



Claudia Benavente, PhD

Associate Professor
Department of Pharmaceutical Sciences
UCI School of Pharmacy & Pharmaceutical Sciences

ABOUT MY RESEARCH

Metastasis remains the most significant fatal complication of osteosarcoma, a childhood cancer of the bone.

Thus, there is a pressing clinical need to determine how these tumors metastasize to develop new therapeutics. We identified UHRF1 as a protein highly expressed in osteosarcoma that is critical for osteosarcoma tumor growth and metastasis.

This project increased our understanding UHRF1's role in tumor formation and metastasis and confirmed its potential as new therapeutic target for anti-cancer treatment.

WHY THIS CANCER RESEARCH

Osteosarcoma is a rare childhood cancer. **Osteosarcoma patients with metastatic disease have survival rates of less than 30%, compared 77% for patients without metastases.**

Mutation of the RB1 gene is associated with increased mortality, metastasis, and poor outcome in children with osteosarcoma. However, how RB1 loss results in poor prognosis remained unknown.

Testing our model for how loss of RB1 worsens clinical outcome had the potential of identifying alternative therapeutic approaches to prevent metastasis in children with osteosarcoma.



HOW THIS WORK WILL CHANGE LIVES

Now that we know that targeting UHRF1 can reduce tumor growth and metastasis, we are developing ways to target UHRF1 to develop clinically feasible therapeutic strategies.

Given that UHRF1 is highly expressed in multiple cancers including breast, prostate, and lung cancer, **this research has the potential to impact human health beyond osteosarcoma.**

