE), University of Adelaide*



# EFFECTIVE AGAINST SARS-CoV-2 IN VITRO

## ANTIVIRAL ACTIVITY AGAINST DELTA AND OMICRON VARIANTS

Nine out of ten Photosoft™ compounds tested displayed antiviral activity against both Delta and Omicron variants of SARS-CoV-2

Multiple Photosoft™ compounds show effectiveness against SAR-CoV-2 at far lower concentrations than Remdesivir

Antiviral activity occurred once Photosoft™ compounds were activated with red light

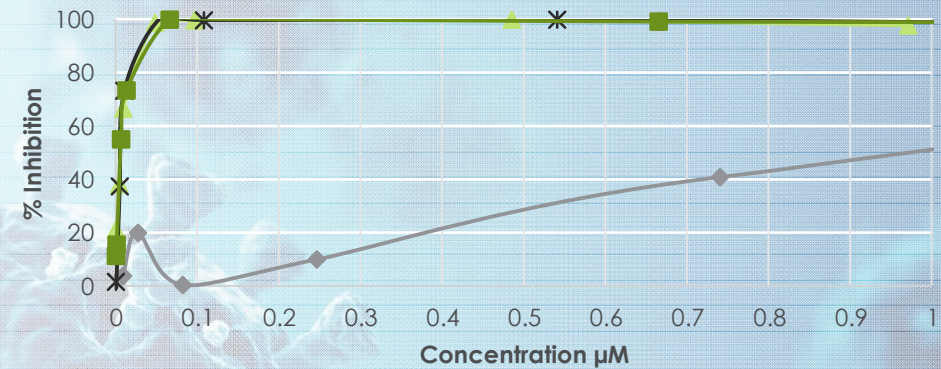
Photosoft™ compounds tested demonstrated either no or low cytotoxicity

The global coronavirus treatment market is forecast to reach US\$49bn by 2027 (17.5% CAGR)\*

\*<https://www.coherentmarketinsights.com/market-insight/coronavirus-treatment-drugs-market-4312>

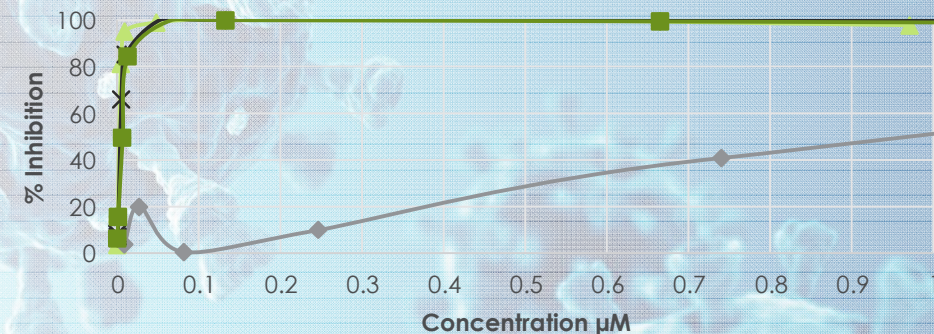
### SARS-CoV-2: Delta

Selected Photosoft™ Compounds vs. Remdesivir



### SARS-CoV-2: Omicron

Selected Photosoft™ Compounds vs. Remdesivir



—▲— % Inhibition - Compound 7    —◆— % Inhibition - Remdesivir  
—\*— % Inhibition - Compound 9    —■— % Inhibition - Compound 10

