Bioactives generated by Patented Boron-Doped Diamond Electrolysis technology attenuates tumor microvessel density in breast cancer mouse model

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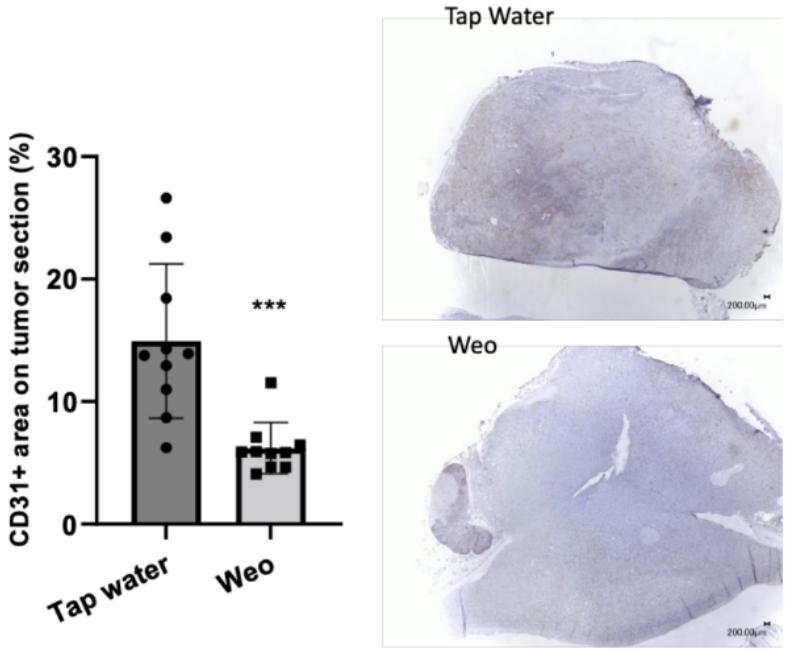
In collaboration with researchers at MEDyC UMR CNRS in France, Weo, the global leader in water science research has demonstrated their proprietary technology produced a statistically significant reduction in tumor microvessel density in a mice model of breast cancer. Other positive findings from this study show a trend in decreasing tumor vascularization and an increase in tumor necrosis (cell death).

The rates of cancer around the world are staggering with an estimated 1 in 2 women and 1 in 3 men in the US predicted to develop cancer in their lifetime. A similar rate has been reported in the UK, with a new study published in the British Journal of Cancer claiming 1 in 2 men and women will be diagnosed with the disease at some point in their lives. One of the most common types of cancer world-wide is breast cancer. The standard of care treatment for breast cancer is chemotherapy, radiation and surgery all of which can cause many long-term side-effects and even death. Therefore,

clinicians and scientists are aiming to develop treatments that can better and less invasively target the cancer without causing so much harm to the individual.

Previous studies have shown that tumor angiogenesis, the process where tumor cells create denovo vessels that promote their spread, is one of the most important targets in cancer treatment. To this point, few pharmaceuticals exist that target angiogenesis specifically. Moreover, studies have shown their effect to be minimal in certain types of cancer as these drugs can be tumor-specific - effective in only certain types of cancers.

Electrochemical reduced water (ERW) has been proposed to have beneficial effects on human health. These beneficial effects are linked to a reducing effect on oxidative stress as well as other less understood mechanisms. Previous data suggested that ERW can display anticancer effects by induction of tumor cell apoptosis and by reducing angiogenesis and inflammation. Within these findings, this initial study investigated whether Weo water would slow down tumor progression and angiogenesis. The findings, as mentioned above, demonstrated a statistically significant decrease in microvessel density and demonstrated a trending decrease in other pathogenic processes in this breast cancer model.



Pictured above is MicroVascular Density analysis. This assay allows for an estimation of tumor angiogenesis. After imaging, tumors were fixed, prepped and labeled with an anti-CD31 antibody. The brown-colored areas correspond to blood vessels stained by the anti-CD31. Weaker CD31 staining was observed for Weo water compared with tap water treated (fed) mice, indicative of a significant decrease of the number of micro vessels in Weo water mice compared to tap watered mice. This observation demonstrates the ability of the Weo water to decrease tumor angiogenesis in the breast cancer model.

Overall, the results of this study suggest that Weo water may be a new candidate as a potent therapeutic complement for breast cancer. Importantly, several other benefits from the consumption of Weo water have been demonstrated by other esteemed researcher partners, including positive benefits to the immune system. Other areas of interest that are currently being investigated by Weo are its effects on cellular senescence - the process by which cells no longer

divide yet remain metabolically active, secreting what are known as SAPS factors. These factors induce inflammation and are associated with multiple chronic diseases. Chemotherapy itself causes cells to undergo senescence. This adds to the cellular burden on the body and increases SAPS factors that can promote angiogenesis. Weo water has shown promising preliminary results for the reduction and modulation of some known SAPS factors.

To further confirm the positive findings of this study in a breast cancer mouse model, it is being repeated with a larger sample size at the same laboratory, led again by renowned scientist Dr. Jerome Devy. Results of this new study will be available mid 2023.