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First-ever human health and animal health drug development collaboration to prevent cancer recurrence

Ethos Veterinary Health and Vuja De Sciences to utilize novel cellular assays of cancer metastasis and integration of pet dogs with cancer to empower innovative metastasis-focused drug development collaboration.

Woburn, MA, and Hoboken, NJ; December 18, 2018 – Ethos Veterinary Health (“Ethos”) and Vuja De Sciences (“Vuja De”) have entered into a Memorandum of Understanding to identify and develop new cancer therapeutics that are uniquely suited to prevent cancer metastasis and recurrence. “This is the first-ever comprehensive drug development strategy to align cancer’s major unmet therapeutic need (*i.e.* preventing cancer recurrence or metastasis) with a scientific drug discovery and development pipeline that targets the biology of cancer metastasis. We are targeting the cancer cells that escape and cause recurrence at distant sites,” explained David Warshawsky, Ph.D., Founder and CEO of Vuja De. He added: “We will begin with osteosarcoma, a tumor with high unmet need in both humans and pet dogs. Since osteosarcoma shares cancer related biology with other cancers, we believe that drugs that are effective in osteosarcoma may also be effective for other pediatric/adolescent cancers, as well as adult cancers such as kidney cancer, melanoma and breast cancer, depending on the mechanisms of action of the identified drugs.” Robert Hurst, Ph.D., Co-founder and Chief Scientific Officer of Vuja De said: “The drug discovery strategy is built around novel cellular assays of cancer metastasis rather than the traditional drug screening process that simply assesses growth of dividing cancer cells”.

An additional and parallel innovation of this metastasis-focused drug development collaboration is the integration of pet dogs with cancer (*i.e.*, comparative oncology). Canine cancer patients will receive state-of-the-art medicines delivered through clinical trials that will precede, and in some cases be conducted in parallel, with human clinical trials. “The essence of the problem in my canine cancer patients is metastasis and subsequent recurrence. These naturally occurring cancers will be investigated using a comparative oncology drug development approach,” said Chand Khanna, DVM, PhD, DACVIM (Onc), Chief Science Officer of Ethos Veterinary Health. “Our comparative approach will prioritize studies in osteosarcoma, a highly metastatic bone cancer seen in dogs and humans. Osteosarcoma is very similar in dogs and humans, including the genomics of the cancer, the pattern of disease spread (*i.e.*,

metastasis) and the critical interactions between the tumor and the patient's immune system. As a result of the compressed life-span of dogs and the relatively rapid time to cancer progression, effective antimetastatic drugs may be identified more quickly in clinical trials in dogs and used to inform human clinical development."

About Comparative Oncology

In the setting of cancer drug development, comparative oncology involves the inclusion of dogs with naturally occurring cancer in clinical trials, where novel or repurposed drugs are tested to answer questions that cannot be answered in conventional animal models of cancer or human clinical trials.

About Osteosarcoma

Osteosarcoma is an aggressive cancer of the bone in dogs and human patients and is the most common type of bone cancer in children and teens. Despite successful control of the primary tumor and follow-up chemotherapy, metastasis continues to be the most common cause of mortality for both species. The last 30 years have brought little improvement in survival outcomes for children with osteosarcoma, despite intensification of therapy. Due to lack of improved outcomes, new approaches to therapy are highly needed. Furthermore, if targeted therapeutics are found to prevent metastasis in this human cancer, a strong biological rationale would exist for the evaluation of such a therapy in other human cancers.

About Ethos Veterinary Health

Ethos is a veterinary health company with hospitals across the U.S. providing advanced specialty medical care for pets. Our approach includes a focus on transformative science, continuous learning, growth opportunities for team members, and collaboration. For more information, please visit ethosvet.com.

About Ethos Discovery

Ethos Discovery is a 501(c)(3) non-profit incubator of scientific innovation that seeks to improve health outcomes in pets and humans with complex medical problems, including cancer. For more information, please visit ethosvet.com.

About Vuja De Sciences

Vuja De is a biotechnology startup dedicated to developing cancer metastasis treatments that prevent cancer progression and recurrence. Our initial focus is osteosarcoma. We utilize leading laboratory technologies for metastatic preclinical endpoints in combination with Comparative Oncology to de-risk and inform product development and maximize likelihood for successful human oncology clinical trials. We are testing repurposed drugs that have previously been in human clinical trials, as well as novel preclinical drugs. For more information, please visit vujade-life.com.