INVION

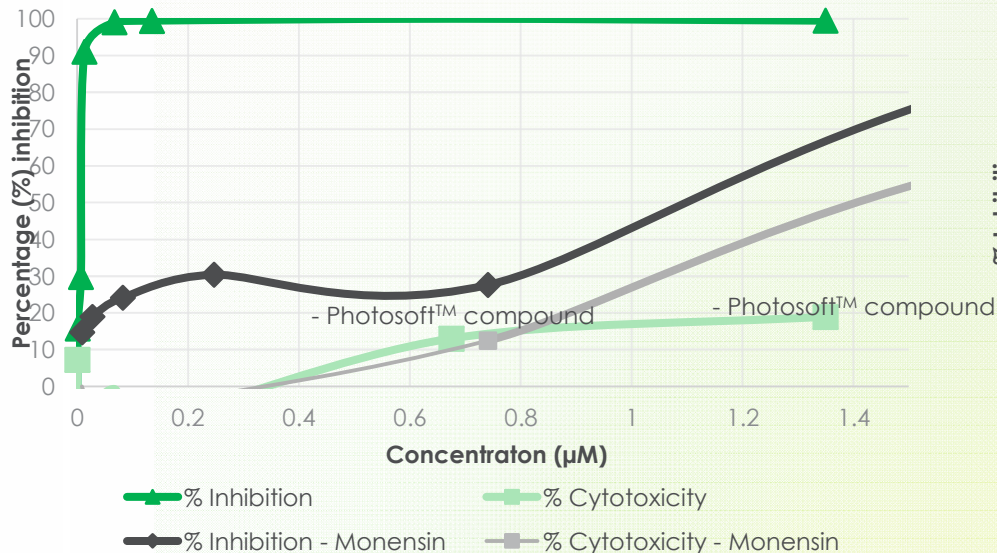


# EFFECTIVE AGAINST ZIKA AND DENGUE *IN VITRO*

## ANTIVIRAL ACTIVITY AGAINST ZIKA AND DENGUE

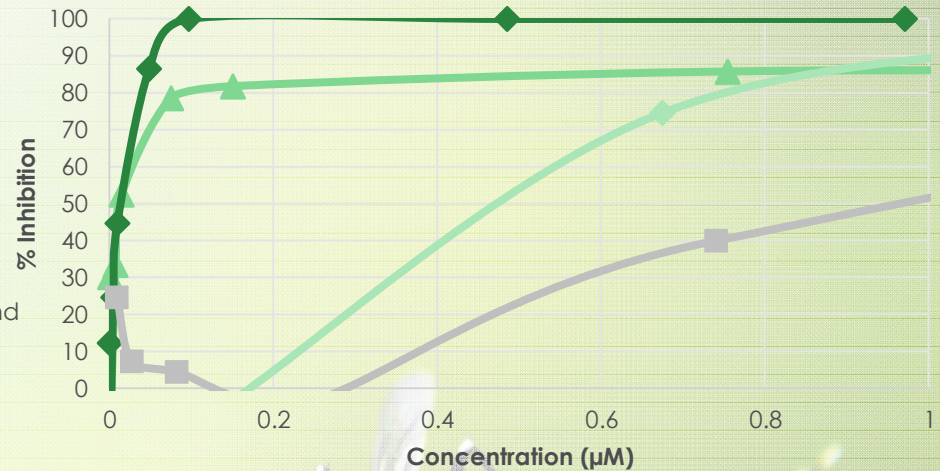
### Zika

Inhibition: Photosoft™ compound vs Monensin<sup>1</sup>



### Dengue

Inhibition: Selected Photosoft™ Compounds vs Monensin<sup>1</sup>



<sup>1</sup> Monensin is an antibiotic known to have activity against Zika in *in vitro* laboratory tests and was a control (benchmark) in these studies, but due to its *in vivo* toxicity cannot be used in humans

Several Photosoft™ compounds had >100x the activity of Monensin<sup>3</sup> (selected control) *in vitro*

One compound had an EC<sub>50</sub> (half max effective concentration) >90 times lower than Monensin

Zika virus is found in 86 countries and is linked to birth defects and other neurological complications

Dengue causes intense pain in joints and muscles, hence its nickname “breakbone fever”

Market is ~US\$17 billion in 2022<sup>1</sup> with no vaccines or treatments currently available<sup>2</sup>

