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Meet the Inventors

[Paschen, Wulf "Wulf"](#)
[Sheng, Huaxin](#)
[Warner, David](#)
[Yang, Wei](#)

Contact For More Info

Krishnan, Shweta
919-681-7541
shweta.krishnan@duke.edu

Department

Anesthesiology (Dept. and CRU)

Publication(s)

SUMO as a marker of cancer development and target for cancer therapy

Value Proposition

Cancer therapy remains challenging, and the production of new inhibitor therapies is stunted by the need for clear successful targets that will block tumor cell proliferation. Small ubiquitin-like modifier (SUMO) proteins and the pathways they interact with have been shown to be important for genomic integrity as well as cellular responses to extreme stress, thus implicating their importance in tumorigenesis and tumor progression. This makes SUMO proteins promising therapeutic targets for cancer therapy.

Technology

This invention provides a method of targeting SUMO for the screening, prognosis, or treatment of solid tumor and other cancer types.

Other Applications

This invention could be utilized for potential screening, prognosis, or treatment of solid tumors and potentially other cancer types.

Advantages

- There are currently many cancer types identified to have upregulated SUMO pathways for avoidance of cellular stress or manipulation of genomic integrity.
- SUMO pathway conjugation in a cancer patient versus a control value could identify upregulated SUMO and could indicate tumorigenesis as part of cancer screening or prognosis for particularly aggressive cancers that will upregulate sumoylation for avoidance of cell death.
- Decreased SUMO levels can effectively induce cancer cell death.
- There are currently no marketed SUMO or SUMO pathway inhibitors for treatment of cancers despite significant findings of their importance.
- This invention offers a method by which SUMO can be targeted for cancer therapy.

