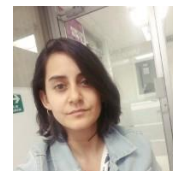


## Effect of doxorubicin / cyclophosphamide-based therapy plus IMMUNEPOTENT CRP on the tumor microenvironment in a murine model of triple-negative breast cancer

Silvia Elena Santana Krímskaya

Universidad Autónoma de Nuevo León, México



### Abstract

One of the leading causes of death worldwide is cancer. According to the WHO, in 2020 cancer related deaths reached 10 million. Also in 2020, breast cancer became the most frequent type, surpassing lung cancer. Breast cancers are a highly heterogeneous group of pathologies. Triple negative breast cancer (TNBC) is a subtype that lacks estrogen, progesterone, and epidermal growth factor receptors. Meaning that TNBC tumors can grow and metastasize even in the absence of these growth factors stimuli. Cancer progression is dependent on the interaction of tumor cells with their microenvironment and can result in tumor elimination, disease latency, or progression to metastasis. IMMUNEPOTENT CRP (ICRP) is a dialyzable extract of bovine leukocytes. Previous studies have shown that ICRP reduces oxidative stress in murine macrophages via the NF- $\kappa$ B, promotes myelopoiesis in mice treated with the chemotherapeutic agent 5 fluorouracil, induces immunogenic death in a melanoma model, and prevents tumor implantation in a lymphoma model. Based on these properties, we evaluated if ICRP can be used as a tumor microenvironment modifier, potentiating the antitumor effect of a first-line chemotherapy doxorubicin / cyclophosphamide in a murine model of triple negative breast cancer. In this study we evaluated tumor regression, proliferation index, pro-angiogenic factors (VEGF and  $\alpha$ -Sma), expression of CTLA-4, PD1 and PD-L1 checkpoints, leukocyte immunophenotype and cytokine profile in situ. Overall, our results indicate that ICRP increases the therapeutic effectiveness of doxorubicin / cyclophosphamide in a murine model of TNBC



### Biography

Silvia Santana is currently an associated researcher at the Immunology and Virology Department of the Biological Sciences Faculty at the Universidad Autónoma de Nuevo León. Silvia is currently at the Cancer Immunotherapy Laboratory and her research focuses mainly on the use of the Bovine Dialyzable Leukocyte Extract for cancer immunotherapy, establishing preclinical models for the study of the tumor microenvironment, and repurposed drugs to remodel the tumor microenvironment.

### Publications

- Evaluation of the cytotoxic and immunogenic potential of temozolamide, panobinostat, and Lophophora williamsii extract against C6 glioma cells
- In Vivo Evaluation of the Antitumor and Immunogenic Properties of Silver and Sodium Dichloroacetate Combination against Melanoma
- IMMUNEPOTENT CRP plus doxorubicin/cyclophosphamide chemotherapy remodel the tumor microenvironment in an air pouch triple-negative breast cancer murine model
- Air Pouch Model: An Alternative Method for Cancer Drug Discovery
- Immunogenic potential of three transmissible venereal tumor cell lysates to prime canine-dendritic cells for cancer immunotherapy

[4<sup>th</sup> World Congress on Vaccines & Immunization](#) | London, UK | June 09, 2021

**Citation:** Silvia Elena Santana Krímskaya, Effect of doxorubicin / cyclophosphamide-based therapy plus IMMUNEPOTENT CRP on the tumor microenvironment in a murine model of triple-negative breast cancer, Vaccines 2021, 4th World Congress on Vaccines & Immunization, London, UK, June 09, 2021.