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(54) Title: METHOD FOR MEASURING DYNAMICS OF SELF-ASSEMBLING SYSTEMS OF BIOLOGICAL MOLECULES IN VIVO AND USES FOR DISCOVERING OR EVALUATING THERAPEUTIC AGENTS

(57) Abstract: The Applicants have established a simple, rapid assay of measuring the dynamics of self-assembling systems of biological molecules, based on stable isotope labeling technology that can be used in intact animals including humans. Examples of self-assembling systems of biological molecules include microtubule polymers, actin filaments, amyloid-beta plaques or fibrils, prion plaques or fibrils, fibrin aggregates, tau filaments (e.g., neurofibrillary tangles), α-synuclein filaments, and mutant hemoglobin aggregates. The method reveals constitutive differences in the dynamics of assembly and disassembly between tissues and is sensitive to the action of compounds that stabilize these dynamics.