ANIMAL STUDIES SHOW IVX-P02'S POTENTIAL IN METASTATIC CANCERS

Highlights

- **Invion completes initial *in vivo* tests on uptake, localisation and clearance from tumour tissue of photosensitiser IVX-P02**
- ***In vivo* testing demonstrated uptake of IVX-P02 in cancer cells circulating in the blood, for first time**
- **Data suggests the potential application of IVX-P02 for metastatic cancers**
- **Experiments demonstrating the use of IVX-P02 to treat ovarian cancer now underway**

MELBOURNE (AUSTRALIA) 28 May 2019: Cancer drug developer Invion Limited (ASX: IVX) ("Invion" or "the Company") says its research partner, the Hudson Institute of Medical Research, has completed initial *in vivo* experiments in animal models to examine the uptake, localisation and clearance from tumour tissue of Invion's photosensitiser, IVX-P02.

Dr Andrew Stephens, Group Head of the Ovarian Cancer Biomarkers Research Group at the Hudson Institute, said a highlight of the *in vivo* testing was the demonstrated uptake of IVX-P02 in circulating tumour cells (CTCs). CTCs are *cells* that have shed from a primary tumour and are carried around the body in the blood.

Dr Stephens said the finding is significant because it suggests that IVX-P02 may have an application in the treatment of metastatic cancer, that is, cancer that has spread from the primary site of origin to different areas of the body.

"This is the first time that photosensitiser accumulation in CTCs has been demonstrated *in vivo*," Dr Stephens said. "The data suggests the potential application of IVX-P02 for haematological cancers in addition to solid tumours, as well as in therapies designed to prevent recurrence."

Haematological cancers occur in blood-forming tissue, such as the bone marrow, or in the cells of the immune system. Examples are leukaemia, lymphoma, and multiple myeloma.

Blood cancers currently are treated with quite severe therapies that have immuno-suppressive and other side effects.

"This new development is in its early stages, but it could lead to the development of a less harsh treatment for patients with metastatic cancer," Dr Stephens said. "The important thing is that IVX-P02 is taken up selectively by cancer cells and is not retained in any of the other organs, and in the blood it is taken up selectively by circulating cancer cells and not by red blood cells."

The *in vivo* data also showed that injected IVX-P02 cleared rapidly from circulation, with around 90 per cent gone within 30 minutes and largely undetectable after two hours. Increasing doses up to 10mg/kg had no influence on the clearance rate.

The IVX-P02 accumulated in tumour tissue within 30 minutes of injection and was retained within tumour tissue for at least 48 hours after administration.

As anticipated from the *in vitro* studies, there was no toxicity noted for any dose of IVX-P02 tested.

Furthermore, there was no identification of any evidence of retention in any other organs, including the liver, kidney, spleen, ovaries, fallopian tube, lung, heart, brain or intestine.

Meanwhile, experiments demonstrating the use of IVX-P02 to treat ovarian cancer are now underway. These studies focus on the direct destruction of established ovarian cancers in mice, accumulation of IVX-P02 in CTCs, and the immune consequences of photodynamic therapy using IVX-P02.

"Initial results will drive the initiation of new clinical trials – particularly for solid tumours that are resistant to chemotherapy," Dr Stephens said.

As previously advised, Invion expects to start human trials of IVX-P02 for the treatment of skin cancer in the next quarter.

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Investor enquires

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About Invion

Invion is a drug delivery company that is leading the global research and development of Photosoft™ technology for the treatment of a range of cancers. Invion holds the Australia and New Zealand license rights to the Photosoft™ technology. Research and clinical trials are funded by the technology licensor, The Cho Group, via an R&D services agreement with the Company. Invion is listed on ASX (ASX:IVX).

About Photodynamic Therapy (PDT)

Invion is developing Photosoft™ technology as an improved next generation Photodynamic Therapy. PDT uses non-toxic photosensitisers and visible light in combination with oxygen to produce cytotoxic-reactive oxygen that kills malignant cells, shuts down tumours and stimulates the immune system. A potential alternative to surgery, and in contrast to radiotherapy and chemotherapy which are mostly immunosuppressive, PDT causes acute inflammation, expression of heat-shock proteins, and invasion and infiltration of a tumour by leukocytes.