



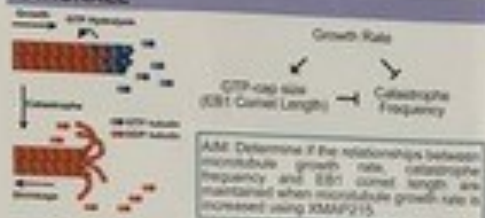
XMAP215 promotes microtubule catastrophe by disrupting the growing microtubule end

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RATIONALE



AIM: Determine if the relationships between microtubule growth rate, catastrophe frequency and EB1 comet length are maintained when microtubule growth rate is increased using XMAP215.

RESULTS

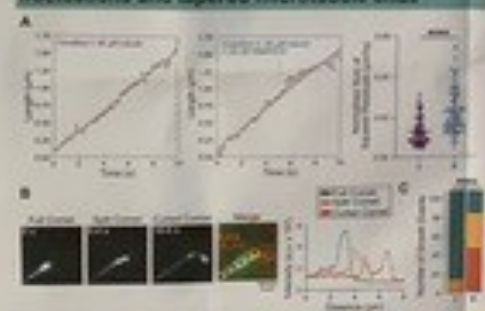
XMAP215 simultaneously increases microtubule growth rate and catastrophe frequency



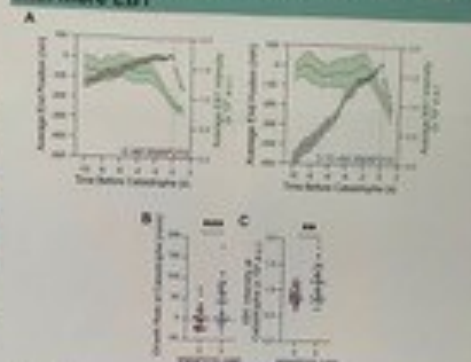
XMAP215 does not decrease the GTP-cap size



XMAP215 promotes microtubule growth rate fluctuations and tapered microtubule ends

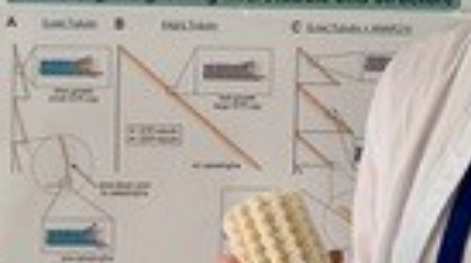


Microtubules grown in the presence of XMAP215 undergo catastrophe at faster growth rates and with more EB1



MODEL

XMAP215 drives microtubule catastrophe by perturbing the growing microtubule end structure



CONCLUSIONS & OUTLOOK

- Microtubules polymerized with XMAP215 display a large GTP-cap
- XMAP215 promotes "slippy" microtubule growth faster than
- Slippy growth leads to unstable and promotes catastrophe
- What is the role of microtubule end structure?
- Does XMAP215 promote disrupted microtubule

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MARK SCHOLARS PROGRAM

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