

CÉSAR SERRANO

Biosketch

My professional goal is to pursue my academic career as a physician-scientist focused on sarcoma translational research, with an emphasis on the biological understanding of sarcomas oriented towards drug development. To this end, our clinical-translational program is devoted to unravelling the intrinsic mechanisms of sensitivity and resistance to anticancer agents through high-throughput genomic and transcriptome studies, as well as developing cross-cutting therapeutic strategies.

In previous studies performed during my subspecialty training in sarcomas, I performed translational research that involved 1) demonstrating the molecular basis for the failure of TKIs in GIST; 2) developing preclinical evidence for an innovative therapeutic strategy against disease heterogeneity based on rapid alternation of TKIs with complementary inhibitory activity pattern, and 3) translating these insights into a phase Ib/II clinical trial.

Since my return to VHIO, my laboratory's focus has extended beyond kinase signal transduction research and we participate, with equal emphasis, in high-throughput NGS studies to ultimately better understand the critical biologic mechanisms that lead to the heterogeneous behavior observed in the clinic when using different therapeutic agents.

We are also dedicated to developing liquid biopsy in sarcoma. Additionally, our current whole genome and transcriptome studies aim to decipher novel mechanisms of resistance and therapeutic vulnerabilities, irrespective of KIT genotype. We are also leading translational research to reveal the biological mechanisms behind metastatic GIST patients with a long-term response to imatinib. Finally, my clinical activities as a medical oncologist involve sarcoma patient care and drug development, thus applying basic discovery from the lab to the clinic for the benefit of these patients.