Treatment market is forecast to hit US\$1.3 billion by 2030<sup>4</sup>

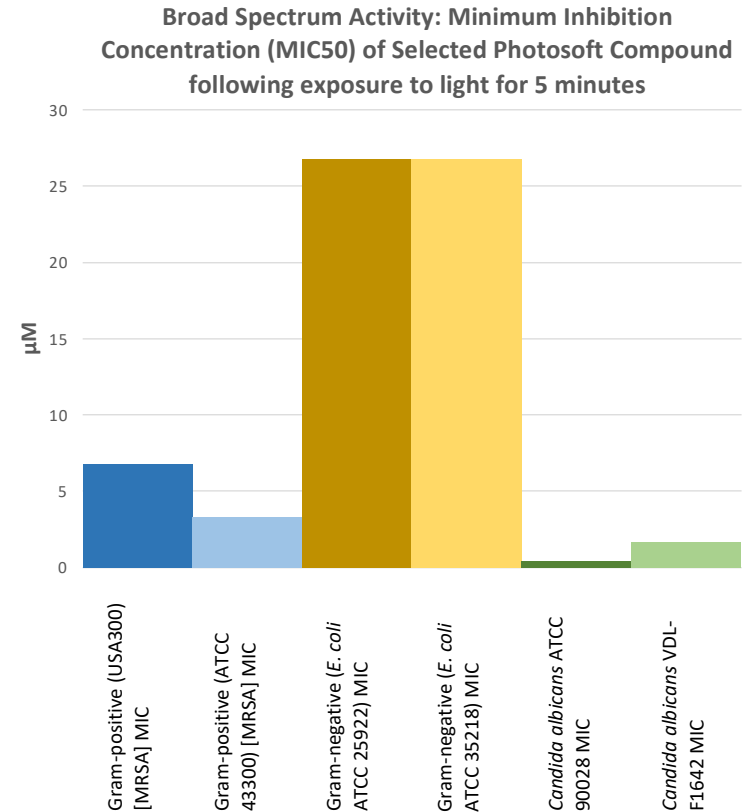


# EFFECTIVE AGAINST BACTERIA AND FUNGI

## MRSA SUPERBUG, E.COLI BACTERIA & CANDIDA ALBICANS FUNGUS

- Several Photosoft™ compounds showed activity *in vitro* against multiple strains of antibiotic-resistant MRSA bacteria, *Escherichia coli* bacteria and *Candida albicans* fungus\*
- MRSA is an antibiotic resistant bacteria that is difficult to treat, with the World Health Organisation (WHO) having declared antimicrobial resistance (AMR) as one of the top 10 threats facing humanity
- Photosoft™'s mode of action has the potential to make it unlikely for superbugs to develop resistance

\*Tests undertaken at the Australian Centre for Antimicrobial Resistance Ecology (ACARE), University of Adelaide

