

Protein derived from bone may help combat osteosarcoma

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A study published in the *Journal of Orthopaedic Research* has identified a bone matrix protein called Secreted phosphoprotein 24 kD (Spp24) that may help to treat osteosarcoma, the most common type of bone cancer.

In experiments conducted in cells and mice, investigators found that

Spp24 inhibits the proliferation and invasiveness of osteosarcoma tumor cells and promotes their apoptosis, or death. Mechanistically, Spp24 binds to and neutralizes a protein called bone morphogenetic protein 2, which has tumor enhancing properties.

"Spp24 and its proteolytic products have a number of effects on [bone metabolism](#) that have been elucidated to various degrees. They have the potential to be engineered into bone therapeutics, and this anti-tumor effect through bone morphogenetic [protein 2](#) sequestration is only one such example," said co-corresponding author Haijun Tian, MD, Ph.D., of Shanghai Jiao Tong University School of Medicine.

"Like many other [bone](#) matrix proteins, the more we look into the function of Spp24, the more surprising roles we find even though the primary function of Spp24 remains uncertain."

More information: Secreted phosphoprotein 24 kD (Spp24) inhibits the growth of human osteosarcoma through the BMP-2/Smad signaling pathway, *Journal of Orthopaedic Research*® (2023). [DOI: 10.1002/jor.25517](#)

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