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Unraveling the Complexities of Microtubule Rigidity Regulation.[1] KENDRA KREIENBRINK, University of Wisconsin - La Crosse — Microtubules are a vital cellular component involved in functions such as movement, structure, division and intracellular transport. To maintain their efficacy in these processes, microtubules must adapt their rigidity. Persistence length is the standard measurement of rigidity and is generally used to evaluate microtubules under varying conditions. While modification to microtubule persistence length can lead to neurological disorders, such as Alzheimer's, others can be beneficial, like modifications via the anticancer drug, Taxol. There have been significant advances in our understanding of how microtubule alterations induce persistence length variations. However, the effects of many tuning factors are still eliciting conflicting results for experimentalists. Determining the cause of such discrepancies is crucial for advancing the understanding of microtubule rigidity. Thus, deliberate analysis of the methodology and the results of current literature on the topic is necessary to help illuminate the possible causes of such discrepancies.

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