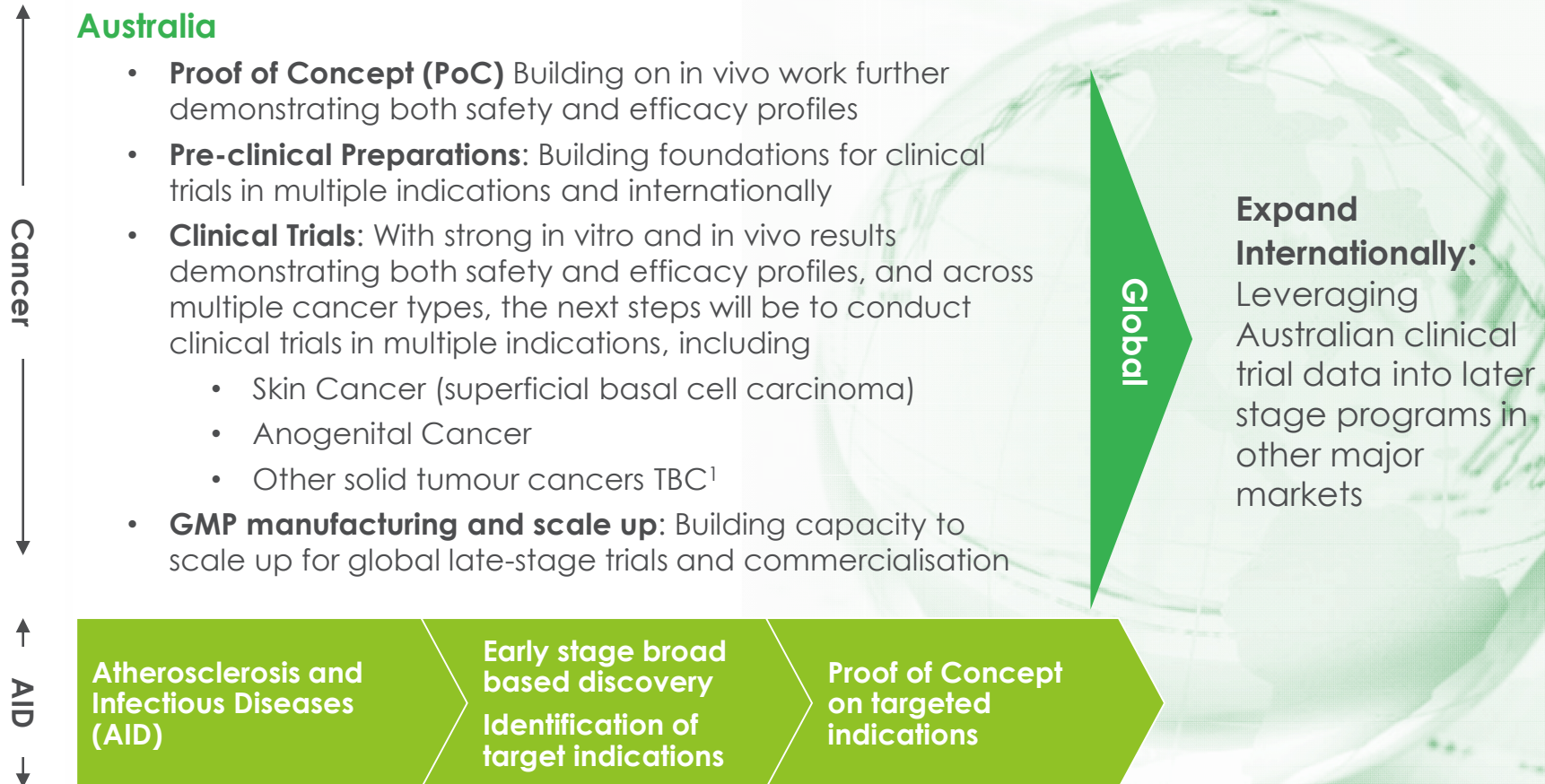


Note: The *in vitro* studies that were conducted at the University of Adelaide used enrofloxacin and amphotericin B as control antibiotics for the antibacterial and antifungal tests, respectively.



# THE WAY FORWARD

## MULTIPLE CATALYSTS AND MILESTONES



<sup>1</sup> RMW Cho Group ("RMW") as licensor of Photosoft™ technology, is pursuing independent research in parallel with Invion's R&D efforts including a prostate cancer trial. The research is complementary/supplemental to Invion's development program. To the extent that Invion becomes aware of material information relating to RMW's studies, Invion will release the information to the ASX in compliance with its disclosure obligations (noting however that Invion is not involved in RMW's studies and does not have direct access to information)



# MANAGEMENT TEAM

## THE RIGHT EXPERTISE FOR SUCCESS



**THIAN CHEW**

**EXECUTIVE CHAIRMAN & CEO**

- Managing Partner, Polar Ventures
- Executive Director, Goldman Sachs
- Director, KPMG Consulting, Senior Manager KPMG
- Adj. Prof. HKUST, MBA/MA Wharton School



**DR ANDREW STEPHENS**

**HUDSON INSTITUTE, R&D**

- 15+ years in novel treatment R&D
- Founder, Ovarian Cancer Biomarker Group, Hudson Institute
- Postdoc. positions, the Uni. of Sydney and Prince Henry's Institute, PhD Biochemistry Monash Uni
- Published extensively, holds several patents



**DR SEBASTIAN MARCUCCIO**

**CHEMISTRY**

- 15+ years in Pharmaceutical and organic chemistry developmental research
- 16+ years commercial experience in molecular based companies (Managing Director / Founder)
- Adj. Prof. La Trobe University, PhD Organic Chemistry ANU



**ALEXANDER BENNETT**

**TECHNICAL ADVISOR, LIGHT**

- 35+ years in R&D, manufacturing and commercialisation of scientific instrumentation incl. ISO certifications
- GM Forensic Light Sources, Rofin Australia.
- Led Medical Light Source trial for PDT in skin cancers Peter MacCallum Cancer Centre



**MELANIE LEYDIN**

**CFO**

- 25+ years in accounting profession
- Partner, Vistra
- CFO and Co. Secretary multiple biotech companies
- Fellow Gov. Institute of Australia, Chartered Acc't



**NICOLETTA MUNER**

**REGULATORY AND CLINICAL DEVELOPMENT**

- 20+ years non-clinical and clinical drug development, quality, manufacturing, incl. EMA and US FDA approval
- Founder Canary Regulatory Affairs
- Global Regulatory Affairs, Clinuvel Pharmaceuticals
- Pre-clinical and regulatory affairs, Pfizer



**LOUISE WHITE**

**MANUFACTURING AND QUALITY**

- 35+ years in the pharmaceutical industry, 13 years in vaccine manufacturing, CSL, Partner SeerPharma
- Senior roles in virology R&D, bacterial vaccines production, quality control and production planning
- Registered auditor for APVMA



**KIM STEEL**

**CLINICAL TRIAL MANAGEMENT**

- 15+ years managing global and clinical drug and device studies from Phase I-IV across 14 countries
- Director, Sapro Consulting
- Project Director, Novotech
- Project Manager, Pacific Clinical Research Group



# SUMMARY



## **Cancer - Promising Results:**

Total tumour regression,  
immune response, potential ICI  
combination therapies



## **Infectious Diseases – Early Findings:**

*In vitro* effectiveness against multiple  
viruses & bacteria including SARS-CoV-  
2 (Delta and Omicron) and MRSA



**Cancer - Clinical Trials:** Human trials  
across several cancer types expected  
to commence 2023



**Well Funded:** Cancer program fully  
funded & AID partially funded by  
RMWC



**Multiple Growth Options:** Large  
addressable markets, multiple  
indications, partnership opportunities



## **Experienced Management, World- Leading Partnerships:**

Balance of expertise in life sciences  
and commercialisation combined with  
world-renowned partnerships