

Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

Analysis of Soybean Microtubule Persistence Length; New Evidence on the Correlation between Structural Composition and Mechanical Properties MITRA SHOJANIA FEIZABADI, CARLY WINTON, JIMMY BARRIENTOS , Seton Hall University — Recent studies on microtubules composed of different β tubulin isotypes indicate their different functionality in terms of their dynamical behavior or the mechanism of their interaction with chemotherapeutic drugs. Along these lines, the result of our recent study measuring the rigidity of neural and non-neural samples of microtubules with different β tubulin isotype compositions suggests that the distinguished mechanical properties of microtubules, such as rigidity, may also be associated with the different distribution of their β tubulin isotypes. In our current study, we have reported the persistence length of a single soybean microtubule. This plant microtubule has a structural composition different from that of mammalian microtubules. Under the same experimental methods of measurement, the soybean microtubules showed a different persistence length as compared to the value of the persistence length that we estimated in the study of both single Bovine Brain and MCF7 microtubules.

Mitra Shojania Feizabadi
Seton Hall University

Date submitted: 27 Nov 2011

Electronic form version 1.4