

# ТОП-5 публикаций

## Лаборатория биофизики.

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### **Centromere protein F includes two sites that couple efficiently to depolymerizing microtubules.**

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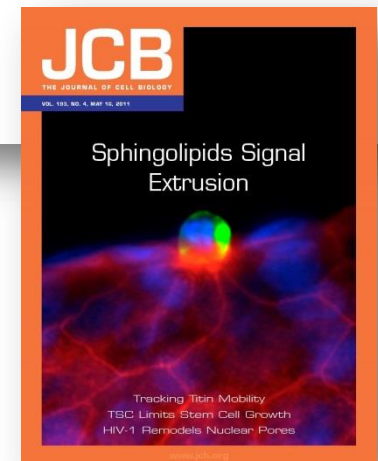
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#### **Abstract**

Firm attachments between kinetochores and dynamic spindle microtubules (MTs) are important for accurate chromosome segregation. Centromere protein F (CENP-F) has been shown to include two MT-binding domains, so it may participate in this key mitotic process. Here, we show that the N-terminal MT-binding domain of CENP-F prefers curled oligomers of tubulin relative to MT walls by approximately fivefold, suggesting that it may contribute to the firm bonds between kinetochores and the flared plus ends of dynamic MTs. A polypeptide from CENP-F's C terminus also bound MTs, and either protein fragment diffused on a stable MT wall. They also followed the ends of dynamic MTs as they shortened. When either fragment was coupled to a microbead, the force it could transduce from a shortening MT averaged 3-5 pN but could exceed 10 pN, identifying CENP-F as a highly effective coupler to shortening MTs.

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