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Record 5 of 14 - MEDLINE EXPRESS (R) 1992-1996

TI: [The interaction of actin with myosin in fast and slow muscles of the mouse]
 TO: Izuchenie vzaimodeistviia aktina s miozinom v bystrykh i medlennykh myshtsakh myshi.

AU: Borovikov-IuS; Beckes-Bleukx-G; Moens-P; Marechal-G

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AB: Conformational changes of actin, during the transition of glycerinated muscle fibers of fast (EDL) and slow (SOL) mouse muscles from relaxation to rigor, were investigated by the polarized fluorescent technique. Changes in orientation and mobility of the fluorescent probe, i.e. rhodamin-phalloidin complex bound specifically to actin, testified the alteration of actin structure. The results show that during the transition of muscle fibers from relaxation to rigor the flexibility of actin filaments for EDL and SOL changes differently: increases for the former and practically does not change for the latter. The analysis of heavy myosin chains points out that SOL contains 65.43 +/- 7.26% myosin heavy chains 1 (MHC 1) and 34.57 +/- 7.26% myosin heavy chains 2A (MHC 2A). In contrast, EDL has 4.57 +/- 2.56% MHC 2A and 96.43 +/- 2.56% myosin heavy chains 2B (MHC 2B). No MHC 1 were revealed in EDL. A proposal is made that the isoformal composition of myosin heavy chains defines the character of actin-myosin interaction in slow and fast mouse muscles.

MESH: Actins-analysis; Drug-Interactions; English-Abstract; Fluorescence-Polarization-Immunoassay; Fluorescent-Dyes; Mice-; Muscle-Contraction-physiology; Myosin-Heavy-Chains-analysis; Phalloidine-; Rhodamines-

MESH: *Actins-physiology; *Muscle-Fibers,-Fast-Twitch-physiology; *Muscle-Fibers,-Slow-Twitch-physiology; *Myosin-Heavy-Chains-physiology

TG: Animal; In-Vitro

PT: JOURNAL-ARTICLE

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