Actin & Actin-binding Proteins I (Boards #B530–#B548)

1629-Pos  Board #B539
ATP HYDROLYSIS ENERGY TRANSFER IN THE PROFILIN-MEDIATED ACTIN POLYMERIZATION. Elena G. Yarmola, Ruslan Petruchkin, Danila A. Korytov, Reuben E. Judd.

1630-Pos  Board #B540
INTERNATIONAL TRAVEL AWARD
THE EFFECT OF TOXOFILIN ON THE STRUCTURE OF MONOMERIC ACTIN. Veronika Koliar, Liva Czimbalek, Beita Bugyi, Milidj Nyitrai, Gabor Hild.

1631-Pos  Board #B541
INTERNATIONAL TRAVEL AWARD
SACCHAROMYCES CEREVISIAE GLYCOSYLYC ENZYMES ARE STABILIZED BY ASSOCIATION WITH ACTIN. Daniela Araiza Olivera Toro, Armando Zepezua Bautista, Adela Mujica Miranda, Salvador Uribe Carvajal.

1632-Pos  Board #B542

1633-Pos  Board #B543
OGLUCNAC MODIFICATION OF HUMAN CARDIAC α-ACTININ. Man Ching Leung, Andrew E. Messer, O’Neil Copeland, Steven B. Marston.

1634-Pos  Board #B544

1635-Pos  Board #B545
MINORITY BIOPHYSICIST TRAVEL AWARD
MOLECULAR MOEDLING OF ACTIN-VINCULIN INTERACTIONS. Shayna M. Atkins.

1636-Pos  Board #B546

1637-Pos  Board #B547
MONITORING THE REAL-TIME BINDING OF TROPOMYSOSIN TO ACTIN USING TOTAL INTERNAL REFLECTION FLUORESCENCE MICROSCOPY. William M. Schmidt, Paul Lewis, William Lehman, Jeffrey Moore.

1638-Pos  Board #B548
TROPOMYSOSIN ISOFORMS EXERT DIFFERENT EFFECTS ON POLYMERIZING ACTIN. Renjiai Huang, Chih-Lueh Albert Wang.

Cell and Bacterial Mechanics & Motility I (Boards #B549–#B578)

1639-Pos  Board #B549
THE INTERPLAY OF NONLINEARITY AND ARCHITECTURE IN CYTOSKELETAL MECHANICS. Shenshen Wang.

1640-Pos  Board #B550
USING MAGNETIC TWISTING CYTOMETRY TO STUDY MONOCYTE ACTIVATION. Matthias Irmscher, Holger Kress, Arthur M. de Jong, Menno W. J. Prins.

1641-Pos  Board #B551

1642-Pos  Board #B552

1643-Pos  Board #B553
ADHESION DYNAMICS AND DROTAXIS IN MIGRATING CELLS. Ben Harland, Sam Walcott, Sean X. Sun.

Monday, March 7, 2011, Baltimore, Maryland
SACCHAROMYCES CEREVISIAE GLYCOLYTIC ENZYMES ARE STABILIZED BY ASSOCIATION WITH ACTIN.

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Abstract:

The cell contains constant concentrations of solutes and macromolecules except during stress, when compatible solutes accumulate in the cytosol. Molecular crowding in the cell results in protein association that allows the channeling of intermediates and thus increasing metabolic efficiency. Multienzymatic complexes (or metabolons) are anchored in a dynamic cytoskeleton. It is suggested that the efficiency of cellular metabolism depends on the enzymatic organization. In addition, metabolon probably protect enzymes in a metabolic pathway from the deleterious effects of stress. It was decided to examine whether glycolytic enzymes associate with actin and whether association confers higher stability to the different enzymes. Enzyme association was assessed by co-immunoprecipitation of actin with glycolytic enzymes in the presence or absence of compatible solutes. The whole fermentation pathway was also assayed in the presence of increasing compatible solutes. Actin stabilized the glycolytic pathway making a more efficient pathway even in the presence of a compatible solute. By contrast, depolymerization of actin did not affect fermentation.


Presentation Preference (Complete): Poster Only

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