

PHOTOSOFT™ SHOWS ACTIVITY AGAINST ZIKA VIRUS IN PRELIMINARY ASSAYS

Highlights:

- Photosoft™ compounds demonstrated ≥99% inhibition against Zika virus in cell-based assays following the application of light
- Zika virus is found in 86 countries and has been linked to birth defects and other neurological complications
- The Zika virus market is estimated to be worth ~US\$17 billion in 2022¹ with no treatments for the disease currently available²
- Several Photosoft™ compounds had over 100 times the activity of Monensin (selected control) *in vitro*

MELBOURNE (AUSTRALIA) 8 September 2022: Invion Limited (ASX: IVX) ("Invion" or the "Company") is pleased to announce the positive screening results from *in vitro* studies of Photosoft™ on the inhibition of the Zika virus.

The results from the *in vitro* studies, which were undertaken by leading contract research and clinical laboratory service company Viroclinics-DDL and Virology Research Services Ltd, showed selected Photosoft™ compounds to be effective against the virus and more efficacious than Monensin. Monensin is an antibiotic which is known to have activity against Zika in *in vitro* laboratory tests and was used as a control (benchmark) in this study, but due to its *in vivo* toxicity cannot be used in humans.

Zika virus is primarily transmitted by the *Aedes Aegypti* mosquito, which also transmits yellow fever and dengue. Symptoms associated with Zika include headache, skin rash and joint pain. Further, Zika has been linked to birth defects and other neurological complications.

The Zika virus market is estimated to be worth US\$16.98 billion (\$25 billion) in 2022 and is forecast to grow at a CAGR of 5.4% to 2027¹. Zika cases have been reported in 86 countries, particularly in Asia and Africa, and there is no treatment available for Zika virus infection or its associated diseases².

Invion holds the exclusive rights to the Photosoft™ technology in Asia Pacific³ for the treatment of infectious diseases and atherosclerosis through its agreement with the technology licensor, RMW Cho Group Limited.

Results Summary

Selected Photosoft™ compounds demonstrated potent (over 99% inhibition) antiviral activity against Zika when exposed to specific light wavelengths. In addition to the potent activity of several Photosoft™ compounds, low levels of cytotoxicity were observed. When assessed in combination, a resulting therapeutic index⁴ is calculated, which is a quantitative measurement of the potential efficacy relative to safety of the compound. Selected

¹ <https://www.marketdataforecast.com/market-reports/zika-virus-vaccines-market>

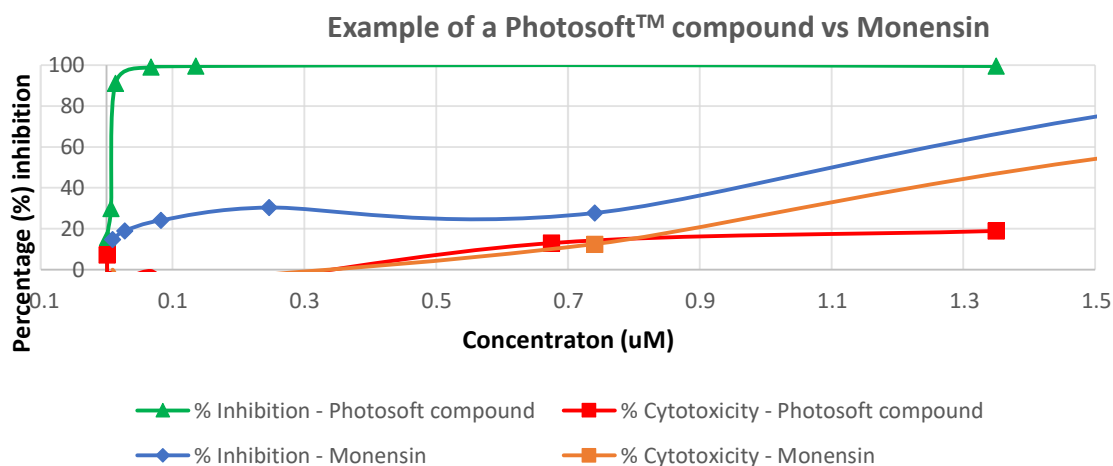
² https://www.who.int/health-topics/zika-virus-disease#tab=tab_1

³ Asia Pacific includes Asia and Oceania (other than Australia and New Zealand, which are the subject of an existing distribution and licence agreement with RMW), and excludes Middle East, Russia and the specified territories of China, Hong Kong, Macau and Taiwan

⁴ A Therapeutic Index is frequently determined in viral assays as the dose of a drug that kills 50% of the host cells (CC50) divided by the minimum effective dose to cause 50% inhibition of the virus (E50).

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Photosoft™ compounds were found to have a therapeutic index over 190 times higher than the control, Monensin.



"This is the first set of studies we have undertaken using Photosoft™ compounds on infectious diseases and we are very excited by not only the positive results, but by the potential for the technology in an era where the next global pandemic could be lurking around the corner," said Thian Chew, Invion's Chairman and CEO.

"With the continued emergence of new viral diseases in recent years, it is important that companies like Invion continue to focus on developing new innovative treatments. We are also exploring other viral indications to determine the potential for other viruses of interest."

A recent report by CSIRO titled "Strengthening Australia's Pandemic Preparedness" identified the development of novel antivirals as a key science and technology area for strengthening Australia's pandemic preparedness⁵.

Details on *In Vitro* Assay

In vitro susceptibility of viruses to an antiviral agent was assessed using a quantitative assay to measure virus replication in the presence of increasing concentrations of the product (Photosoft™ compounds) and a control compound (Monensin) compared to replication in the absence of the product.

The primary screening assay utilised in this compound screening program was an immunofluorescence-based assay against Zika Strain MP1751 (African lineage) obtained from the contracted organisation, using the Vero E6 cell line. Compounds were serially diluted (8 concentrations) in a 96-well plate and added to the cells.

Zika was then added, exposed to a specific light wavelength (660nm), and plates incubated for 48 hours. Additionally, compounds were assessed for cellular toxicity in Vero E6 cells.

At the conclusion of incubation, infected cells were identified and counted via microscopy; lower percentages of stained cells compared to an untreated control represented cell protection from virus infection. Half maximal effective concentration (EC50) and half maximal cytotoxic concentration (CC50) were calculated by linear regression.

⁵ <https://www.csiro.au/en/work-with-us/services/consultancy-strategic-advice-services/csiro-futures/health/strengthening-australias-pandemic-preparedness>

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This announcement was approved for release by Thian Chew, Chairman of the Board.

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About Invion

Invion is a life-science company that is leading the global research and development of the Photosoft™ technology for the treatment of a range of cancers, atherosclerosis and infectious diseases. Invion holds the exclusive Australia and New Zealand license rights and exclusive distribution rights to Asia Pacific excluding China (other than Hong Kong, which is included in the Territory), Macau, Taiwan, Japan and South Korea to the Photosoft™ technology for all cancer indications. It also holds the exclusive rights to the technology in Asia Pacific (excluding Greater China) for atherosclerosis and infectious diseases. Research and clinical cancer trials are funded by the technology licensor, RMW Cho Group Limited, via an R&D services agreement with the Company. Invion is listed on the ASX (ASX: IVX).

About Photodynamic Therapy (PDT)

Invion is developing Photosoft™ technology as a novel next generation Photodynamic Therapy (PDT). PDT uses non-toxic photosensitisers and light to selectively kill cancer cells and promote an anti-cancer immune response. Less invasive than surgery and with minimal side effects, PDT offers an alternative treatment option aimed at achieving complete tumour regression and long-lasting remission.