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Enterome, Dana-Farber Institute team up for cancer immunotherapy

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New collaboration to evaluate the potential of bacterial antigens that mimic tumor antigens and neoantigens ("onco-mimics") to drive immune responses

ENTEROME SA, a clinical-stage biopharmaceutical company leveraging its unique knowledge of the key functional and molecular interactions between the gut microbiome and the human body to develop targeted therapeutics, has entered into a research and development collaboration with Dana-Farber Cancer Institute (Boston, MA) to evaluate and develop gut microbiome-derived antigens as potential cancer immunotherapies.

Enterome is developing an innovative approach to cancer immunotherapy, based on the concept of "molecular mimicry," whereby microbiome-derived bacterial antigens show molecular similarity with Tumor-associated Antigens (TAAs) and Tumor-specific Neoantigens (TSNAs). Based on this similarity, bacterial antigens ("onco-mimics") mimic key tumor antigens that are highly expressed by tumors to trigger tumor-specific cytotoxic T cell immune responses.

Enterome has developed a discovery platform to identify such onco-mimics from the human gut microbiome and has advanced EO2401 as its first clinical candidate. EO2401 comprises several microbiome-derived antigens that mimic antigens highly expressed by brain tumors and is targeting first clinical trials in 2019 as a potential new immunotherapy for recurrent glioblastoma multiforme (GBM) for which no curative treatments exist.

The collaboration brings together Enterome's ability to identify potential TAAs and TSNAs as well as to generate bacterial onco-mimics for the selected TAAs and TSNAs with the complementary translational expertise from the research groups at Dana-Farber Cancer Institute led by Dr. David Reardon at the Center for Neuro-Oncology and Dr. Paul Kirschmeier at the Belfer Center for Applied Cancer Science. Drs. Reardon's and Kirschner's groups are focused on driving innovative research programs and clinical trials to improve cure rates in patients with brain and spinal cancers, with a particular focus on immunotherapies.

Through this collaboration Enterome will have access to knowledge, scientific expertise and preclinical models at Dana-Farber Cancer Institute that are intended to support the in vivo validation and further development of Enterome's immunotherapy approach for the treatment of cancer.