CDW Holding Limited
Room 6-10, 11/F, CCT Telecom Bldg
11 Wo Shing Street, Fo Tan, Shatin
New Territories, Hong Kong

MEDIA RELEASE

CDW co-develops antibody medicine targeting cancer stem cells, clinical trials to commence

- **Joint research with Okayama University on anti-Cripto-1 antibody awarded a patent in Japan**
- **Animal studies show a suppression in tumour growth rate of 180% to 340% and reduction in tumour volume to less than half.**
- **Expect to license the compound for clinical trials by 2022**

SINGAPORE, 1 December 2020 – CDW Holding Limited ("**CDW**", the "**Company**", or collectively with its subsidiaries, the "**Group**") is delighted to announce that anti-Cripto-1, a monoclonal antibody that it has developed jointly with Okayama University, has shown promise for use in a wide range of anti-cancer drugs.

GSP Enterprise Inc, ("GSP"), a subsidiary of the Group acquired in 2018, has been working with Okayama University, Japan, over the past 20 years on a synthetic antibody library intended for immuno-oncology applications with a patent granted (Patent No. JPWO20034171844). The anti-Cripto-1 antibody was obtained from this library, which was then cloned and humanised.

Internal Trials. The anti-Cripto-1 antibody works by binding itself to the Cripto-1 protein expressed on cancer stem cells. The in-vitro cell growth inhibition test conducted by Okayama University showed significant reductions in cancer cell growth.

In-vivo tests, which used tumour-bearing mice subcutaneously transplanted with a human brain tumour cell line, also showed that tumour growth appeared to be significantly inhibited by the anti-Cripto-1 antibody. This study compared the effects of the anti-Cripto-1 antibody to phosphate-buffered saline ("PBS"). PBS is a water-based salt solution commonly used in biological research. These were first administered to the mice two weeks after the cell

transplantation, then on the third, fourth, and fifth weeks for a total of four doses. From the start of treatment (two weeks after transplantation) to the four weeks following (six weeks after transplantation), the mice given the PBS saline solution saw an increase in tumour volume to 180%, while the mice that had been given the anti-Cripto-1 antibody saw a reduction to 50% (Figure ②). Furthermore, when similar experiments were conducted on stem cells derived from human brain cancer cell lines, the PBS-administered cancer stem cells saw an increase in tumour volume to 340%, while that of anti-Cripto-1 antibody-administered cancer stem cells saw a reduction to 40%. It also suppressed tumour growth in these cancer stem cells.

Furthermore, an *in vitro study for* cancer cell proliferation showed that growth in brain tumours, breast and colon cancer cells, and teratogenic cancers all appeared to be significantly inhibited by the anti-Cripto-1 antibody.

The researchers have also submitted the trial findings to four leading journals for peer review and publication.

Figure ① PBS (phosphate-buffered saline)

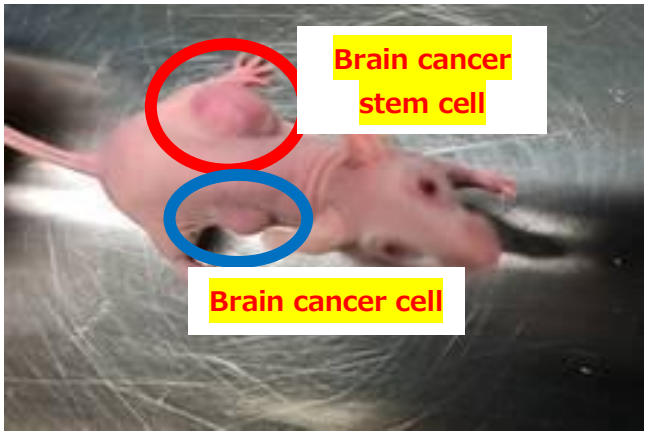
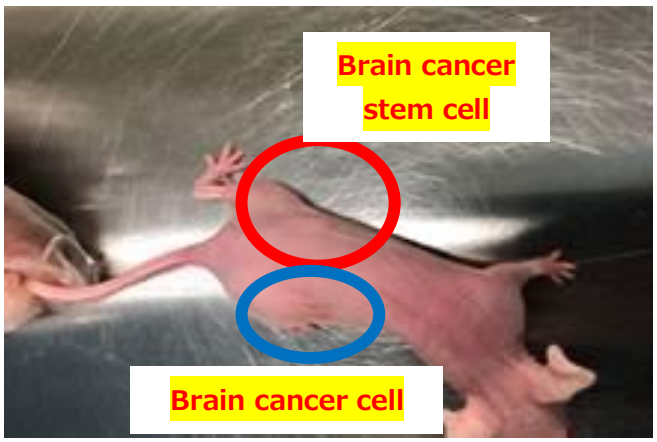


Figure ② Anti-Cripto-1 antibody



The left photos show three weeks after (1) PBS and (2) anti-Cripto-1 antibodies were administered to each mouse colonized with cancer cells.

