

Title	Effect of low ionic strength on the glycerinated muscle fiber
Sub Title	
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Publisher	共立薬科大学
Publication year	1992
Jtitle	共立薬科大学研究年報 (The annual report of the Kyoritsu College of Pharmacy). No.37 (1992. ) ,p.59- 59
JaLC DOI	
Abstract	
Notes	抄録
Genre	Technical Report
URL	<a href="https://koara.lib.keio.ac.jp/xoonips/modules/xoonips/detail.php?koara_id=AN00062898-00000037-0059">https://koara.lib.keio.ac.jp/xoonips/modules/xoonips/detail.php?koara_id=AN00062898-00000037-0059</a>

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**Effect of Low Ionic Strength on the Glycerinated Muscle Fiber\***

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The rate of rise and the contractile tension of glycerinated muscle fibers from rabbit psoas were increased when the ionic strength was decreased by varying the KCl concentration from 120 to 0 mM. The increase of the rate of rise was larger than the increase of the tension. On the other hand, the  $\text{Ca}^{2+}$ -sensitivity of the contraction was much more sensitive to decreasing ionic strength, the relation between the tension height or the rate of rise and pCa shifted to a lower  $\text{Ca}^{2+}$  concentration. However, these effects on fiber contraction were independent of the rate of rise and the magnitude of tension, even that given the desensitization of  $\text{Ca}^{2+}$ -sensitivity in fiber contraction. Those effects on fiber contraction were also seen with the acto-HMM ATPase, since the ATPase activity and its  $\text{Ca}^{2+}$ -sensitivity were increased remarkably, even in the absence of the regulating proteins, by decreasing the KCl concentration.

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\* 本報告は *Jpn. J. Physiol.* **42**, (1992) に発表.

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