Market size. The initial results of both *in vitro* and in vivo conducted at Okayama University indicate that the compound holds promise in treating a wide range of various cancer types. Cancer stem cells have been shown to have a significant impact on the recurrence rate of malignant tumours[1]. Existing cancer therapies, including targeted therapies, are thought to be effective only against specific cancer cells contained in the cancer tissue, and that cancer stem cells are generally resistant to anticancer drugs. The inability to target cancer stem cells effectively with existing treatment options results in relapses.

Masaharu Seno[2], Professor of Protein Engineering at Okayama University explained "Cripto-1 is a known molecule required for the self-renewal of cancer stem cells. If the anti-Cripto-1 antibody that targets the structure of human Cripto-1 becomes available, it may be possible to develop innovative cancer treatments that suppress the growth of cancer stem cells."

By targeting cancer stem cells, the anti-Cripto-1 antibody can be used to develop new drugs in the market that demonstrate greater efficacy in treating metastatic or invasive cancers[3]. The global tumour therapeutics market was valued at US$98.9 billion in 2018 and is estimated to reach US$180 billion by 2026, registering a CAGR of 7.7% from 2019 to 2026.[4]

Commercialisation. CDW and Abiotech filed a patent on November 11, 2019 with the Japan Patent Office (Patent No. 6761889) for the use of Cripto-1 to suppress the progression of cancer stem cells. The patent was awarded on September 9, 2020. The intellectual property related to the patent will be jointly owned by the Group and its associated company, Abiotech.

Further clinical trials will have to be conducted to determine its efficacy in treating human patients. Abiotech will commence pre-clinical toxicology tests in 2021, in preparation for eventual use in clinical trials. Depending on the results of the pre-clinical trials, the Group expects to license the intellectual property rights to pharmaceutical industry players for clinical trial in 2022 and subsequent manufacturing and distributing the drugs developed from the anti-Cripto-1 antibody.

– End –

---

[1] Reya, T., Morrison, S., Clarke, M., & Weissman, I. (2001). Stem cells, cancer, and cancer stem cells. *Nature*, *414*(6859), 105-111.

[2] Dr. Masaharu Seno is currently a full-professor at the Laboratory of Nano-Biotechnoloy, Okayama University. Masaharu has 287 publications in Biotechnology, Cancer Research and Cell Biology, with more than 6000 citations. Professor Seno formerly served at the National Cancer Institute, as well as the National Institutes for Health (NIH) in the United States.

[3] Botelho, M., & Alves, H. (2016). Significance of Cancer Stem Cells in Anti-Cancer Therapies. *International journal of immunotherapy and cancer research*, *2*(1), 14–16.

[4] Shaikh, S., Pajankar, S., & Sumant, O. (2019). *Cancer Therapeutics Market Size and Share | Industry Forecast By 2026*. Allied Market Research. Retrieved 29 October 2020, from https://www.alliedmarketresearch.com/cancer-therapeutics-biotherapeutic-market.

About CDW Holding Limited (www.cdw-holding.com.hk)

CDW Holding Limited ("CDW" and together with its subsidiaries, the "Group") is a Japanese-managed precision components specialist serving the global market focusing on the production and supply of niche precision components for mobile communication equipment, gamebox entertainment equipment, consumer and information technology equipment, office equipment and electrical appliances. The Group is headquartered in Hong Kong and has operations in Japan, and China.

The Group has been identifying new businesses to invest in with the potential for growth and entered as part of its diversification strategy and has made forays into the Life Sciences sector since 2016. The Company's aim for its Life Sciences business is to identify research-driven yet commercialisable projects that can have a positive impact on the quality of human life.

Issued on behalf of	:	**CDW Holding Limited.**
By	:	Cogent Communications Pte Ltd 51 Goldhill Plaza, #22-05, Singapore 308900
Contact	:	Ivan Hong / Gerald Woon
Office	:	(65) 6704 9288
Email / DID / Mobile	:	ivanhong@cogentcomms.com / (65) 6704 9287 / (65) 9055 8883 woon@cogentcomms.com / (65) 6704 9268 / (65) 9694 8364
